University of Southampton

Faculty of Social Sciences

Southampton Law School

Thesis for the degree of Doctor of Philosophy

Stumbling Into the Digital Era: How Can Electronic Bills of Lading Achieve Functional and Legal Equivalence to Paper Bills of Lading?

Jing Ren

June 2023

Abstract

Cost effectiveness is one of the crucial key factors driving the shipping and trading industry. Nowadays global trade involves multiple parties and sectors across international borders, and numerous paper transport documents, such as paper bills of lading (pBLs), are handled and disseminated around the world.

With the advent of digital technology, electronic solutions are arguably ripe for the replacement of pBLs. The key benefits of using an electronic bill of lading have long been identified as the speed of transfer, the avoidance of external costs and removal of need to use Letters of Indemnity. As an alternative to the transfer of physical endorsements, electronic bills of lading (eBLs) are processed and transferred automatically by a computer system that constructs the information electronically using agreed standards. However, the journey of promoting eBLs is not all smooth sailing. Despite the growing number of private and public projects and initiatives during the past 40 years, the maritime world has yet seen the dawn of the electronic age. On the contrary, pBLs remain a staple in international trade, despite years of criticism over delays, costs and security risks.

This thesis seeks to identify the underlying reasons for the stagnation in the development of this key legal document. It will demonstrate that, apart from the technical challenges, the real impediment to a true replacement of the pBL is the formidable legal challenges in reproducing the three principal functions of the antique paper-based trade document, for which the existing paperless implementations have failed to provide anything but a piecemeal solution. In coming to this finding, the thesis will also examine the effectiveness of the various legislative efforts, both nationally and internationally, to address the legal issues identified in the thesis. Finally, the author will attempt to speculate on the trends and prospects of the evolution of eBLs in the light of the observations submitted in the thesis.

University of Southampton

Table of contents

Abstract 2
Table of contents 3
Research Thesis: Declaration of Authorship 7
Acknowledgements 8
Chapter 1 Introduction 10
1.1 Research background 10
1.2 Aim of the thesis and the research question 14
1.3 Original contribution 14
1.4 Methodology 16
1.5 Structure of the thesis 21
Chapter 2 A challenge to the *status quo* of pBLs in law and practice 24
2.1 Historical development of pBLs 25
2.2 Problems with pBLs trade 28
2.3 Rise in the usage of eBLs 29
2.3.1 Early initiatives 30
2.3.2 Emerging implementations 36
2.3.3 eBL adoption: a trade-off between opportunities and challenges 42
2.4 Conclusion 47
Chapter 3 Receipt function 49
3.1 Legal status of eBLs as factual evidence 50
3.2 Digital signatures as a means to prove authenticity 51
3.3 Safeguarding the admissibility of eBLs through contractual arrangements 54
3.4 Legal effects of statements on eBLs 56
3.4.1 Common law estoppel 57
3.4.2 Are the existing estoppel rules at common law amenable to eBLs? 59
3.4.3 Statutory modifications 60
3.4.4 Limited impact of the estoppel principle 68
3.5 Viability of performing the receipt function by contractual means 69
3.5.1 Conclusive evidence clause 69
3.5.2 Approach taken by existing private schemes 71
3.6 Statements on eBLs written in computer code 73
3.7 Conclusion and some final remarks 77
Chapter 4 Contractual function 79
4.1 Privity of contract doctrine 79
4.2 The implied contract 80

4.2.1 Issue of consideration 82
4.2.2 Position of the intermediaries 85
4.2.3 Further considerations 86
4.3 Statutory 'force of law' 88
4.3.1 COGSA 1992 88
4.3.2 Contracts (Rights of Third Parties) Act 1999 91
4.4 Bailment on terms 93
4.4.1 Law of bailment in the maritime space 93
4.4.2 Relevance of bailment in the paperless context 95
4.5 Assignment 97
4.5.1 Difficulties posed by statutory requirements 97
4.5.2 'Subject to equities' principle 99
4.5.3 What about liabilities? 104
4.6 Novation 105
4.6.1 Formalities and requirements of a novation 106
4.6.2 Consent 107
4.6.3 The original contractual relationship is extinct, with a new one created in its substitution 107
4.6.4 Rights and obligations are transferred altogether 109
4.6.5 Consideration is required for the new contract 114
4.6.6 Novation as a practical legal tool to facilitate eBL trading 115
4.7 Conclusion 116
Chapter 5 Document of title function 121
5.1 The common law definition 122
5.1.1 No direct property consequence 123
5.1.2 A 'negotiable and transferable' document of title 124
5.1.3 The consequential presentation rule 136
5.2 Prospect of the eBL qualifying as a common law document of title 141
5.2.1 A broader interpretation of the custom of merchants for pBLs 142
5.2.2 Establishing a new custom of merchants 142
5.2.3 Becoming a document of title in accordance with *The Rafaela S* rationale 144
5.2.4 Becoming a new type of document of title by dint of carriage contract terms 147
5.3 The statutory definition 148
5.3.1 "Document of title" under the Factors Act 1889 148
5.3.2 Applicability of the *nemo dat* exceptions 150
5.3.3 Pledge of goods under the statutes 151

5.4 Conclusion 156
Chapter 6 Legislative intervention on eBLs to achieve functional and legal equivalence to traditional pBLs 158
6.1 Internationally 159
6.1.1 CMI Rules 159
6.1.2 Past works done by UNCITRAL 161
6.2 Nationally 190
6.2.1 Singapore's experience 190
6.2.2 Legislative activities in the UK 192
6.3 Conclusion 206
Chapter 7 An outlook for the future legal infrastructure for eBLs 209
7.1 A hybrid of private contractual frameworks and enabling state legislations 209
7.2 Going beyond simple replication to optimize the present legal system 211
7.3 A greater trade integration 212
7.4 Conclusion 215
Chapter 8 Conclusions 216
8.1 Where we are now with pBLs in the context of the growing trend towards eBLs 216
8.2 Provision of a functional and legal equivalent electronic version of the pBL 216
8.3 The way forward 223
Bibliography 224
Primary Sources 224
Cases 224
International conventions 231
UN documents, official papers and policy documents 231
Statutes and statutory instruments 232
Statutes in other jurisdictions 232
EU legislation and cases 232
Cases in other jurisdictions 233
Miscellaneous 233
Secondary Sources 234
Books 234
Contributions to edited books 236
Encyclopaedias 238
Journal articles 238
Online journals 244
Command Papers and Law Commission reports 244
Websites and blogs 244

Newspaper articles 251

University of Southampton

Research Thesis: Declaration of Authorship

Print name: Jing Ren

Title of thesis: Stumbling Into the Digital Era: How Can Electronic Bills of Lading Achieve Functional and Legal Equivalence to Paper Bills of Lading?

I declare that this thesis and the work presented in it is my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;

2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;

3. Where I have consulted the published work of others, this is always clearly attributed;

4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;

5. I have acknowledged all main sources of help;

6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;

7. None of this work has been published before submission

Signed ..... Date: 14 June 2023

Ms Jing Ren

Acknowledgements

It took countless days and nights before I finally got the chance to write this part. In retrospect, the long and winding journey of writing this thesis bears some uncanny resemblance to the trajectory of electronic bills of lading. It has undergone various changes of research direction, several changes in supervisory arrangements, and the unexpected COVID-19 pandemic (although unlike what it has done positively for eBLs, the pandemic has had a detrimental effect on the research project). The eventual completion of this research would not have been possible without the invaluable help and support of a good number of people, for which I am ever grateful.

I wish to express my sincere gratitude to my supervisors: Prof Filippo Lorenzon, Associate Prof Emma Laurie, Dr Filip Saranovic, and especially Dr Jingbo (Jenny) Zhang who stepped into Filippo's shoes when I was still in the early stages of my research and continuously offer her support, patience, and motivation when I needed them. Her guidance and constructive advice helped me throughout the research process and right up to the end of my writing up. I am grateful to Prof Paul Todd, for the hard cross-examination-ish questions, enlightening comments and feedback that have incentivized me to broaden my research from various perspectives, and even more so for his generosity in sharing his time and wisdom after his retirement from Southampton. I would also like to give thanks to my former colleagues and long-time friends at COSCO, Mang Zheng and Junwei Qian, for their help on my research. Special thanks go to Ian Gaunt of the LMAA, for his genuine interest and support in my work and for being a wonderful friend. Thanks are also due to my friends, Zicong and Aygun and the friendly academic staff in the Law School building, who have been so kind and frequently lent me a sympathetic ear. I am, of course, eternally ever so grateful to my parents and my grandparents for their mental and material support in writing this thesis and in my life.

Last but not least, I would like to thank me, for doing all the hard work, for believing in myself and never giving up. One of the key values I have learnt from my PhD journey is that one should always appreciate oneself, and I hope to share it with my fellow doctoral researchers as a tribute and encouragement to their relentless pursuit of knowledge.

Chapter 1 Introduction

1.1 Research background

The seaborne trade relies heavily on documentary performance, among which negotiable paper bills of lading (pBLs) are of the utmost significance, processed and circulated between multiple parties and sectors across the world, and still remained a constant feature of international trade. This, however, does not mean that it is flawless. In fact, the usage of the conventional, tangible bill of lading has been criticized for years for issues of delay, cost and security.

The last sixty decades have witnessed a revolution in international commerce.[1] The advent of containerisation, larger and faster ships, and multimodal transport are gaining momentum in favour of revisiting the trite transport documentation procedures.[2] All these techniques have reduced the costly time the vessel must be in port for loading operations and the duration of voyage, resulting in goods arriving at the discharging port while the pBL is still in transit. This means that the carrier cannot deliver the goods to the buyer until the pBL is finally transported to the consignee who will then present it to the carrier. The delay in the arrival of the pBL causes port congestion, longer turnaround time and incurs unnecessary costs for demurrage and storage to the carrier.

Hence the practice of delivering the goods to a party against a Letter of Indemnity (LOI) to protect the carrier against liability, has developed to cope with the slow movement of the traditional bill of lading. This indemnity does not, however, live up to its name by removing the carriers' liability under the bill of lading, but rather creates further administrative burden and cost to the trade,[3] and may ultimately prove to be an expensive business.[4] Furthermore, carriers may find themselves exposed to a much higher risk of litigation, as pBLs can be

[1] The container revolution is said to date from 1956, see KM Johnson and HC Garnett, *The Economics of Containerisation* (Routledge 1971) 12.
[2] H Giermann, *The Evidentiary Value of Bills of Lading and Estoppel* (Lit Verlag 2004) 1.
[3] L Starr, 'E-bills of Lading Come of Age' (2017) 31 MRI 8 9.
[4] Where there are competing claims between different parties claiming to be the lawful holders of the bills of lading, it is quite possible that the indemnifying party issuing the LOI will have to provide security fund more than once.

easily forged, stolen or lost, and the carrier is in any event liable for misdelivery to the lawful holder against a forged or stolen pBL.[5]

With the rapid development of information technology and e-commerce, electronic documents have been used more and more widely because of their high-efficiency and convenience. This has also made international trade more diversified. During the past few years, the international business community has been working on ways to enable trade transactions to benefit from the revolution in electronic communications the world has witnessed. A lot of movements have been taken place centring on the digitalization in the shipping industry, such as remotely controlled ships, artificial intelligence in vessels, electronic release systems, automated port terminals, to name but a few, and electronic bills of lading (eBLs) can be seen as the effective alternative to pBLs with a series of electronic messages. According to the latest transport survey conducted by Norton Rose Fulbright,[6] with the substantial growing interest in investment in digital technology, software supporting transport as a service such as eBL systems is believed to have the potential to transform the shipping industry.

To substitute the transfer by physical endorsement, an eBL is processed automatically and transferred by a computer system using an agreed standard to structure the information.[7] The eBL can provide a solution to several of the problems identified with the pBL. The key benefits of using an eBL have long been identified as the speed of transfer, removal of need to use Letters of Indemnity and the avoidance of external costs. Compared to its paper counterpart, an eBL can be sent around the world instantaneously, and can still be at the discharge port after multiple transfers of ownership during carriage when the ship arrives, thus hugely lowering the administrative burden of trade, and delivery of the cargo without presentation of the original bill of lading would become a thing of the past; no further

[5] See *Motis Exports v Dampskibsselskabet* [1999] 1 Lloyd's Rep 837; [2000] 1 Lloyd's Rep 211, where the carrier delivered against such a forged bill. See also *Kuwait Petroleum Corp v I & D Oil Carriers Ltd (The Houda)* [1994] 2 Lloyd's Rep 541, where the Court of Appeal held that there were no exceptions to the general rule against delivery without production, even where the bill of lading was lost or stolen, and the failure of which would constitute a breach of contract even when made to the person entitled to possession unless there was a contractual term protecting the carrier.

[6] One fourth of respondents favour investment in new technology when asked to consider the optimal investment opportunity currently for the shipping industry, which is a 14% increase since 2016. It has also been revealed that 19% believe that aside from fuel efficient and low carbon technology, innovations such as software supporting the development of end-to-end supply chains will be the most significant driver of change in the shipping industry over the next five years. See Norton Rose Fulbright, 'Transport Survey 2017' (*TransportsurveyNortonRoseFulbright.online*, June 2017) <https://transportsurvey.nortonrosefulbright.online/publications/shipping> accessed 12 June 2018.

[7] UNCITRAL Model Law on Electronic Commerce 1996 (MLEC), art 2(b).

physical transfer of the bill is necessary, thus removing the need for LOI. By using eBLs, large commodity traders can provide their customer with the transport documentation faster and thus receive payment sooner,[8] which will in turn boost working capital, efficiency and productivity for all parties. There are also other advantages, if the eBL is fully accepted. It would be much more difficult to forge an eBL, given the fact that a sufficient level of security is provided to safeguard the eBL systems,[9] therefore making it very difficult, if not impossible, to create a fraudulent eBL.

That said, there remain a number of legal hurdles for an eBL to overcome. One of the major obstacles is how to fit into the existing legal regime designed for paper documents so that an eBL can be treated as a genuinely functional and legal equivalent to a pBL. The current legal stance of the problem in question is however, far from clear.

At the domestic level, a pBL is a document of title under English common law, enabling itself to be negotiated and transferred as possession of the bill is evidence of title to the goods, and delivery shall only take place against a valid presentation of an original pBL to the carrier. This is not automatically the case at law with an eBL, as having access to an electronic document does not constitute physical possession of the bill in the real sense and since an eBL cannot be physically presented upon the arrival of the goods, it cannot be a document of title. The Carriage of Goods by Sea Act 1992 (COGSA 1992) envisages a bill of lading to be in the form of a document.[10] Although S. 1(5) of COGSA 1992 does confer the Secretary of State the power to make provision for the application of the Act to cases where 'an electronic communications network or any other information technology is used',[11] no such regulations have yet been made. There is a voice in academia which holds that the presence of the provision may imply that an eBL is to be treated as a document for the purpose of the Act,[12] while other scholar considers this inference to be ambitious.[13]

[8] M Maanen and I Regtien, 'E-bills of Lading' (*LEXOLOGY.com*, 20 April 2018) <https://www.lexology.com/library/detail.aspx?g=453d225f-ca8b-404f-9b39-f39f4f0a7b90> accessed 12 June 2018.
[9] J Tan and L Starr, 'Electronic Bills of Lading' (*UKP&I.com*, 3 May 2017) <https://www.ukpandi.com/fileadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 12 June 2018.
[10] COGSA 1992, s 1. So does the Factors Act 1889: see s 1(4) thereof.
[11] COGSA 1992, s 1(5).
[12] eg R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 2.120.
[13] M Brindle and R Cox, *Law of Bank Payments* (5th edn, Sweet & Maxwell 2017) at [7-083]. See also the discussion below: sections 3.4.3(2) and 4.3.1.

On the international level, the International Convention for the Unification of Certain Rules of Law relating to Bills of Lading of 1924 (the Hague Rules) and the amendments to this convention in the Brussels Protocol of 1968 (the Hague Visby Rules) apply to a contract of carriage by reference to the bill of lading, or similar document of title,[14] therefore it can be inferred that the drafter of the Hague and Hague Visby Rules did not foresee the arrival of the digital era in the world trade and the risk that the Rules may only be applicable to those tangible paper documents[15]. The United Nations Convention on Contracts for International Carriage of Goods Wholly or Partly by Sea, adopted by the General Assembly of the United Nations on December 11, 2008, and opened for signature at Rotterdam on September 23, 2009 (the Rotterdam Rules) finally took the chance to address the issue by providing a series of provisions regulating the use of eBLs, seeking to utilize the so-called technology-neutral principle to recognize that eBLs are to be treated as functionally equivalent to the traditional pBLs, but subject only to the extent that both the carrier and shipper have agreed to use an eBL in their transactions.[16] The Rotterdam Rules however is still a long way from entering into force due to the lack of ratification by UN Member States.[17] The second attempt is the Model Law on electronic transferable records (MLETR) developed by the UN Commission on International Trade Law (UNCITRAL) in 2017, which has much broader scope of application than the Rotterdam Rules. At the time of writing, the MLETR has only been enacted in 6 States and a total of 7 jurisdictions.[18] Despite this, the value of these public legislative ventures must not be overlooked, as they can, in turn, influence the development of domestic legislation. For instance, although English law dominates the maritime world at large, it is in essence not only a national asset but also an international one, as its evolution has been and will continue to be informed by international law in the context of globalization. Indeed, the Law Commission of England and Wales recently published a draft legislation on electronic trade documents, which draws on the MLETR and is expected to be passed by Parliament in the coming months.[19]

[14] HVR, art I(b).
[15] N Gaskell, *Bills of Lading 2e: Law and Contracts* (Routledge 2017) para 1.53.
[16] The Rotterdam Rules, art 8.
[17] The convention will entry into force one year after 20 states have ratified it. See the Rotterdam Rules, art 94(1). As of now, only three states (Spain, Togo and Congo) have ratified this document.
[18] See UNCITRAL, 'Status: UNCITRAL Model Law on Electronic Transferable Records (2017)' (*uncitral.un.org*) <https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_transferable_records/status> accessed 15 August 2022.
[19] See further section 6.2.2.

It is therefore enlightening to give full account of the international as well as the national perspectives just alluded to, so as to put the matter beyond doubt as to whether the existing legal ecosystem of English law facilitates the use of eBLs in lieu of traditional paper-based documents.

1.2 Aim of the thesis and the research question

The aim of this study is thus to examine how far the existing English law can be applicable to eBLs, so as to determine whether electronic instruments can replicate the functions of pBLs to constitute a functionally and legally equivalent electronic version of the latter. If not all functions can be replicated, whether this is likely to prove fatal to the adoption of eBLs, or if not, how commercial parties can deal privately with the legal impediments involved, or tap into the legislative measures available at the international or national level. In short, therefore, the research question to be answered in this thesis is this: how can eBLs achieve functional and legal equivalence to pBLs under English law?

To this end, the key aspects to be covered by the thesis are:

- The functions of pBLs and the shortcomings associated with their use;
- The mainstream eBL systems and the pros and cons of eBL adoption;
- Alternative possible solutions to achieve functional and legal equivalence to pBLs, particularly in light of the emergence of new technology;
- Legal problems that would need to be resolved by the parties employing eBLs;
- Legislative measures that may help alleviate the problems identified with the use of eBLs.

1.3 Original contribution

Much of the early writings on eBLs had been focusing on the feasibility of providing an electronic version that is legally and functionally equivalent to the conventional pBL, and the legal implications of going paperless in the shipping transactions.[20] For example, Carver on

[20] See eg M Bridge (ed), *Benjamin's Sale of* Goods (1st supp, 11th edn, Sweet & Maxwell 2021); GH Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, Sweet & Maxwell 2017); D Foxton and others, *Scrutton on Charterparties* (1st supp, 24th edn, Sweet & Maxwell 2021); R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020); S Baughen, *Shipping Law* (7th edn, Routledge 2019); AN Yiannopoulos (ed), *Ocean Bills of Lading: Traditional Forms, Substitutes, and EDI Systems* (Kluwer Law International 1995); ET Laryea, *Paperless Trade: Opportunities, Challenges and Solutions* (Kluwer Law International 2003); FF Wang, *Law of Electronic Commercial Transactions: Contemporary Issues in the EU,*

Bills of Lading,[21] Aiken's Bills of Lading[22] and Baughen's Shipping Law[23] explore the main feature and importance of the pBL and the complex issues that arise during the course of performance of its basic functions in carriage of goods by sea. There are also some brief discussions devoted to the major challenges faced by the eBL in achieving functional equivalence with the traditional pBL. What must not be left out is the contributions made by Goldby.[24] She makes a thorough inquiry into the reasons behind the failure of the international trade community to adopt these electronic substitutes, especially in the aspect of replicating the function of document of title of the pBL, and explores the practical legal barriers and standards for using electronic alternatives in complex international sea carriage transactions. In the meantime, it is worthwhile mentioning the work done by Bury[25] and Jafari,[26] both of them provide a comprehensive and systematic review of the history of the pBL as well as an in-depth examination of its legal characteristics, and focus on the business efforts that have been made so far in dematerializing paper documents.

As demonstrated above, much ink has been spilt on the legal implications of employing the electronic medium in the conduct of maritime business. But even then, none of these materials can lay a legitimate claim to exhaustive treatment of all issues relevant to eBLs, nor do they provide all the necessary answers to the problems raised in this research area. There has been a lack of thorough academic research into all possible means for fulfilling the functions of pBLs, particularly those made practical through emerging technologies, namely blockchain technology and smart contracts. In addition, as electronic commerce is growing at an ever-increasing rate, eBL systems have gone through a lot of changes, some projects fall

US and China (2nd edn, Routledge 2014); M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019); D Faber, 'Electronic Bills of Lading' [1996] LMCLQ 232; DA Bury, 'Electronic Bills of Lading: A Never-Ending Story' (2016) 41 Tul Mar LJ 197; AG Hamid, 'The Legal Implications of Electronic Bills of Lading: How Imminent is the Demise of Paper Documents?' (2004) 33 INSAF 5; GF Chandler, 'Maritime Electronic Commerce for the Twenty-First Century' (1998) 22 TUL MAR LJ 463; JK Winn, 'Emerging Issues in Electronic Contracting, Technical Standards and Law Reform' (2002-3) Rev dr unif 699; M Alba, 'Electronic Commerce Provisions in the UNCITRAL Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea' (2009) 44 Texas International Law Journal 387; M Goldby, 'Electronic Bills of Lading and Central Registries: What is Holding Back Progress?' (2008) 17:2 Information & Communications Technology Law 125; RP Merges and GH Reynolds, 'Toward a Computerized System for Negotiating Ocean Bills of Lading' (1986) 6 Journal of Law and Commerce 23; SC Chukwuma, 'Can the Functions of A Paper Bill of Lading Be Replicated by Electronic Bill of Lading?' (2013) 3:8 Public Policy and Administration Research 101.

[21] ibid.
[22] ibid.
[23] ibid.
[24] ibid.
[25] ibid.
[26] ibid.

down and some new systems have been introduced to the market, thus rendering certain views and statements already made obsolete. Likewise, the law in this area is growing at a rapid speed, it is imperative that new developments are sufficiently addressed. This is where the lacuna crops up.

The research is aiming to fill in the gaps by carrying out a detailed viability analysis of all possible solutions, not necessarily limited to those currently offered by the eBL trading systems, and in turn to speculate on potential difficulties in the implementation process. In doing so, it seeks to identify clear answers to the academic query of whether key features of pBLs can be mimicked electronically for the purpose of achieving legal and functional equivalence to pBLs. It should nevertheless be noted that the assumptions and assertions made in this thesis are by no means cut and dried; they are premised on the English legal structure remaining as it is now, although this thesis does include a consideration of the legal ramifications of the enactment of the draft legislation proposed by the Law Commission. This being said, the findings of the study will remain relevant and useful as long as the law and technology continue to evolve within predictable limits.

This is the first time that such an in-depth study has been conducted on the specific area of eBL implementation. The research aims to advance the already existing knowledge and understanding of eBL and provide a comprehensive resource and reference for anyone considering or advising on the use of paperless trade and its legal implications, including but not limited to legal practitioners, commercial interests and academics. This research also intends to help promote and facilitate the use of electronic documents in the maritime sector, particularly eBLs, by influencing policy makers, not only within the UK, but also well beyond UK shores given the prevalence of UK law in world trade. In doing so, it is hoped that the shipping industry will be well prepared for the upcoming challenges posed by the Fourth Industrial Revolution (the digital technology revolution).

1.4 Methodology

In order to achieve comprehensive knowledge about the topic and to obtain the most robust answers to the research question framed above, it is imperative to explore all possible

databases covering the topic of the electronic transport documents. To this end, this thesis adopts the doctrinal (also known as "black letter" law)[27] approach throughout.

To begin with, it is helpful to set out the basics. Doctrinal research is at the heart of legal research methods and dominates the research design of legal scholars.[28] It examines what the law is on a particular issue, involving a critical and qualitative analysis of case law, the arrangement, ordering and systematization of legal propositions, and the study of legal systems through legal reasoning or rational deduction, thereby leading to the arguments that the author arrives at the end of the legal debate.[29] Research of a doctrinal nature is usually written with the objective of criticising, explaining, correcting and directing legal doctrine[30] which is valuable to legal professions, such as judges and lawyers in advancing legal debate so as to determine the true meaning of the law.[31] The merit of this research method is thus obvious: it brings internal coherence and conceptual clarity required for a better understanding of the law and legal system, thereby promoting justice.[32]

The doctrinal approach is well suited to exploring the research question posed, as it helps to construct a precise and transparent structure of legal rules and principles; where the law is unsound or has gaps, the research approach is able to fill them through creative interpretation, while keeping in mind the core legal ideology.[33] In undertaking this approach, the author starts by contending that there exist legal hindrance to the replacement of pBLs by digital solutions. In a bid to answer how eBLs might achieve functional and legal equivalence with pBLs under English law, therefore, all relevant materials in the law library are read and analysed to understand the current legal status of pBLs, to identify the legal vacuums in the established legal landscape, to hypothesize potentially difficult scenarios that eBL implementation might encounter, and finally to formulate conclusions at the end of the study.

---

[27] See generally M McConville and WH Chui, *Research Methods for Law* (Edinburgh University Press 2017); T Hutchinson and N Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' [2012] 17(1) Deakin L Rev 83; C Mccrudden, 'Legal Research and the Social Sciences' [2006] L Quar Rev 632; R Posner, 'Legal Scholarship today' (2001) 115 Harvard Law Review 1314.
[28] P Chynoweth, 'Legal Research' in Andrew Knight and Les Ruddock (eds), *Advanced Research Methods in the Built Environment* (Wiley-Blackwell 2008) 31.
[29] T Hutchinson and N Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin LR 83, 118; SN Jain 'Doctrinal and Non-Doctrinal Legal Research' in SK Verma and A Wani (eds), *Legal Research and methodology* (2nd edn, Indian Law Institute 2010) 68.
[30] M Siems and D Sithigh, 'Mapping legal research' (2012) CLJ 651, 654.
[31] BR Cheffins, 'Using Theory to Study Law: A Company Law Perspective' (1999) 58(1) CLJ 197, 199.
[32] PI Bhat, 'Doctrinal Legal Research as a Means of Synthesizing Facts, Thoughts, and Legal Principles' in PI Bhat (ed), *Idea and Methods of Legal Research* (OUP 2019).
[33] ibid.

According to Jones,[34] the prominent characteristics of the doctrinal research has been described as follows:

> (1) [T]he scholar organizes his study around legal propositions; and (2) appellate court reports and other conventional legal materials readily accessible in a law library are the principal, if not the sole, sources of the data from which the scholar's conclusions are drawn.[35]

The doctrinal methodology typically consists of two parts: locating the sources of the law and then interpreting as well as analysing the text.[36] These two elements are well demonstrated in the thesis. Thus, for the first part, both primary and secondary sources are used for data collection. Primary sources include statutes, case law and international conventions, and secondary sources include books and journal articles, which can be found in published materials at the library or digitized into databases and online collections. Online sources such as news and reports are also used for the desk-based research for background information purposes. The perspective of the research is mainly English law, which means that the common law hierarchy of legal sources are used, but with an international vision where it serves a purpose to compare and provide the perspective required to understand this highly internationally integrated area of legal research.

This background reading sets the stage for the second part, which entails going back to those statutory and common law rules and principles designed under the paper system to see whether they have, or might have, room for application beyond their scope to cover documents in the digital format. This part of work is intricate and requires an in-depth reading of the cases on the functions of pBLs as well as the relevant statutes,[37] and forms the backbone of the research. For the rest, the research keeps abreast of current developments. Some major attempts to facilitate the use of electronic bills of lading are carefully examined, and an intensive study of the terms of the relevant multiparty contracts and operational procedures provided by those electronic system providers is carried out where necessary. On the international level, relevant primary legislative instruments[38] are examined; on the domestic level, municipal legislative activities are considered. Where it is possible, the study

[34] E Jones, 'Some current trends in legal research' (1962-1963) 15 2 Journal of Legal Education 121.
[35] ibid 130.
[36] T Hutchinson and N Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin LR 83, 110.
[37] ie COGSA 1992, the Factors Act 1889, and the Sale of Goods Act 1979.
[38] ie the CMI Rules, the Hamburg Rules, the Model Law on Electronic Commerce 1996 (MLEC), the UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea 2008 (the Rotterdam Rules), and the Model Law on Electronic Transferable Records 2017 (MLETR).

embarks on a comparative analysis to identify any disparity between different solutions or legal instruments. This method helps to understand and discover key facts and issues that have not been discussed in the available academic literature as well as serves as a complement and a way of providing a deeper insight into the eBLs in practice.

There is, however, some controversy over the distinction between doctrinal legal research and non-doctrinal research approaches. Since this thesis is purely doctrinal-based, it is important that these areas of confusion are adequately addressed to avoid any unnecessary doubts from the outset. [39]

Doctrinal research as opposed to empirical research. Doctrinal scholarship focuses on an "internal" account of legal rules, which prescribes a specific subject and reflects the position of the participants in the legal system who give preference for the purpose of legal consistency.[40] Hence, in this thesis, in circumstances where the legal problems arising from using eBLs do not fall neatly within the purview of the existing rules dominating the paper world, the author takes into account related cases and from them inductively determine the most suitable way to resolve the uncertainty.[41]

The empirical research method, on the other hand, reflects 'the conceptual resources or extralegal disciplines' and involves studying law in practice using empirical methodologies,[42] meaning that the research is based solely on observation or measurement of social phenomena.[43] The instant research does not involve empirical work. There are elements of 'empirical' or factual character in the doctrinal work, but they should not be regarded as empirical. For example, legislation and judgments may be seen as empirical in nature, but in fact they are not, because they are the product of legitimization rather than observable phenomena that occur naturally.[44] Nor is it an empirical exercise for the author to conclude the thesis with a prediction of the future development of the legal infrastructure surrounding

[39] Although admittedly the dividing line is not always that clear-cut, and much legal research falls somewhere in-between: see E Jones, 'Some current trends in legal research' (1962-1963) 15 2 Journal of Legal Education 121, 204.
[40] EL Rubin, 'Legal Scholarship' in D Patterson (ed), *A Companion to Philosophy of Law and Legal Theory* (Oxford: Blackwell 1996) 564-565; T Hutchinson, *Researching and Writing in Law* (3rd edn, Reuters Thomson 2010) 36.
[41] *cf* C Cook and others, *Laying Down the Law: The Foundations of Legal Reasoning, Research and Writing in Australia* (4th edn, Sydney: Butterworths 1996) 47.
[42] W Lucy, 'Abstraction and the Rule of Law' (2009) 29(3) *Oxford Journal of Legal Studies* 481; T Hutchinson, *Researching and Writing in Law* (3rd edn, Reuters Thomson 2010) 36.
[43] M Walter (ed), *Social Research Methods* (2nd edn, Oxford University Press 2010) 18.
[44] T Hutchinson and N Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin LR 83, 114.

eBLs. Although the materials collated to support the arguments therein are from non-legal disciplines, they are relevant to the legal research question the thesis seeks to answer and accordingly are not a stimulating basic, scientific non-doctrinal research into legal problems.[45]

Doctrinal research as opposed to historical research. According to Hutchinson, doctrinal research focuses on 'privileged voices',[46] i.e. the voices of judges in case law and government legislatures, which constitute the primary sources that are critical in finding out what the law is when no direct conclusions can easily be drawn. Historical research, on the other hand, emphasizes on 'developing an understanding of the past through the examination and interpretation of evidence'.[47] The methodology therefore treat primary sources as evidence of facts, and pays attention to every non-legal respect such as the form of texts, physical remains of historic sites, recorded data, pictures, maps artifacts. Contrary to the centralized approach taken by doctrinal studies, historical methodology rather carefully considers every participants involved in the evolution of law and examines the conceivable range of data in its entirety.[48]

The instant research does not involve historical work either. Although the thesis examines the historical development of pBLs, it only discusses adjudicative analysis and legal reasoning, without reference to extraneous components such as the dialogue between barristers and witnesses, as the main objective of this part of the research is not to delve into the history but rather the legal aspects that are relevant to solving the research question in issue.

There is one further point. This research does not use other research methods, because the research question relates to a developing area of law where a sound legal framework is not yet in place. It is therefore sensible to lay emphasis on the legal rules and principles that underpin it before moving on to consider the far-reaching implications for a broader spectrum of fields.

[45] E Jones, 'Some current trends in legal research' (1962-1963) 15 2 Journal of Legal Education 121.
[46] T Hutchinson, *Researching and Writing in Law* (3rd edn, Reuters Thomson 2010) 36.
[47] Quote referring to D Hacker, Research and Documentation Online <http://www.dianahacker.com/resdoc/history.html>, as cited in T Hutchinson and N Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin LR 83, 117.
[48] T Hutchinson and N Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin LR 83, 117.

1.5 Structure of the thesis

In order to provide a comprehensive and well-supported answer to the research question of whether eBLs can constitute the functional and legal equivalent of pBLs, it is necessary to consider whether the paper substitutes can replicate all the functions of a negotiable bill of lading in practical and legal terms through a series of electronic data messages. Specifically, with the view to better addressing the question posed, it is divided into a subset of questions: can eBLs replicate the functions currently performed by pBLs, i.e., the receipt function, the contractual function and the document of title function? If not, whether the legislative interventions of international bodies and individual nations have provided a more effective way of filling these legal lacunae to date?

Bearing these questions in mind, Chapter 2 will discuss the development of pBLs in merchandise trade in general, with a view to providing a good starting point for the ensuing discussion of the relevant legal issues, while also forming the cornerstone of the entire thesis. To this end, the need to phase out paper-based systems must first be fully appreciated. This requires a familiarity with the historical development of pBLs and, in particular, an understanding of how today's global trade is conducted through paper-based transport documents. The chapter will then review international projects and initiatives to dematerialise pBLs to date and weigh up the benefits of going paperless against the risks and challenges ahead. The chapter will conclude the discussion with a commentary on the current state of development of such transport documents in the field of international trade, setting the scene for the rest of the thesis.

Chapter 3 – 5 will get down to discuss the performance of the pBL's three fundamental functions by the eBL. Thus, the subject of Chapter 3 is to assess whether the eBL is capable of performing the same function as a receipt as its paper-based counterpart. In this regard, it is foremost important to consider the legal recognition in English law of statements submitted in electronic format as evidence. This will form the basis for a thorough understanding of the position taken by the common law and statutory provisions in relation to the evidential value of statements recorded on a traditional pBL later on. Having clarified the legal validity of statements under the traditional paper-based system, the thesis will explore whether the same *status quo* exists as that resulting from the use of the pBL when these statements are included in the digital equivalent; if not, viable solutions will need to be sought to bridge the gap

between the two. The thesis will conclude the discussion with a projection of possible legal issues that may arise in the paperless context.

Chapter 4 will go on to concentrate on the contractual function, and to test various possible models, either rooted in common law or contract, which could guide eBLs through the puzzle of the doctrine of privity of contract, and provide a practical contractual solution for dealing with the transfer of rights and duties under a contract of carriage. Notably, it will analyse the approach chosen by the existing eBL trading systems and debunk the misconceptions (if any) surrounding it.

Chapter 5 will focus on replicating the document of title function, which is the most important of all, and attempt to address three sub-questions: will an eBL be considered a document of title under common law and statute? Does English law allow for the function of a document of title to be reproduced by an eBL? Finally, is it conceptually feasible to create an 'electronic document of title' under English law? In approaching these questions, it will be first necessary to develop a comprehensive understanding of the key attributes of a traditional pBL as a document of title in both the common law and statutory senses, with the aim of discerning their respective meanings and in turn identifying the potential problems that they may pose for potential paper replacements (such as an eBL) in the future. Thereafter, the focus of the analysis will naturally turn to the possibility of the eBL being regarded as a document of title in both senses; if the answer is negative, further turn to consider the feasibility of reproducing the characteristics of a common law or statutory document of title by means of an eBL, and the extent to which the existing English legal system may apply to, or be applicable to, transactions that dispense with traditional paper form documents.

Following the analysis of the three functions that an eBL is expected to perform, Chapter Six will however concern itself with a different aspect. The spotlight will be placed on some of the main efforts and work at international and national level to adapt and strengthen the legal regime for eBLs and to assess the extent to which these efforts and work answer the research question that has been raised, namely to make an eBL equivalent to a pBL in all respects so that the digital alternative can perform all three functions and enjoy the same legal treatment as its paper-based cousin.

Chapter Seven is relatively short and aims to make a future-oriented contribution to the thesis. There, building on the conclusions drawn in the previous chapters, the author will rest

her case by conjecturing about the future development and legal environment of eBLs in general.

Finally, the last chapter will summarise the conclusions of the whole thesis and synthesize the author's views and recommendations to address the research question of how eBLs can achieve functional and legal equivalence with pBLs in the light of current English law and international legal infrastructure.

Chapter 2 A challenge to the *status quo* of pBLs in law and practice

Imagine the following transaction:

The owner of a certain consignment of goods enters into an international sales contract with an overseas buyer. The seller ships the goods onboard a vessel, and a paper bill of lading (pBL) is subsequently issued by the carrier, who undertakes to deliver the goods to their destination. The bill of lading has gone through multiple changes of hands and has remained in the post, while in the meantime the goods have arrived at the port of destination long before the necessary paperwork. The buyer, in order to receive the goods, and the carrier, in order to fulfil its obligation to deliver the goods, agree that the former will issue a letter of indemnity in exchange for the delivery of the goods in lieu of the pBL, whereupon the transaction is finally concluded.

The above hypothetical scenario is no more than a reductive, commonplace example of routine business practice in the shipping sector, but it has rather shown that pBLs, as traditional paper shipping documents, have now lost their original purpose and are ill-suited to modern international trade involving sea carriage. Seeing this unsatisfactory situation, alternative possibilities have been sought by the shipping industry leveraging the concept of e-commerce since the 1980s to address the hassle occasioned by the cumbersome paper-intensive business procedures, however they have not led to a paradigm shift to paperless transactions.

It is therefore imperative to understand exactly what is holding back the flourishing of digitization in the maritime sector. In this chapter, we discuss the development of bills of lading in commodities trade in general, with a view to providing a good starting point for the ensuing discussion of the relevant legal issues and forming the cornerstone of the entire thesis. In order to realize this goal, it is first necessary to fully recognize the need to do away with the paper-based system. This entails acquainting ourselves with the evolutionary trajectory of the pBL and, not least, how today's global trade is conducted through paper-based transport documents. The thesis will then review the international projects and initiatives to dematerialize pBLs to date, before weighing up the benefits of going paperless against the risks and challenges awaiting ahead. The discussion will conclude with a commentary on the current state of development of this type of transport document in the international trade arena, setting the stage for the remainder of the thesis.

As we will see, the pBL, a ubiquitous and key trade document in the international sale of goods, has long been suffering from operational problems. This has unlocked the door to the rise of alternative solutions using contractual terms and digital technology. Given the inconvenience of using pBLs vis-à-vis the obvious benefits that eBLs offer, it is logical and reasonable for the industry to transition away from the traditional paper-based transaction process. However, just as there are two sides to the coin, the acceptance of eBLs is a combination of pros and cons.

2.1 Historical development of pBLs

Above all, it is fair to say that the pBL evolved to meet the changing commercial needs of the merchants involved in the seaborne trade. The provenance of the pBL was a ship's book or register that arose in the face of the flourishing maritime trade in the medieval Mediterranean. Its original purpose was to keep a record of the goods shipped without the seller or his clerk having to travel with the goods on a vessel he himself had chartered. One of the earliest references to carriers having to employ a clerk to record the goods shipped is Ordinamenta et Consuetudo Maris de Trani of 1063, which states:

> The master had to be accompanied by a clerk ... under an oath of fidelity ... He was an essential member of the crew, in rank second only to the master of the ship. His most important duty was to accurately record the cargo received from the shipper in a "parchment book or register ... ," while the master, shipper and another witness were present.... [T]his clerk was not the agent of the shipper or the captain. He was a public officer to safeguard the interests of both.[49]

The parchment on which records were kept was gradually transformed into a paper receipt, the prototype of the modern pBL, recording not only the goods received but also their condition.[50] Toward the sixteenth century,[51] as the volume of goods on board grew, it became impractical for the carrier to enter into a charterparty with each shipper. Under the circumstances, as a matter of convenience, the pBL began to contain details of the terms of

[49] DA Bury, 'Electronic Bills of Lading: A Never-Ending Story' (2016) 41 Tul Mar LJ 197, 238, citing *Ordonnance Maritime of Tirani* (1063), 16-17. See also T Twiss, *The Black Book of the Admiralty* (London: Longman & Co 1876) 533-535.
[50] R Low, 'Replacing the Paper Bill of Lading with an Electronic Bill of Lading: Problems and Possible Solutions' (2000) 5 International Trade & Business Law Annual 159, 160. See also A Lista, 'Knocking on heaven's door: in search for a legal definition of the bill of lading as a document of title' in J Chuah (ed), *Research Handbook on Maritime Law and Regulation* (Edward Elgar Publishing 2019) 254.
[51] R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) ch 1; M Goldby, 'Bills of Lading' in D Attard and others (eds), *The IMLI Manual on International Maritime Law Volume II Shipping Law* (Oxford 2016) ch 11.

the carriage contract, thus acquiring a contractual role.[52] With further increase in the trading activities, there had been a growing need to sell goods on the voyage, as well as a desire to obtain financing for transactions. It is during this period the pBL came to represent title to the goods which can be transferred simply by endorsement of the paper instrument itself.[53]

The evolution of the pBL hitherto has culminated in three main legal functions:

- the receipt function: it is a receipt for the goods taken by the carrier, evidencing that the goods of the stated condition have been received for shipment or shipped onboard the vessel, and in the event that there is a discrepancy between the description in the bill and the actual cargo, the evidential value of the instrument comes into play, giving rise to liability on the part of the carrier;[54]

- the contractual function: it may either evidence or contain the terms of a contract of carriage of goods by sea, depending on who the holder of the bill is and, more crucially, its negotiation is capable of transferring contractual rights and obligations to the transferee under the operation of late statutory law;[55]

- the document of title function: a shipped "negotiable"[56] bill of lading is a document of title to the goods by the law merchant and positive statute, and exhibits two distinguishing features: as a symbol of the goods, it need only be endorsed and transferred, without more, so as to transfer constructive possession to the next buyer or pledgee; it can, although not directly affecting the property ownership status of the goods, be part of the property transfer mechanism.[57] In addition, in its capacity as a document of title, it brings with it legal consequences that have a bearing on the actors partaking in the transaction.[58]

---

[52] MD Bools, *The Bill of Lading: A Document of Title to Goods—An Anglo-American Comparison* (LLP Ltd 1997) 5-6.
[53] Much ink has been spilt on the pBL' history; for example, see CB McLaughlin, 'The Evolution of the Ocean Bill of Lading' (1926) 35 Yale Law Journal 548; E Bensa, *The Early History of Bills of Lading* (Caimo & C 1925); WP Bennett, *The History and Present Position of the Bill of Lading as a Document of Title* (Cambridge University Press 1914); SF Du Toit, 'The Evolution of the Bill of Lading' (2005) 11 Fundamina 16; M Bools, *The Bill of Lading: A Document of Title to Goods* (LLP 1997); R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020).
[54] More on this function see below ch 3.
[55] More on this function see below ch 4.
[56] As will be seen, it is not in truth a negotiable document as a bill of exchange, which can pass a better title than the transferor had: see below ch 5.
[57] *The Delfini* [1990] Lloyd's Rep 252 268.
[58] More on this function see below ch 5.

How will the aforementioned functions work in practice? Specifically, in the context of cross-border sale of goods, the receipt function can act as a safeguard for the performance of the underlying sales contract between the buyer and the seller by demonstrating that the provisions of the contract pertaining to transport arrangements have been duly complied with;[59] from the sole viewpoint of the carriage of goods by sea, the function can be used as evidence between the carrier and the shipper in case of future disputes arising from the carriage contract, to prove that the goods were in a certain condition and of a certain quantity etc. at the time of shipment.[60]

When acting in its contractual role, the pBL demonstrates the agreement between the parties under the carriage contract and can, by statute, pass on the rights and liabilities under it when the pBL is endorsed over – the indispensable ingredients for the accrual of causes of action for damages caused by for example misdelivery of goods.[61]

The function of the document of title is the most valuable of all the functions of the pBL. Since the pBL represents the goods, and so it can be used to effect delivery under both the sales contract[62] and the carriage contract,[63] or provide security to sellers in the event of non-payment; for the same reason, it opens the door to financing possibilities, to the extent that financial service providers such as banks are expected to accept the pledge of documents of title to goods in exchange for their payment undertakings, safe in the knowledge that having the documents effectively provide possessory security over the goods.[64]

The appeal of the pBL therefore lies in its elegant straightforwardness and its multifaceted role in facilitating maritime trade,[65] by virtue of which it has withstood the test of time and remains an integral component of English shipping law and commercial practice in maritime trade.[66]

---

[59] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 3.51. See also ICC International Commercial Terms (Incoterms) 2020, FOB ch, art A6; ICC International Commercial Terms (Incoterms) 2020, CIF ch, art A5.
[60] See below ch 3.
[61] See below ch 4.
[62] Sale of Goods Act 1979, s 27.
[63] See below ch 5.
[64] For a brief discussion on this point see for example Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 3.54-3.58.
[65] S Beecher, 'Can the Electronic Bill of Lading Go Paperless?' (2006) 40 INT'L LAW 627, 633.
[66] Sir Anthony Lloyd commented in 'The Bill of Lading: Do We Really Need It?' [1989] LMCLQ 47, 48-49 that '…it might be regarded as one of the most remarkable products of the mercantile genius… In certain parts

2.2 Problems with pBLs trade

That being said, these functions have not operated in their proper fashion for over half a century. The problem stems from the common occurrence that today ships always arrive before documents. Historically, this has been due to two main factors. On the one hand, the practice of pBL-mediated modern commodity trading, which often involves lengthy and complex supply chains through multiple traders and banks, to the point where documents take months or even years to arrive in the post, remains persistent and unchanged.[67] On the other hand, the speed at which goods covered by a pBL travel around the world has increased significantly.

As a corollary, it is typical that the pBL is still on its way down the endorsement chain by the time the cargo arrives at the port of discharge.[68] This means that delivery cannot take place until the buyer has finally received the pBL and then presents it to the carrier in exchange for the goods. The delay in the arrival of the pBL consequently causes port congestion, longer turnaround time and incurs unnecessary costs for demurrage and storage to the carrier.[69]

Hence the practice of delivering the goods to a party against a Letter of Indemnity (LOI) to protect the carrier against liability, became prevalent among merchants to cope with the slow movement of the traditional pBLs.[70] Intriguingly, in *Hansen-Tangens (A/S) Rederi III v Total Transport Corporation (The Sagona)*,[71] when the master of the vessel, who had been in command of tankers for some fourteen years, was asked how often an original bill of lading had been presented to him prior to discharge, simply answered: 'I have never seen it'.[72]

However, this indemnity, whose workability is subject to financial conditions, does not live up to its name in terms of protecting the carrier from liability for misdelivery: the enforceability of the indemnity is by no means guaranteed, as the indemnity is only as good as the persons signing it, in which sense the commercial arrangement deals with the problem so long as nobody cascades into insolvency;[73] and in the reverse situation, there may be

---

of the world the bill of lading is still regarded, not just as the key to the warehouse, but as the key to commerce in general.'

[67] As is usually the case in the oil trade: see for example *The Delfini* [1990] 1 Lloyd's Rep 252 257.

[68] ibid.

[69] R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) ch 5.

[70] For a detailed discussion on this topic see R Williams, 'Letters of Indemnity for Delivery Without A Bill of Lading' in B Soyer and A Tettenborn (eds), *International Trade and Carriage of Goods* (Informa 2016).

[71] [1984] 1 Lloyd's Rep 194.

[72] ibid 201.

[73] *China Shipping Development Co Ltd v State Bank of Saurashtra* [2001] 2 Lloyd's Rep 69.

resultant tiresome litigation against the carrier for delivery without production of the pBL.[74] Accordingly, issuing a LOI in lieu of an original pBL not only is quite expensive and imposes further administrative burdens and costs on trade,[75] but also effectively deprives the parties of the security of a document of title they would otherwise enjoy.[76]

2.3 Rise in the usage of eBLs

One of the main motivations for finding an alternative solution to pBLs therefore is to avoid the potential pitfalls associated with the use of LOIs. Developments in information technology have ignited new hope that pBLs may be replaced by electronic alternatives, and many traders believe that full-scale e-commerce is very close to being a reality.[77] During the past few years, the international shipping community has been working on ways to enable trade transactions to benefit from the revolution in electronic communications the world has witnessed. A lot of movements have been taken place centring on the digitalization in the maritime industry, such as remotely controlled ships, artificial intelligence in vessels, electronic release systems, automated port terminals,[78] to name but a few; and eBLs can be seen as the effective alternative to pBLs comprising a series of electronic messages.

Coincidentally, with the outbreak of the ongoing COVID-19, "wet signatures" have become simply unattainable, and papers cannot be stamped or transported, the virus has accidently served as a catalyst for the acceleration of digital documentation in commodity trade finance. It has been reported that there is a massive rise in user adoption and user interests since the

---

[74] See for example *Navig8 Chemicals Pool Inc v Aeturnum Energy International Pte Ltd* [2021] EWHC 3132 (Comm); *Farenco Shipping Co Ltd v Daebo Shipping Co Ltd (The Bremen Max)* [2008] EWHC 2755 (Comm); *The Stone Gemini* [1999] 2 Lloyd's Rep 255.

[75] L Starr, 'E-bills of Lading Come of Age' (2017) 31 MRI 8 9. If an LOI has to be countersigned by a bank, fees will be increased and credit lines will be tied up: Clyde & Co, 'The Legal Status of Electronic Bills of Lading: A Report for the ICC Banking Commission' (*ICC*, 2018) 9 <https://cdn.iccwbo.org/content/uploads/sites/3/2018/10/the-legal-status-of-e-bills-of-lading- oct2018.pdf> accessed 1 June 2022.

[76] For greater analysis see P Todd, *Advanced Introduction to Maritime Law* (Edward Elgar Publishing 2021) s 6.3.1.

[77] According to the latest transport survey conducted by Norton Rose Fulbright, with the substantial growing interest in investment in digital technology, software supporting transport as a service such as eBL system is believed to have the potential to transform the shipping industry: see Norton Rose Fulbright, 'Transport Survey 2017' (*TransportsurveyNortonRoseFulbright.online*, June 2017) <https://transportsurvey.nortonrosefulbright.online/publications/shipping> accessed 24 May 2019.

[78] See eg, R Veal and M Tsimplis, 'The Integration Of Unmanned Ships Into The Lex Maritima' [2017] LMCLQ 303; G Anderson, 'Advancing the Digitalisation of Ports: Supporting A Moving Environment' (2018) 32 MRI 07 6; M Fredrick Raj, 'How AI & Automation Has Overhauled The Shipping Industry' (*analyticsindiamag.com*, Jan 2019) <https://www.analyticsindiamag.com/ai-shipping-autonomous-drive/> accessed 24 May 2019.

COVID-19 hit,[79] and it seems to many that the virus could be the final push the maritime industry needs to achieve full eBL adoption.[80]

In what follows, the thesis will take a trip down memory lane and examine the historical attempts of the shipping sector to dematerialize pBLs, particularly those initiatives that are still representative of today's market.

2.3.1 Early initiatives

(1) SeaDocs

On the whole, we can divide the systems into two groups according to their centrality: centralized and decentralized schemes. In a centralized eBL platform, transactions are managed and orchestrated by a central entity (the system service provider) under a framework of contracts. Most of the early initiatives were platforms sitting on a centralized architecture. The first serious effort[81] to apply such an electronic system to bills of lading was Seaborne Trade Documentation System (SeaDocs)[82] venture in 1986 between Chase Manhattan Bank and INTERTANKO,[83] mainly designed for oil shipments.[84]

At the heart of the system's operation is a central registry managed by SeaDocs, who would act as a custodian and agent for all the parties involved in the shipping transaction. In this

[79] E Wragg, 'How the Electronic Bill of Lading Became a Battleground for Trade Digitisation' (*gtreview.com*, 12 July 2021) <www.gtreview.com/magazine/volume-19-issue-3/electronic-bill-lading-became-battleground-trade-digitisation> accessed 22 June 2022; The Economist, 'Trade Finance Stumbles into the Digital Era' (*economist.com*, 4 July 2020) <https://www.economist.com/finance-and-economics/2020/07/04/trade-finance-stumbles-into-the-digital-era> accessed 22 June 2022.

[80] See for instance RL Lim, 'Singapore Parliament Passes Law to Recognise Electronic Bills of Lading' (*UKP&I*, 23 Febuary 2021) <https://www.ukpandi.com/news-and-resources/articles/2021/singapore-parliament-passes-law-to-recognise-electronic-bills-of-lading/> accessed 13 June 2022; N Austin and A Douni, 'Possession as We (Don't) Know It!' (*ReedSmith*, 14 October 2021) <https://www.shiplawlog.com/2021/10/14/possession-as-we-dont-know-it/> accessed 13 June 2022; DCSA, 'Five Predictions for the Next Five Years of Digitalisation in Container Shipping' (*dcsa*) <https://dcsa.org/newsroom/resources/five-predictions-for-the-next-five-years-of-digitalisation-in-container-shipping/> accessed 13 June 2022.

[81] R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 2.119; AN Yiannopoulous, *Ocean Bills of Lading: Traditional forms, Substitutes and EDI Systems* (Kluwer Law International 1995) s 5.2.1.

[82] Only information from secondary sources is available on SeaDocs: see for example JL Roberts, 'Electronic Bills of Lading' in KCDM Wilde (ed), *International Transactions: Trade and Investment, Law and Finance* (Law Book Company 1993) 86-107; B Kozolchyk, 'Paperless Letters of Credit and Related Documents of Title' (1992) 55(3) Law and Contemporary Problems 39; K Love, SeaDocs: The Lessons Learned [1992] 2 OGLTR 53.

[83] International Association of Independent Tanker Owners.

[84] See B Kozolchyk, 'Evolution and Present State of the Ocean Bill of lading from a Banking Law Perspective' (1992) J Mar L & Com 161, 227; R Merges and G Reynolds, 'Towards A Computerized System for Negotiating Ocean Bills of Lading' (1986) J Mar L & Com 23, 23-36.

way it took an immobilization[85] approach whereby an original pBL would still be issued by the carrier in the normal way, but then be immediately taken out of circulation and deposited with SeaDocs; instead, a test key or code would be issued to the shipper. Thus, the transfer of the pBL, instead of being completed by courier, would be accomplished electronically, with the key code been transmitted between the parties. The change of holdership of the pBL from one person to another is achieved by SeaDocs recording the name of the latest person to receive the key code in a central registry on computer upon authentication. At the time of delivery, SeaDocs would issue a new identification code to the carrier and to the person entered in the central registry to effect delivery in the absence of a pBL; or in the event that a pBL is required, the end buyer would be entitled to request the paper document from SeaDocs.[86]

Although technically viable,[87] SeaDocs eventually failed to attract widespread support. This can be attributed to a number of factors. As can be seen, the SeaDocs experiment was only a partial dematerialization of the pBL;[88] it never eliminate the use of pBL but rather relied on its existence. Whereas the original pBL is by its nature unique thanks to its corporeal existence, an electronic document is not. As robust and secure as its register of title might be, SeaDocs had no control over the distribution of the code, which could be freely copied and transmitted to anyone. Theoretically therefore, whoever had the knowledge of the code could claim title to the goods, giving rise to potential liability and litigation. Another practical consideration is that other banks had trust concerns over the neutrality of the registry being owned by a major competitor.[89]

[85] M Holford, 'A Tricky Problem in Brief' (2011) 25 MRI 3 20.
[86] E Laryea, *Paperless Trade: Opportunities, Challenges and Solutions* (Kluwer Law International 2003) s 5.5.5.1; AN Yiannopoulous, *Ocean Bills of Lading: Traditional forms, Substitutes and EDI Systems* (Kluwer Law International 1995) s 5.2.1. The system bears some resemblance to the primitive eBL system based on *Glencore International AG v MSC Mediterranean Shipping Co Inc* [2015] EWHC 1989 (Comm), [2015] 2 Lloyd's Rep 508, affirmed [2017] EWCA Civ 365; [2017] 2 CLC 1, described in ch 5.
[87] JA Spanogle, 'Incoterms and UCC Article 2 – Conflicts and Confusions' 31 INT'L L 111 (1997) <https://scholar.smu.edu/til/vol31/iss1/6> accessed 26 August 2022.
[88] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 340.
[89] For a full discussion of the reasons for SeaDocs's failure, see K Love, 'SeaDocs: The Lessons Learned' [1992] 2 OGLTR 53; UNCITRAL, *Electronic Data Interchange thirtieth session* (UN Doc A/CN 9/WG IV/WP 69, 31 January 1996) para 72, citing AN Yiannopoulos, 'General Report to the XIVth International Congress of Comparative Law', in AN Yiannopoulos (ed), *Ocean Bills of Lading: Traditional Forms, Substitutes, and EDI Systems* (Kluwer Law International 1995) 22-24.

(2) Bolero, its successive competitors essDOCS and e-title

Nevertheless, the failure of SeaDocs did not stop the shipping industry from introducing electronic trading. The time when the Bill of Lading Electronic Registry Organisation (Bolero system)[90] was launched, there was a great deal of interest from scholars, who seemed to be fairly confident that Bolero would be the final feasible solution to the difficulties of dematerialization that have plagued paperless trade.[91] The project was established from an EU research initiative[92] by SWIFT[93] and TT Club[94] in 1998, after technically trialled in the metals and mining trade for some years.[95]

The details of this complex scheme are beyond the scope of this thesis and a brief overview of how it works will suffice. A typical transaction for an eBL under the Bolero system starts with the creation[96] of the eBL by the carrier in the web-based system. Once approved by the shipper (authenticated with a digital signature), the eBL will be issued to the shipper and be able to circulate within the system between traders that have subscribed to Bolero at the touch of a button on the online platform, obviating the need of code transfer. It is therefore readily apparent that, unlike SeaDocs, Bolero is based on a full dematerialization method, assuming that the trade document is always electronic and that in no case will there be a paper instrument relating to the same goods.[97] Having said so, Bolero uses a Title Registry similar to SeaDocs's central registry to record the current "holder"[98] of an eBL after each transfer on

[90] www.bolero.net.
[91] See, eg A Delmedico, 'EDI Bills of Lading: Beyond Negotiability' (2003) 1 (1) HERTFORDSHIRE LJ <https://pdfs.semanticscholar.org/7c51/648275c74bb6e3c2f8a821aa67f35762b787.pdf> accessed 20 March 2018 (referring to the Bolero Project as "the Real Step Forward"); see also C Schaal, '21st Birthday of the Electronic Bill of Lading: With Age Comes Maturity' (*INTER-LAWYER.com*, 2003) <http://www.inter-lawyer.com/lex-e-scripta/articles/electronic-bills-of-lading.htm> accessed 20 March 2018.
[92] See UK P&I, 'Bolero: History of the Bolero Project and the International Group of P&I Clubs (the Group) Cover' (*UKP&I*, September 30 2010), <http://www.ukpandi.com/publications/article/bolero-history-of-the-bolero-project-and-the-intemational-group-of-p-i-clubs-the-group-cover-1162/> accessed 26 August 2022.
[93] The bank owned co-operative specialising in secure inter-bank messaging.
[94] The international transport and logistics industry's leading provider of insurance and related risk management services.
[95] N Gaskell, 'Bills of Lading in an Electronic Age' [2010] LMCLQ 233, 260; E Laryea, *Paperless Trade: Opportunities, Challenges and Solutions* (Kluwer Law International 2003) s 5.5.6.1. On Bolero generally, see M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) [11.20]-[11.25].
[96] This can be done by way of uploading pdf scans of signed and stamped pBL templates onto the platform.
[97] The eBL under the Bolero framework is not simply an electronic version of the paper bill of lading but rather a combination of the title registry record and an attached document that contains the eBL data (image of the bill of lading): Bolero, 'Bolero Insights: Electronic Bill of Lading for Carriers Overview' (*bolero.net*) <https://www.bolero.net/downloads/> accessed 14 June 2022.
[98] Double quotation marks are used here since one cannot hold intangible things in the real sense: see further ch 6.

an electronic database. Thus, as with the pBL, only one person can control the eBL at any given time, thus ensuring the uniqueness of the document in the system.

The objective of Bolero is therefore to create an electronic version of the pBL which can replicate the functions of a traditional paper bill of lading alluded to above; this is secured by the Bolero Rulebook.[99] In conformity with its mandate, Bolero requires each user to be a signatory to the Bolero Rulebook[100] upon enrolment,[101] leading to the multilateral contractual relationship between users, as well as between users and Bolero itself – the operator of the system. In short, the Rulebook prescribes how the system works and how users interact with each other: it gives legal effect to the electronic messages transmitted in the system by contractual consensus,[102] enables the transfer of rights and obligations and deals with the ownership of goods by introducing the common law principles of novation[103] and attornment.[104] In doing so, it provides certainty to all parties that the electronic exchange of documents takes place in an irrevocable and legally binding manner.[105]

Following Bolero's footsteps, a privately owned fintech company called essDOCS,[106] entered into the eBL market and rolled out its system in 2010, after two years of pilot trails in the energy industry.[107] Although the roots and presentation of essDOCS are different from Bolero, the two eBL systems actually work in rather similar ways, mainly because: like Bolero which precedes it, the handling process and designated roles closely resemble those for pBLs; the common legal framework underpinning essDOCS is formalized by a multilateral agreement named ESS-Databridge Service and User Agreement (DSUA),[108] the principal agreement governing the operation of the solution, through which users can create

[99] See Bolero, 'What is an Electronic Bill of Lading?' (*bolero.net*) <www.bolero.net/what-is-an-electronic-bill-of-lading> accessed 14 June 2022.
[100] Bolero International Ltd Rulebook/Operating Procedures September 1999.
[101] Bolero Rulebook 1999, Rule 2.1.2(1).
[102] Bolero Rulebook 1999, Rule 2.2.3. See also section 3.3.
[103] The parties contractually agree that there is a novation of the contract of carriage each time the eBL is transferred from one holder to the next, a process by which the rights and obligations under a contract are taken up by a third party through the extinction and replacement of the original contract: see ch 4.
[104] The parties contractually agree that an attornment is effectuated each time the eBL is transferred from on holder to the next, a process by which the carrier of goods acknowledges that they now hold the goods on behalf of the transferee rather than the transferor: see ch 5.
[105] Bolero, 'Digital Trade - ePresentation' (*bolero.net*) <https://www.bolero.net/downloads/> accessed 14 June 2022.
[106] www.essdocs.com.
[107] A Birnbaum, 'Interview with essDOCS Co-Founder Alexander Goulandris' (*Brown Brothers Harriman*, 4 May 2016) <https://www.bbh.com/en-us/insights/interview-with-essdocs-co-founder-alexander-goulandris-16002> accessed 26 April 2018.
[108] essDOCS Exchange Ltd DSUA 2013.1 and 2021.1.

and send BLs electronically within a closed membership as the functional and legal equivalent of pBLs; thanks to its detailed contractual framework, essDOCS enables transferable functions as between its members, where all parties are linked contractually through its closed system; the concepts of novation and attornment are too adopted to give legal assurance to the eBL, complemented with the deployment of an online central registry to guarantee uniqueness.[109]

A third closed scheme worth mentioning is e-title,[110] founded by ex-members of the maiden system Bolero in 2004. Comparable to Bolero (and essDOCS), the system provides contractual legal validity to title transfers through a multilateral agreement called the Electronic Title User Agreement.[111] However, it also differs in two respects. In the first place, rather than relying on novation and attornment as Bolero and essDOCS do, e-title has built its contractual architecture by incorporating Carriage of Goods by Sea Act 1992 into its user agreement.[112] In the second place, e-title proclaims itself to be a "peer-to-peer"[113] decentralized solution which does not rely on a central registry. Not much detail is publicly available about the application of the "back-end"[114] technology and the exact role of e-title therein, but from the information provided on its website, it seems that users of e-title need to be equipped with special hardware devices, which are tamper-proof computers that prevent technical or physical access to the eBL "state".[115] Hence the hardware devices essentially function as title registries to safeguard uniqueness, howbeit decentralized, given that presumably each user has one attached to its back-office system.

It follows that the same degree of uniqueness as that of paper can be safely maintained in a closed network by a well-run computerized system. Be that as it may, it is precisely this enclosed design that stands in the way of a real alternative to the pBL, in that the subject

[109] More on the similarities of the two systems see L Starr and J Tan, 'Legal Briefing: Electronic Bills of Lading' (*UKP&I*, May 2017) 3 <https://www.ukpandi.com/fil eadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 16 June 2022.
[110] www.e-title.net/index.php.
[111] The Electronic Title User Agreement version 1.2, written in accordance with the UNCITRAL Model Laws on Electronic Commerce (1996).
[112] However, while users may agree to the incorporation of the Act, it does not mean that the Act will apply to such 'electronic bills of lading': S Girvin and E Ong, 'Electronic Bills of Lading, Blockchain and Distributed Ledger Technology (DLT)' in S Girvin and V Ulfbeck (eds), *Maritime Organisation, Management and Liability: A Legal Analysis of New Challenges in the Maritime Industry* (Hart Publishing 2020). Similar doubt has also been raised M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) [6.45]. See also the discussion in section 4.3.1 below.
[113] e-title, 'What is e-title™?' (*e-title.net*) <www.e-title.net/sol_work.php> accessed 17 June 2022.
[114] e-title, 'How Does e-title™ Work?' (*e-title.net*) <www.e-title.net/sol_work.php> accessed 17 June 2022.
[115] Whether the bill of lading is active or has been transferred to a new Holder: www.e-title.net/sol_what.php.

using the latter can be anyone at random, whereas the functioning of the electronic equivalent is predicated upon a closed group of system users. On the other hand, especially for centralised platforms, trust issues always linger, which may further impede the expansion of the user base.

Arguably, one of the features of a closed scheme is that, because the network is administered and maintained by a single entity, there is someone to be held accountable if things go wrong. The weak point, however, is that there is a "big brother" who, while collecting commissions, has access to all commercial transactions between the parties and technically has the power to interfere with the trading processes and change the rules of the game at will. In this respect, e-title may be said to have an edge over its predecessors in that it limits the powers of the service provider and therefore alleviates to some extent concerns about the trustworthiness of a central registry. In any case, granted that the digital solution is founded on private contracts, it exposes itself to the same bottleneck which Bolero and essDOCS face, that being the legal framework structured by a contractual agreement can only operate between members who have agreed to a uniform set of rules and operating mechanisms to govern their transactions; when a system member trade with a non-member, the electronic system loses its binding effect on the latter, in which case the eBL must be converted to paper.[116]

It is therefore understandable why the array of commercially appealing initiatives represented by Bolero, essDOCS and e-title, particularly given the unfavourable trade practices that rely on cumbersome paper-based procedures, have not yet led to a true replacement to pBL. On another anecdotal note, while the use of electronic forms of trade documents has increased significantly with the sweep of COVID-19 across the globe, the use of electronic solutions still represents only a small proportion of trade documents.[117] In fact, it was revealed by the Digital Container Shipping Association (DCSA) in its year-end 2021 research that only 1.2% of the BLs issued by carriers was digital.[118]

---

[116] For a thorough treatment of the reasons why the adoption of registry systems has been so slow, see M Goldby, 'Electronic Bills of Lading and Central Registries: What Is Holding Back Progress?' (2008) 17 ICTL 125; Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 2.12-2.13.
[117] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.10.
[118] DCSA, 'DCSA Publishes Beta Releases of Standards for the Booking Process 1.0 and the Bill of Lading 2.0' (*dcsa*, 5 April 2022) <https://dcsa.org/newsroom/resources/beta-releases-of-standards-for-the-booking-process-1-0-and-the-bill-of-lading-2-0/> accessed 17 June 2022. While the focal point of this thesis is on the legal concerns about the eBL usage, there are, however, practical reasons for the low take-up rate for eBLs, such as concerns about technology, platform and lack of interoperability, insufficient adoption by other stakeholders: see e.g., DCSA, 'Survey: FIT Alliance reveals strong interest in eBL, pinpoints obstacles to address' (*dcsa.org*,

2.3.2 Emerging implementations

The closed schemes (whether centralized or decentralized) have proved to be a limited success. It seems to follow that a more sensible solution may be to develop a system that depends less, or not at all, on a central registry, or an open system that does not rely on membership of a group. This has been made possible by the blockchain technology, a digital distributed ledger which was initially developed to manage the risk of double spend of Bitcoins.[119] To put it bluntly, if one sees a database as a ledger, then reading and writing a database can be seen as an act of bookkeeping. The principle of blockchain technology is thus to find the fastest bookkeeper over a period of time, and then distribute his accounts to everyone else in the system. This is equivalent to changing all the records in the database and sending them to every other node in the network, hence the name distributed ledger.

A blockchain, as the name itself suggests, consists of a linear chain of blocks, each recording a set of transaction data encrypted securely using cryptography[120] and being interconnected in a chronological order.[121] The chain is web-based, and can be made in identical copies maintained on multiple computers controlled by different entities, known as nodes.[122] Technically, anyone involved in the blockchain can review the entries in it and new blocks can only be appended to the end of the chain after validation[123] by the majority of participants. The blockchain is by its nature a decentralized and distributed digital record of transactions that is highly resilient and tamper-proof. Once entered into the blockchain, the

17 Jan 2023) <https://dcsa.org/newsroom/resources/survey-fit-alliance-reveals-strong-interest-in-ebl-pinpoints-obstacles-to-address/> accessed 11 June 2023.

[119] See S Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' (*bitcoin*, 2018) <https://bitcoin.org/en/bitcoin-paper> accessed 16 July 2019; G Vidan and V Lehdonvirta, 'Mine the Gap: Bitcoin and the Maintenance of Trustlessness' (2019) 21 New Media & Society 42.

[120] Also known as 'public key cryptography ', the process of encrypting and decrypting data using public and private keys. See N Hewett, W Lehmacher and Y Wang, 'Inclusive Deployment of Blockchain for Supply Chains: Part 1 – Introduction' (*World Economic Forum*, 8 April 2019) 8 <https://www.weforum.org/whitepapers/inclusive-deployment-of-blockchain-for-supply-chains-part-1-introduction/> accessed 26 Aug 2022.

[121] There is however no uniformly accepted definition of blockchain: KFK Low and E Mik, 'Pause the Blockchain Legal Revolution'(2019) 69 ICLQ 135. See also CR Goforth, 'How Blockchain Could Increase the Need for and Availability of Contractual Ordering for Companies and Their Investors' (2019) 94(1) North Dakota Law Review 1.

[122] E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 5 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022; J Bacon and others, 'Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers' (2018) Richmond Journal of Law & Technology 1, 6.

[123] This can be done by two widely adopted blockchain validation algorithm: Proof of Work (PoW) and Proof of Stake (PoS): E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 6 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022; European Parliamentary Research Service, *Blockchain for Supply Chains and International Trade: Report on key features, impact and policy options* (2020) ('*Blockchain for Supply Chains*') 7-8.

information is timestamped and stored in a permanent manner that is difficult, if not impossible, to tamper with,[124] therefore ensuring that there is no double spending of the same coin.[125] It stands to reason that The Economist described the technology as an ideal "trust machine".[126]

The aforementioned properties of the blockchain lend the technology well to the development of digital alternatives to pBL.[127] The high security, immutability and instant traceability of the blockchain can provide the same assurance as a paper document in terms of guaranteeing the unique rights of the holder of the electronic counterpart.[128] In addition, the technology allows users to interact with others without any third-party involvement. This is because each user in effect serves as a local registry storing the same database,[129] thus obviating the need for costly and distrusted central registries. In this respect it is technically superior to early forerunners represented by Bolero.

There are many implementation variants of blockchain technology, depending on the objective sought. In general, according to the openness of the platform, blockchains can be

[124] Although note the dangers of the 51 per cent attack, see F Wang, 'Blockchain Bills of Lading and Their Future Regulation' [2021] LMCLQ 504, 513; M Orcutt, 'Once Hailed As Unhackable, Blockchains are Now Getting Hacked' (*MIT Technology Review,* 19 February 2019) <https://www.technologyreview.com/2019/02/19/239592/once-hailed-as-unhackable-blockchains-are-now-getting-hacked/> accessed 26 August 2022; J Bacon and others, 'Blockchain Demystified' (2017) Queen Mary School of Law Legal Studies Research Paper No 268/ 2017, 17-19 and Table 5 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id1⁄43091218> accessed 19 June 2022; G Clarke, 'After Ethereum Classic Suffers 51% Hack, Experts Consider – Will Bitcoin Be Next?' (*Forbes*, 9 Jan 2019) <https://www.forbes.com/sites/ginaclarke/2019/01/09/after-ethereum-classic-suffers-51-hack- experts-consider-will-bitcoin-be-next/#5f3a9870a56b> accessed 8 November 2019.

[125] J Tan and L Starr, 'Electronic Bills of Lading' (*UKP&I.com*, 3 May 2017) 7 <https://www.ukpandi.com/fileadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 24 May 2019; K Takahashi, 'Blockchain Technology and Electronic Bills of Lading' (2016) 22 JIML 202, 203-204.

[126] J Berkley, 'The Promise of the Blockchain: The Trust Machine' (*economist.com*, 31 October 2015) <https://www.economist.com/leaders/2015/10/31/the-trust-machine> accessed 18 June 2022.

[127] A scenario of envisaging the use of a blockchain-based eBL is described in J Fava, 'Chip Off the Old Block: Acknowledging the Obstacles to Widespread Adoption of Blockchain Bills of Lading' (2021) LSE Law Review 181, 193.

[128] E Ong, 'Blockchain bills of lading and the UNCITRAL Model Law on Electronic Transferable Records' [2020] JBL 202, 209-212; C Albrecht, 'Blockchain Bills of Lading: The End of History: Overcoming Paper-Based Transport Documents in Sea Carriage through New Technologies' (2019) 43 Tul Mar LJ 251, 264; K Takahashi, 'Blockchain Technology and Electronic Bills of Lading' (2016) 22 JIML 202, 204-05.

[129] E Ganne, 'Blockchain's Practical and Legal Implications for Global Trade and Global Trade Law' in Mira Burri (ed), *Big Data and Global Trade Law* (Cambridge University Press 2021). More on the advantages of decentralisation, see K Takahashi, 'Blockchain Technology and Electronic Bills of Lading' [2016] JIML 202, 205-206; J Bacon and others, 'Blockchain Demystified' (2017) Queen Mary School of Law Legal Studies Research Paper No 268/ 2017, 29-30 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id1⁄43091218> accessed 19 June 2022. That said, it should be acknowledged that the technology is not a solution to everything: E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 14 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022.

categorized into public, consortium[130] and private blockchains; according to the degree of decentralization[131] required, they can be classified as permissioned or permissionless blockchains.[132] A pBL can be used by anyone in the world without the need to set up an additional registry of ownership or join a specific group. It is reasonable to assume that for a blockchain-based bill of lading to be a true digital equivalent of the traditional paper document, it cannot derive from a closed network, confining itself to a defined group of participants; similarly, it cannot originate from a licensed system, which has similar issues to those of a private centralized system. It consequently follows that complete parity with the pBL can only be achieved on an open, permissionless blockchain platform.[133] However, this brings with it the attendant problems of limited scalability and huge energy consumption.[134] Ultimately, after all, it will be up to the market to determine the level of security desired and the costs that can be afforded.

It is interesting to observe that whereas certain current blockchain bill of lading platforms developed by third-party providers, such as edoxOnline, Wave and CargoX,[135] claim themselves to use public permissionless blockchain,[136] the blockchain-based eBL systems developed by supply chain market players, such as TradeLens[137] and IQAX,[138] are

[130] 'Consortium' can be seen as a subtype of private blockchain, but it is sometimes considered as a type of blockchain in its own right: V Buterin, 'On Public and Private Blockchains' (*ethereum foundation blog*, 7 August 2015) <https://blog.ethereum.org/2015/08/07/on-public-and-private-blockchains/> accessed 26 August 2022.
[131] However, regardless of the type of blockchain, it should be more decentralized than those traditional systems based on a central registry: P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 362-363.
[132] E Ganne, 'Blockchain's Practical and Legal Implications for Global Trade and Global Trade Law' in Mira Burri (ed), *Big Data and Global Trade Law* (Cambridge University Press 2021). For detailed descriptions and comparisons, see E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 8-12 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022.
[133] J Dalhuisen, *Dalhuisen on Transnational Comparative, Commercial, Financial and Trade Law Volume 2: Contract and Movable Property Law* (Hart Publishing 2019) 708; P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 341. cf F Wang, 'Blockchain Bills of Lading and Their Future Regulation' [2021] LMCLQ 504, 513, cautioning that 'even the public blockchain is not factually a decentralised system. Given the limited number of developers and limited resources, a centralised decision-making mechanism always exists in this so-called decentralised system'.
[134] E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 90-92 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022. See also Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) 221.
[135] L Starr and J Tan, 'Electronic Bills of Lading – An Update Part I' (*ukpandi.com*, 26 March 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-i> accessed 21 June 2022.
[136] A public permissionless blockchain allow anyone to join, and is completely decentralized. Some have questioned that these two blockchain systems simply do not have all the benefits of a permissionless blockchain: F Wang, 'Blockchain Bills of Lading and Their Future Regulation' [2021] LMCLQ 504, 510.
[137] See forthcoming paragraphs.
[138] ibid.

consortium permissioned. The latter ones operate under the leadership of a group; access to the platform is limited to those who are permitted and identified, thus allowing participating organizations to maintain a degree of control and privacy.[139] These types of platforms are only "partially decentralized",[140] but provide for greater scalability and clarity of roles and responsibilities, and are therefore amenable to situations where regulatory compliance is required and where financial institutions are involved in transactions.[141]

Next, the thesis shall turn to the eBL systems that have been launched in recent years which, according to the information available, have adopted blockchain technology in one way or another.

EdoxOnline,[142] a web platform developed by Argentinian transportation software company GlobalShare,[143] is the first eBL service offering leveraging blockchain technology. The aim of the product is to provide a real-time collaborative platform for the digitization of international trade processes between shippers, buyers and vendors right from the issuance of key documents.[144] As just touched on, the system operates on a public blockchain which is

[139] E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 11 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022.
[140] V Buterin, 'On Public and Private Blockchains' (*ethereum foundation blog*, 7 August 2015) <https://blog.ethereum.org/2015/08/07/on-public-and-private-blockchains/> accessed 26 August 2022. cf PD Filippi and A Wright, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018) 31. Even with a permissioned private blockchain, the role of the registry can be reduced, so that a central body does not need to be involved in the day-to-day operation, and indeed may choose to make use of a third-party blockchain platform: P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 363. In fact, Bolero, essDOCS are all exploring integration with the blockchain technology: L Starr and J Tan, 'Electronic Bills of Lading – An Update Part II' (*ukpandi.com*, 1 April 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-ii> accessed 21 June 2022; S Wass, 'essDocs to Integrate e-Bill of Lading with Voltron Blockchain Platform' (*GTR*, 5 April 2019) <https://www.gtreview.com/news/fintech/essdocs-to-integrate-e-bill-of-lading-with-voltron-blockchain-platform/> accessed 26 August 2022; A Raymond, 'Concern about Lack of Standards Highlights the Benefits of Bolero at Sibos 2018' (*Bolero*, 9 November 2018) <https://www.bolero.net/blog/concern-about-lack-of-standards-highlights-the-benefits-of-bolero-at-sibos-2018/>, accessed 26 August 2022.
[141] F Wang, 'Blockchain Bills of Lading and Their Future Regulation' [2021] LMCLQ 504, 508; M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) [6.46]; E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 11 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022. See also explanation in LP Nascimento, 'Blockchain in a Nutshell (Beyond Bitcoin)' (*sapbr.com*, 4 March 2018), <https://sapbr.com/2018/03/04/demystifying-blockchain-beyond-bitcoin/> accessed 21 June 2022. See also B Carson and others, 'Blockchain Beyond the Hype: What is the Strategic Business Value?' (*mckinsey.com*, 19 June 2018) <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/blockchain-beyond-the-hype-what-is-the-strategic-business-value > accessed 27 August 2022. cf P Vlačič and B Čekrlić, 'The Time is Now: Widespread Adoption of the Electronic Bill of Lading' [2020] IL Diritto Marittimo 621, 708.
[142] web.edoxonline.com.
[143] The company was set up in 2007 by a group of international trade experts to provide the industry with a collaborative digital platform to streamline the issuance of shipping and commercial documents. See www.globalshare.com.ar.
[144] See web.edoxonline.com.

based on the Ethernet[145] network. It is notable that it has already interfaced with other mainstream eBL systems Bolero and essDOCS;[146] and like those first generation eBL solutions, edoxOnline is also based on a multipartite agreement entitled 'e-BL Terms and Conditions',[147] where the rights and obligations of the parties under the contract of carriage are transferred by novation and the title to the goods is transferred by the carrier's attornment.[148]

Wave[149] is another blockchain-based digital solution for the transfer of eBLs between commercial parties.[150] Founded by the Israeli fintech company OGY Docs,[151] the platform completed the world's first live transaction in 2016.[152] Wave considers itself to be a software application provider and not an additional principal to the transactions conducted on its network. It maintains that transactions on Wave take place directly between users without any intermediary involvement on its part.[153] Although it is a public permissionless blockchain, Wave users do need to sign up to its Bylaws,[154] which, curiously, does not make use of the legal devices novation and attornment but rather imitate the COGSA 1992 framework for endorsing eBLs and transferring ownership.[155] This is said to preserve the exact division of

[145] The best known public blockchain which also enables the use of smart contracts.
[146] Altexsoft, 'Electronic Bill of Lading: How to Go Paperless with Bolero, essDOCS, e-title, and edoxOnline' (*altexsoft.com*, 18 November 2019) <https://www.altexsoft.com/blog/electronic-bill-of-lading-software/ accessed 27 August 2022.
[147] Version 1, dated 18 May 2018, accompanied by its Management User's Guide.
[148] The users agree in advance under the "e-BL Terms and Conditions" that there will be an attornment each time the eBL is transferred: L Starr and J Tan, 'Electronic Bills of Lading – An Update Part II' (*ukpandi.com*, 1 April 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-ii> accessed 21 June 2022.
[149] See wavebl.com/about/.
[150] For more details how the system works see wavebl.com/our-blockchain-technology/. See also I Kaiser, 'Letters of Indemnity For Delivery of Cargo Without Production of Bills of Lading – Is Blockchain The Answer?' LMAA Review 2018-2020, 27; M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) [11.46]-[11.52].
[151] pitchbook.com/profiles/company/152061-85#overview.
[152] D Patel and E Ganne, 'Blockchain & DLT in Trade: Where Do We Stand?' (*WTO*, November 2020) s 7.4.12 <https://www.wto.org/english/res_e/booksp_e/blockchainanddlt_e.pdf> accessed 22 June 2022.
[153] Users can install their applications and save their data locally on their own servers instead of having to save their data on a service provider's central repository, and can communicate directly with each other without their transactions going through the provider's data servers: B Lessem, 'Legal Issues and Electronic Bills of Lading' (*wavebl.com*, 20 April 2021) <wavebl.com/legal-issues-and-electronic-bills-of-lading-lading> accessed 22 June 2022.
[154] WAVE Application and Network Bylaws, version 1, dated 20 December 2019.
[155] I Kaiser, 'Letters of Indemnity For Delivery of Cargo Without Production of Bills of Lading – Is Blockchain The Answer?' LMAA Review 2018-2020, 29; L Starr and J Tan, 'Electronic Bills of Lading – An Update Part I' (*ukpandi.com*, 26 March 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-i> accessed 22 June 2022.

rights and responsibilities offered by pBLs so that all parties feel comfortable with the system,[156] and to attract trade financiers (especially banks) to use WAVE.[157]

CargoX[158] is a crowdfunded project owned by the Slovenian company CargoX Ltd that enables document transfer on blockchain. In 2018 it launched the first blockchain eBL in history powered by the Ethereum network.[159] Of particular interest is the solution's embedding of smart contracts on top of a public blockchain, a computer program that can be executed automatically when certain conditions are met, thus automating the process and further reducing costs.[160] The underlying legal framework of CargoX is 'CargoX Blockchain Based Smart Bill of Lading Solutions Special Terms and Conditions',[161] and like its peers, is underpinned by the contractual mechanisms novation and attornment.

Late implementations TradeLens[162] and IQAX[163] on the other hand, are all permissioned blockchain platforms built upon Hyperledger Fabric,[164] backed by Maersk and COSCO respectively. Both systems provide a high degree of privacy for their users by allowing only interested parties access to specific transactions and data sharing. As with most other eBL schemes, TradeLens and IQAX are built on the foundations of contractual arrangements,[165] requiring the users to agree that novation and attornment are used to mimic the functions of the pBL in the electronic world.

---

[156] B Lessem, 'Legal Issues and Electronic Bills of Lading' (*wavebl.com*, 20 April 2021) <wavebl.com/legal-issues-and-electronic-bills-of-lading-lading> accessed 22 June 2022.
[157] L Starr and J Tan, 'Electronic Bills of Lading – An Update Part I' (*ukpandi.com*, 26 March 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-i> accessed 22 June 2022. See also the consideration as to the application of the COGSA 1992 framework to eBLs in section 4.3.1 below.
[158] See cargox.io.
[159] The commercial name is Smart B/LTM: cargox.io/press-releases/full/first-ever-blockchain-based-cargox-smart-bl-has-successfully-completed-its-historic-mission/.
[160] E Ganne, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) 13 <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm>; E Orrù, 'The Challenges of ICTs in the Shipping Sector Among International Uniform Law, Codification and Lex Mercatoria: The Electronic Bill of Lading' in J Nawrot and Z Pepłowska-Dąbrowska (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law 2019) 134, 140-41.
[161] Version 1, dated 10 February 2020.
[162] www.tradelens.com/products/tradelens-ebl. It is unfortunate that TradeLens announced the end of its service in November 2022 due to lack of commercial viability: https://www.maersk.com/news/articles/2022/11/29/maersk-and-ibm-to-discontinue-tradelens.
[163] www.iqax.com/en/solutions/ebl/.
[164] www.tradelens.com/post/5-key-points-about-tradelens-platform-security; www.iqax.com/en/about/newsroom/2020/11/iqax-revolutionize-global-supply-chains/.
[165] TradeLens eBL Rulebook and Service Description dated 24 February 2021; IQAX eBL Service Terms and Conditions dated 17 February 2022.

The concept of decentralization offered by blockchain-based bill of lading systems is appealing, in light of the industry's concerns over the excessive power of a central registry of title. Having said that, it is the author's provisional view that an eBL system leveraging blockchain technology is simply a more advanced tool for storing transaction information in a secure and dispersed manner. It does not make possible what was previously impossible with eBL, in the sense that the technology still draws on the role of a title registry, albeit on a less centralized basis, to track ownership; it too rests on the support of a contractual infrastructure to give legal meaning to the eBL transactions that take place on the ledger. It does, however, make what was once impractical now practical, in the sense that it may help to address the mistrust issue besetting current centralized systems; more generally also though, it has the potential for a completely open network that is akin to the paper world.[166]

2.3.3 eBL adoption: a trade-off between opportunities and challenges

In practical terms, the eBL can provide a solution to several of the problems identified with the pBL. The key benefits of using an eBL have been identified as the speed of transfer, the savings in costs and the resilience to fraud.

Compared to its paper counterpart, an eBL can be sent around the world instantaneously, and can still be at the discharge port after multiple transfers of ownership during carriage when the ship arrives, thus eliminating delays at the discharging port.[167] In addition, by using eBLs, large commodity traders can provide their customer with the transport documentation faster and thus receive payment sooner,[168] which will in turn improve capital flows, trade transparency[169] and productivity for all parties.

Cost efficiency is another gain that must not be neglected. It has already been calculated that the cost of producing and transferring paper documents from one ship is approximately 10%

---

[166] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 362.
[167] L Starr and J Tan, 'Legal Briefing: Electronic Bills of Lading' (*UKP&I*, May 2017) <https://www.ukpandi.com/fil eadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 16 June 2022: 'In early trials conducted, a complex commodity paper BL trade which usually takes 20 days to complete was completed in 4 days via Bolero, whilst a simpler trade which usually takes 4½ days to complete using a paper BL was completed in 65 minutes on essDOCS.'
[168] M Maanen and I Regtien, 'E-bills of Lading' (*LEXOLOGY.com*, April 2018) <https://www.lexology.com/library/detail.aspx?g=453d225f-ca8b-404f-9b39-f39f4f0a7b90.> accessed 24 May 2019.
[169] World Economic Forum and UNECE, 'Paperless Trading: How Does It Impact the Trade System?' (*World Economic Forum*, 2 November 2017) 6 <https://www.weforum.org/whitepapers/paperless-trading-how-does-it-impact-the-trade-system > accessed 27 August 2022.

of the value of the relevant invoices and that the weight of all the documents is approximately 40 kg.[170] By digitizing pBLs, ICC estimates that will free up £171 billion in efficiency savings to UK economy, generating £1 billion for banks to focus resources on tackling the trade finance gap.[171] According to the research undertaken by DCSA (Digital Container Shipping Association),[172] in so far as the global container shipping sector is concerned, the potential annual savings for the industry at 50% eBL adoption level would be 4 billion US dollars.[173]

In contrast to pBLs, which are vulnerable to forgery, theft or loss due to the inherent vulnerability of paper, electronic documents are difficult, if not impossible, to forge. This is due to the addition of a range of technical tools such as electronic signatures, encryption and distributed ledger technology that make the audit trail of electronic documents more transparent and verifiable; this effectively provides a higher level of security than paper documents, which will most likely be a few scribbled annotations on the back of the document.[174] Although it is true that electronic communication cannot of itself guarantee the veracity of the information it carries, it can verify the authenticity of the signature of an

[170] See B Kozolchyk, 'Evolution and Present State of the Ocean Bill of lading from a Banking Law Perspective' (1992) J Mar L & Com 161, 197, 198 and 212. Correlatively, one container shipment alone can generate 200 communications and the administrative cost of processing the documentation is estimated to account for between 15% and 20% of the overall cost of transporting the goods: C Rezutka, 'A New Dawn for the e-Bill' (*cjclaw.com*, 14 July 2021) <www.cjclaw.com/site/news/a-new-dawn-for-the-ebill#_ftnref11> accessed 13 June 2022.

[171] International Chamber of Commerce UK, 'Aligning National Laws to the UNCITRAL Model Law on Electronic Transferrable Records (MLETR): UK business case' (*africaplc.com*, May 2021) <https://africaplc.com/wp-content/uploads/2021/05/ICCUK-Coriolis-MLETR-Alignment-UK_Business_Case.pdf> accessed 27 August 2022; International Chamber of Commerce UK, 'Creating a Modern Digital Trade Ecosystem: Cutting the Cost and Complexity of Trade – Reforming laws and harmonising legal frameworks' (*dsi.iccwbo.org*, October 2021) <https://www.dsi.iccwbo.org/_files/ugd/0b6be5_9a983b7c954d49389dd25a54033bcf78.pdf?index=true accessed 27 August 2022. It has been reported that 'The cost of issuing and managing paper BLs, LOIs and other paper documentation is estimated to be upwards of 15% of the physical transportation costs. When eBLs are used, the requirement for LOIs is reduced by some 90%...': J Tan and L Starr, 'Electronic Bills of Lading' (*UKP&I.com*, 3 May 2017) <https://www.ukpandi.com/fileadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 24 May 2019.

[172] The DCSA is a not-for-profit, independent organisation founded in 2019 by several of the largest container shipping companies. It aims to promote interoperability in the container shipping industry by developing digital standards: see dcsa.org.

[173] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 10.17; DCSA, 'DCSA takes on eBL standardisation, calls for collaboration' (*dcsa.org*, 19 May 2020) <https://dcsa.org/wp-content/uploads/2020/05/20200519-DCSA-taking-on-eBL.pdf> accessed 27 August 2022.

[174] A Birnbaum, 'Interview with essDOCS Co-Founder Alexander Goulandris' (*Brown Brothers Harriman*, 4 May 2016) <https://www.bbh.com/en-us/insights/interview-with-essdocs-co-founder-alexander-goulandris-16002> accessed 26 April 2018; J Tan and L Starr, 'Electronic Bills of Lading' (*UKP&I.com*, 3 May 2017) <https://www.ukpandi.com/fileadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 24 May 2019.

electronic document and prevent the latter from being interfered with or altered.[175] In the unfortunate event that the real world of an eBL is not true, it would presumably be harder for the signatory to deny liabilities. It therefore seems unlikely that we would see documentary fraud similar to that in *Motis Exports Ltd v Dampskibsselskabet AF 1912*[176] occurring with eBLs.

With opportunities come challenges. As Lloyd L.J. (as he then was) put it in *The Future Express*,[177] 'no system, however carefully devised, is proof against fraud,'[178] and this is also true in an electronic context, despite the advantages of paperless documentation mentioned above. The vulnerability of electronic systems to cyber fraud is demonstrated in the prime example of *Glencore International AG v MSC Mediterranean Shipping Co SA*,[179] a case concerning the practice of delivering the goods against PIN codes issued by an electronic release system rather than a pBL at the port of Antwerp. The adoption of eBLs at the same time may also expose the users to new types of disquiet risks and incidents that are peculiar to the intrinsic nature of electronic communication, including system malfunction, hacking, or even data theft.[180] Notwithstanding, electronic transactions are generally safer and more robust than traditional paper-based processes, provided that the underlying technology and operational mechanisms are well designed and maintained.[181]

There are other formidable practical challenges with replacing the conventional physical document too. For any alternative electronic system to succeed, the ability to maintain the

[175] Digital documentation should make it more difficult to forge documents altogether, as was alleged in *Etablissement Esefka International Anstalt v Central Bank of Nigeria* [1979] 1 Lloyd's Rep 445, where not only had the pBL been forged, but there was doubt as to whether the vessels or cargo had ever existed at all; it should also be more difficult to show that any document was signed by someone other than the true signatory, or to make subsequent amendments, as occurred in *United City Merchants (Investments) Ltd v Royal Bank of Canada* (1983) AC 168, where the bill of lading was backdated. See also P Todd, *Maritime Fraud & Piracy* (2nd edn, Informa Law 2010) para 7.011.

[176] [2000] 1 Lloyd's Rep 211. See also *Trafigura Beheer BV v Mediterranean Shipping Company SA (The MSC Amsterdam)* [2007] 2 Lloyd's Rep 622.

[177] *The Future Express* [1993] 2 Lloyd's Rep 542.

[178] ibid 546.

[179] [2015] EWHC 1989 (Comm), [2015] 2 Lloyd's Rep. 508, affirmed [2017] EWCA Civ 365; [2017] 2 CLC 1. More on this case see the discussion in section 5.1.3 below.

[180] See for example K Kofopoulos, 'Electronic Bills of Lading – Can It Happen?' (2014) 14 STL 3 1; A Mackenzie, 'Switching from Paper to Electronic Bills of Lading' (*MARSH*, 2016) <https://www.marsh.com/content/dam/marsh/Documents/PDF/UK-en/Switching%20from%20Paper%20to%20Electronic%20Bills%20of%20Lading.pdf> accessed 6 June 2022.

[181] See for instance JD Jong, 'Can Digitised Documents Transform International Trade Flow?' (2022) 36 MRI 02 12; Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 7.49, citing World Economic Forum and UNECE, 'Paperless Trading: How Does It Impact the Trade System?' (*World Economic Forum*, 2 November 2017) <https://www.weforum.org/whitepapers/paperless-trading-how-does-it-impact-the-trade-system > accessed 27 August 2022

traditional utility of the pBL must be preserved, i.e., to use it not only as a vehicle for obtaining delivery but also as a generic form of security that is acceptable for documentary credit transaction purposes, rather than purely being a record of information or evidence of receipt.[182] To this end, it is crucial that any commercially meaningful act that needs to be accomplished with a pBL has a counterpart in the electronic world, such as "possession", "transfer" and "delivery". This, however, is no easy task. The pBL, by virtue of its corporeal presence, is well suited to these kinds of physical activities, which have historically been closely associated with tangibility;[183] the eBL, on the other hand, is placed at a disadvantage due to its intangible nature. Therefore, new forms of current standard practices should be defined in an electronic environment, which presumably would also lead to a change in trade patterns and business thinking in the end. But until this becomes a reality, as things stand, it will be for commercial parties to define eBL transactions in their own way.[184]

Take delivery for example. The present practice in the paper world is for the consignee to hand over the pBL to the carrier, on the basis of which the carrier should unconditionally release the goods to the former. This is because the law reasons that whoever has the paper document in hand is deemed to have immediate right to possession of the goods. However, it cannot be assumed *a priori* that the same is true of its digital substitute.[185] Therefore, in order for eBL to make deliveries, other practices must be invented (such as entering PIN codes)[186] to establish a link of rights between the goods and the person requesting delivery. As a note of caution, careful consideration must be given to whether the authentication or identification method chosen is sufficiently secure, as no original paper document will be presented.[187]

Whether the risks of using eBL are covered by insurance is also a significant issue, as the availability of liability insurance can affect trust in the eBL systems and hence their adoption. Prior to February 2010, the International P&I Club (IG) expressly excluded liability arising from the carriage of goods under electronic trading systems. The position was subsequently

[182] Note that here we focus only on the practicality of the eBL in maintaining the uses of the pBL. The eBL's ability to legally exercise the three essential functions expected from the pBL will be discussed separately in the following chapters.
[183] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022).
[184] This finds justification for the existence of the multiparty contracts governing the current eBL systems: see above section 2.3.
[185] See specifically the relevant discussion in ch 5.
[186] *Glencore International AG v MSC Mediterranean Shipping Co Inc* [2015] EWHC 1989 (Comm), [2015] 2 Lloyd's Rep 508, affirmed [2017] EWCA Civ 365; [2017] 2 CLC 1. More on this case see the discussion in section 5.1.3 below.
[187] ibid. See also R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 5.56; P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 351.

reversed in 2010, when the IG began to cover for the use of eBLs on certain approved systems (now numbering eight).[188] This means that the position in respect of P&I Club cover when using any of these systems is exactly the same as it would be with a pBL.[189] It is worth noting that in 2014, BIMCO introduced a standard clause dealing with eBLs for insertion in charterparties,[190] requiring, among other things, that the paperless trading systems used should be on the IG's approved list.[191] The recognition by the IG and the support from BIMCO is expected to increase acceptance of eBL trading by carriers, cargo owners and the industry.

However, electronic risks associated with the use of electronic systems are grouped as non-marine risks and are therefore not covered by traditional P&I insurance.[192] In this regard, some eBL system providers offer their own insurance to their customers to bolster business confidence in their services, however it should be noted that the level of liability accepted is capped by a maximum ceiling. For example, essDOCS offers a compensation limit of up to US$20 million for security breaches in eBL systems, whether caused internally or externally.[193] For high-value transactions, therefore, the insurance provided may not be sufficient to cover the potential losses sustained. In such cases, parties signing up to an electronic trading system may need to take out additional insurance to cover liabilities that

[188] The greenlighted systems originally included Bolero and essDOCS. In 2015 Singapore-based e-title was added to the list. This was then further expanded to include two more systems, edoxOnline and Wave, in 2019, with CargoX being approved in the following year. In 2021, Tradelens passed the IG's review and became one of the approved systems, and dramatically announced the termination of the project a year later. The newest kids on the block are IQAX, Secro and TradeGo, approved by the IG in 2022 and early 2023.
[189] For unapproved trading systems, liabilities are only covered to the extent they would also arise under paper bills. P&I Clubs may cover a liability in their discretion notwithstanding although this is far from guaranteed. Although note that an additional system, CT-e/DANFE, applies to Brazil's cabotage trade, but is regarded by the International Group of P&I Clubs as exempt from paper trading policy exclusions, so Club cover for P&I is unaffected for Members using this system: C Ward, 'Electronic bills of lading: A good idea on paper?' (*WEST*, 27 May 2021) <https://www.westpandi.com/publications/news/may-2021/electronic-bills-of-lading-a-good-idea-on-paper/> accessed 27 August 2022.
[190] See BIMCO Electronic Bills of Lading Clause 2014. This clause has now been included in the GENCON 2022 Charterparty published by BIMCO in 2022.
[191] ibid cl (b).
[192] See for example W Buckley, 'Electronic Bills of Lading Claims Guide' (*WEST*, 2021) <https://www.westpandi.com/getattachment/f4d9830d-9430-4bd6-947b-8af70e1e39ff/woe5809_mcg-pt-gbr-20-v5_4pp_web.pdf/> accessed 27 August 2022; L Starr and J Tan, 'Electronic Bills of Lading – An Update Part II' (*ukpandi.com*, 1 April 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-ii> accessed 21 June 2022.
[193] https://www.essdocs.com/company/insurance. CargoX claims that its limitation of liability is €3 million: www.skuld.com/contentassets/9570cd183e8d4cdca6a52bced54f8002/cargox_special_terms_conditions_v1_10_february_2020.pdf. Bolero also has similar coverage, which appears in cl 9 (b) of its ePresentation Co-operation Agreement (Operational Service Contract).

may arise from cyber risks, confidentiality undertakings or obligations to maintain minimum IT standards, etc.[194]

Obviously, there is a trade-off between the benefits of using electronic bills of lading and the new and undetermined challenges that arise. At any rate, it has been argued that with an existing paper system that is far more than perfect, perhaps one should not ask too much of its substitute.[195]

2.4 Conclusion

This chapter serves as a reminder of where we are now with conventional pBLs and the issues associated with the paper system, which has provided the *raison d'être* for the emergence of eBLs. The quest for the holy grail of digitization of shipping documentation began with the creation of closed systems, most of which featuring a centralized model. The second generation eBL systems utilizes to the much-vaunted blockchain technology, taking a decentralized approach to a greater or lesser extent, although it is suggested that in order to become the mirror image of a pBL, the ideal framework for the digital equivalent would need to be open to anyone. Finally, it should be added that while it is important to recognize the associated benefits of adopting paperless solutions, the potential risks and challenges in practice should not be overlooked under any circumstances.

However, despite the growing interest and availability of paperless trade solutions, pBLs are still the document of choice in international shipping. Indeed, what one can observe from the course of the development of eBL solutions is that imitating a century-old paper transport document in all aspects is not that smooth and straightforward. This is more so, as the thesis will explain in the next few chapters, especially when it comes to affording the same legal status to the electronic substitute as to its paper-based cousin (much less to mention the practical barriers and challenges in paperless transaction). As a matter of fact, in a 2013 circular[196] from the IG P&I Club, it is stated that:

> The circular reflects the concern of the P&I Clubs that a system which uses electronic bills of lading may not be universally recognised as satisfactorily performing the three functions of a bill of lading which customarily underpin P&I cover namely: as a receipt,

[194] These liabilities are no different to those contained in, for instance, software agreement or other IT application agreements: W Buckley, 'Electronic Bills of Lading Claims Guide' (*WEST*, 2021) <https://www.westpandi.com/getattachment/f4d9830d-9430-4bd6-947b-8af70e1e39ff/woe5809_mcg-pt-gbr-20-v5_4pp_web.pdf/> accessed 27 August 2022.
[195] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 357.
[196] Entitled 'Electronic (Paperless) Trading Systems – Electronic Shipping Solutions and Bolero International Ltd – updated ESSDSUA Version 2013.1'.

as a document of title, and as a contract of carriage often attracting the automatic or otherwise contractual application of conventions such as the Hague or Hague-Visby Rules.

The importance of the issue under discussion is illustrated by the recent industry survey,[197] where it is often noted that legal challenges are rated as more pressing than any other challenges.[198] Therefore, it is imperative for us to analyse each function individually, with a view to finding out whether there is any basis for the specific concerns raised as to the incapability of the eBL to legitimately perform the three essential functions that the pBL is supposed to perform, and if so, what could be done to improve the situation. In order to achieve the objectives just proposed, the chapters that comprise this part of the query are arranged in the order in which the three functions have historically arisen.

[197] D Patel and E Ganne, 'Blockchain & DLT in Trade: Where Do We Stand?' (*WTO*, November 2020) <https://www.wto.org/english/res_e/booksp_e/blockchainanddlt_e.pdf> accessed 22 June 2022.
[198] ibid 21.

Chapter 3 Receipt function

The pBL is a document which has developed out of a historical process. Before evolving into an evidence of the contract of carriage of goods and later on acquiring the third characteristic of a document of title to them, the original object of the pBL is to serve as a bailment receipt[199] for the goods actually shipped onboard the carrier's vessel; when used in this capacity, it is typical for the pBL to contain a statement made by the carrier[200] with respect to certain features such as quantity, description, the apparent order and condition of the goods concerned.

The necessity for these types of information to be recorded arose out of the ever-changing trade pattern where merchants no longer travel with their goods, under which circumstances they need a written proof of shipment, and also instructions to the carrier as to where and how to deliver the goods. On the other hand, it is quite obvious that a buyer will not be able to examine the goods at sea, and will therefore have to rely largely on the presentations in the pBL to ascertain whether conforming goods have been loaded in a proper manner, and on that basis, he decides whether to make payment or not. The acknowledgement of the goods, as embodied in the master's handwritten signature on the bill, gives rise to the legal consequence that the carrier thereby undertakes that he will deliver the goods as received, unless otherwise excused by exceptional perils.[201] The paper-based shipping document is therefore treated in law as evidence of the facts stated in it, which plays an indispensable role in supporting a delivery shortage or damage claim made against the carrier.[202]

In the light of the practical points given above, it is accordingly essential that any replacement to the pBL should preserve the receipt function, showing all details of the goods shipped in a manner that can exert legal implications on the information provider (i.e., the carrier) in the event of a dispute. The subject of this chapter is therefore to assess whether an

---

[199] *J I MacWilliam Co Inc v Mediterranean Shipping Co SA* [2005] UKHL 11; [2005] 2 WLR 554; [2005] 1 Lloyd's Rep 347 [37] (Lord Steyn).

[200] The common practice is that the shipper will fill in the pBL form and present it to the master or carrier's agent for signature and issuing. By signing the pBL, the carrier approves these declarations as if they had been made by himself: *The David Agshamenebeli* [2003] 1 Lloyd's Rep 92 103.

[201] *Paterson Steamships Limited v Canadian Co-operative Wheat Producers, Limited (Quebec)* [1934] UKPC 56; (1934) 49 Ll L Rep 421 427.

[202] In *The Starsin* [2000] 1 Lloyd's Rep 85 97, Colman J discussed the policy considerations for empowering the pBL holder the ability to rely on the representations in pBLs:

> … if an innocent shipper, indorsee or consignee could not rely on statements on the face of a bill of lading … and was obliged to verify [their] accuracy … each time he took a bill of lading, that would represent a most serious impediment to international trade which depends so heavily on the accuracy of bills of lading as negotiable instruments.

eBL is capable of performing the same function as its paper cousin. To do this, it is of paramount importance to consider the legal recognition in English law of statements submitted in electronic format as evidence, and to consider if the addition of digital signatures is able to satisfy the English law requirement for authenticity. This will lay the groundwork for a thorough understanding of the positions of the common law and statutes on the evidential value of statements recorded on a traditional pBL thereafter. Having clarified the legal effect of statements under the traditional paper-based system, the author will test whether the same *status quo* can be said to exist if these statements are otherwise included in the digital equivalent; and if not all, explore viable solutions to bridge the gap between the two. At the end of the discussion, the author will make predictions about the legal difficulties that may arise in a paperless scenario.

On the basis of the analysis to be developed below, the main points sought to be made in this chapter are these. In principle, the eBL is able to reproduce the receipt function of the pBL it is meant to replace, and as a safety net, commercial parties can always make provision to double assure the admissibility of the eBL as evidence. That being said, it is important to note that there are unresolved questions in the present pBL liability regime, and going down the replication route would mean that those questions would be bound to recur in an electronic context, howbeit supposedly of a lower order of magnitude. The adoption of disruptive technology in the eBL domain, on the other hand, will challenge the conventional liability regime for pBLs.

3.1 Legal status of eBLs as factual evidence

In a nutshell, the climate of admitting evidence held in electronic form has improved significantly in the past few decades, especially in civil proceedings.[203] It is appropriate to begin with the relevant text in s. 13 of the Civil Evidence Act 1995 (CEA 1995), under which a "document" is construed as meaning 'anything in which information of any description is recorded'. This definition is therefore broad enough to include information recorded in an electronic format.[204] Proof of the contents of a document is governed by s. 8, which provides that:

[203] Under English law, computer-generated evidence has been admissible in civil proceedings (subject to certain conditions) since the Civil Evidence Act 1968. This is now codified in the Civil Evidence Act 1995.
[204] More recently, in *Fairstar Heavy Transport NV v Adkins* [2013] EWCA Civ 886; [2014] FSR 8, the Court of Appeal held that the term "document" extends to electronic documents, including e-mails. See also *Marlton v Tectronix UK Holdings* [2003] EWHC 383 [13]; *Hill v Regem* [1945] 2 KB 329 333.

> (1) Where a statement contained in a document is admissible as evidence in civil proceedings, it may be proved—
> (a) by the production of that document, or
> (b) whether or not that document is still in existence, by the production of a copy of that document or of the material part of it, *authenticated in such manner as the court may approve*.
> (2) It is immaterial for this purpose how many removes there are between a copy and the original.[205]

This provision further ensures that a statement in an electronic document will not be deprived of its validity, provided that its authenticity can be verified in a court-approved manner by the display of the electronic document or a copy thereof. It is, however, regrettable that the Act does not provide further guidance on which methods of authentication a court is prepared to approve.

3.2 Digital signatures as a means to prove authenticity

Beyond that, in practical terms, it is crucial that an eBL holder, be it a buyer or a trade finance bank, is reassured of the integrity and provenance of the document, i.e., that the statements therein come from the master of the ship, and that it is an original that has not been tampered with. Therefore, some means to this end is required, the most common tool being a signature.[206] In the conventional world of paper, authentication is achieved by the master's handwritten signature on the pBL on behalf of the carrier to identify the author of the document, indicating the person's willingness to be bound by its contents and, equally important, as well as demonstrating an authenticating intention;[207] in the paperless world, this is achieved by attaching the electronic signature of the carrier to the eBL.

While a detailed examination of the law on electronic signatures goes beyond the scope of the present discussion, it is nevertheless necessary to take note of two important pieces of legislation. The definition of an electronic signature is contained in the Electronic Signatures Regulations 2002 as '…data in electronic form which are attached to or logically associated

[205] CEA 1995, s 8 (emphasis added).
[206] Law Commission, *Electronic Execution of Documents* (Law Com No 386, 2019) especially ch 3, as cited by Law Commission, *Digital Assets: Electronic Trade Documents* (Law Com No 254, 2021) para 6.20.
[207] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions – Advice from the Law Commission* (2001) para 3.28. More on electronic signatures see Law Commission, *Electronic Execution of Documents* (Law Com No 386, 2019) ch 3. See also L Brazell, *Electronic Signatures and Identities: Law and Regulation* (3rd edn, Sweet & Maxwell 2018) para 2-002.

with other electronic data and which serve as a method of authentication'.[208] By s. 7 of the Electronic Communications Act 2000, an electronic signature is given legal recognition as evidence in court proceedings relating to the authenticity or integrity of the communication or data concerned. It has consequently been concluded by the Law Commission that the law in England and Wales is sufficiently flexible to accommodate electronic signatures.[209]

There are various forms of electronic signatures that can effectively prove the reliability of a signed document,[210] of which digital signatures are considered to have greater evidential value in authenticating contractual promises.[211] This is essentially because of its uniqueness, making it attributable to one single source. While scanning a manuscript signature, or typing one's signature on screen is capable of demonstrating an authenticating intention,[212] it is somehow difficult to tell a signature signed using these methods is in fact reliable, for there is always 'a threat that computers can produce identical sets of symbols leading therefore to risks of fraud'.[213] A digital signature, on the other hand, is more trustworthy than the aforesaid methods, because it allows verification of the sender's identity by using a key-based encryption system consisting public and private key pairs,[214] together with a signature authentication software which detects any subsequent change of the original encrypted data.[215]

[208] Electronic Signatures Regulations 2002, s 2. A similar definition is contained under the Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market ("eIDAS") OJ L257/73, art 3(10). This piece of EU legislation remains part of UK domestic law after the UK's withdrawal from the EU.
[209] Law Commission, *Electronic Execution of Documents* (Law Com No 386, 2019). The report includes a brief statement of the law on execution with an electronic signature at 1 and 2.
[210] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions – Advice from the Law Commission* (2001) paras 3.31-3.38.
[211] E Røsæg, 'Electronic signatures in shipping practice' in B Soyer and A Tettenborn (eds), *New Technologies, Artificial Intelligence and Shipping law in the 21st Century* (Informa 2019) ch 4.
[212] See the discussion by C Reed in 'What is a Signature?' (2000) 3 JILT 3.1; H Beale and L Griffiths, 'Electronic Commerce: Formal Requirements in Commercial Transactions' (2002) LMCLQ 467, 473-74.
[213] P Kalofolia, 'Electronic Bills of Lading: Legal Obstacles and Solutions' (2004) 2(1) HLJ 45, 52, fn 34, citing JY Gliniecki and CG Ogada, 'The Legal Acceptance of Electronic Documents, Writings, Signatures and Notices in International Transportation Conventions: A Challenge in the Age of Global Electronic Commerce' (1992) 13 NJILB 117, 135.
[214] A private key is an alphanumeric string that allows access to a blockchain asset held by a specific public key. It can be thought of as similar to a password: S Green and F Snagg, 'Intermediated Securities and Distributed Ledger Technology' in L Gullifer and J Payne (eds), *Intermediation and Beyond* (Oxford 2019) 339.
[215] For an explanation of the technology involved see D Faber, 'Digital signature guidelines' (*Judicial Studies Board*, 2000) <http://www.jsboard.co.uk/publications/digisigs/index.htm> this document is no longer available online.

In simple terms, a digital signature, though not physically visible as a traditional signature,[216] is generated when a sender encrypts its electronic document with a private key issued to him by a certification authority.[217] The encrypted electronic document bearing the sender's private key is then sent to the recipient, who will decrypt it using the sender's public key. Since the keys work as a pair, data encrypted with a given public key can only be deciphered by its corresponding private key, and vice versa. This however does not denote that they can be derived from each other, given the disparate algorithm each contains.[218] It may be useful to make an analogy with an English-Chinese translation dictionary. If we think of English words as codes, then the Chinese translation can be used to encode the English message (or vice versa, to decode the original English text with the Chinese translation), but one cannot easily make the reverse extrapolation.[219] In this way, the recipient will be able to tell whether an electronic communication has been sent by the person possessing the "private key", and that it was not manipulated en route, affording sufficient protection against forgery.[220] The digital signature therefore guarantees security and integrity of the attached electronic document, providing a higher level of security than its wet ink counterpart does, thanks to its traceability of the signatory and incapability to be copied.[221]

[216] What is visible is the message produced by the signature authentication software which checks the validity of the digital signature and its association with the "signed" document. Nonetheless, this should not affect the ability of a digital signature to satisfy a statutory signature requirement: Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions – Advice from the Law Commission* (2001) para 3.31, fn 28.

[217] A trusted third party, whose role is to guarantee the source and integrity of a message signed using a private key issued by it to an identified party: M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 2.37, fn 90, citing C Reed, *Internet Law: Text and Materials* (2nd edn, Cambridge University Press 2004) 147–50.

[218] E Røsæg, 'Electronic signatures in shipping practice' in B Soyer and A Tettenborn (eds), *New Technologies, Artificial Intelligence and Shipping law in the 21st Century* (Informa 2019) 37-8.

[219] R Caplehorn, 'The Bolero System' in C Reed, I Walden and R Edgar (eds), *Cross-border Electronic Banking: Challenges and Opportunities* (2nd edn, Informa Law from Routledge 2000); P Mallon and A Tomlinson, 'Bolero: Electronic "Bills of Lading" and Electronic Contracts of Sale' [1998] ITLQ 257, 267.

[220] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions – Advice from the Law Commission* (2001) para 3.31.

[221] On signatures in general, see S Mason, 'Documents Signed or Executed with Electronic Signatures in English Law' (2018) 34 CLSR 933; J Bacon and others, 'Blockchain Demystified' (2017) Queen Mary School of Law Legal Studies Research Paper No 268/ 2017, 9-10 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id1⁄43091218> accessed 19 June 2022; OA Orifowomo and JO Agbana, 'Manual Signature and Electronic Signature: Significance of Forging a Functional Equivalence in Electronic Transactions' (2013) 10 ICCR 357; S Mason, *Electronic Signatures in Law* (3rd edn, Cambridge University Press 2012) chs 1 and 7; C Reed, 'What is a Signature?' (2000) 3 JILT. One implementation of the digital signature in practice is Bolero Rulebook.

3.3 Safeguarding the admissibility of eBLs through contractual arrangements

As we have seen earlier in our discussion, there is no problem with adducing electronic evidence under the current English legal framework, and the English courts have never confined the medium of evidence to be exclusively paper-based; instead, there has been a growing trend in English courts to accept evidence in various forms.[222] Indeed, if English law does not require a contract to be in writing in order to be legally enforceable, then it could be argued that, logically, the English courts should have no problem accepting evidence in electronic form, provided it proves the existence of that contract as effectively as written evidence.

However, the above statement is not a given, but at best a speculation, and we must not take it for granted that this is the case. It should be added that, if such evidence is produced through the intervention of the human mind, then it may be classified as hearsay evidence.[223] To be admissible, therefore, it must meet the test as to its reliability;[224] as far as this is concerned, reference may be made to the integrity and security of the processing system.[225] It is also significant in this context to note that there is not even a single case that has explored the status of electronic documents as legally admissible evidence, nor is there a statute for that matter. Looking worldwide, by the same token, it does not necessarily follow that electronic evidence will be treated as good evidence in other parts of the world; while it should be acknowledged that electronic evidence is generally admissible in most jurisdictions and that there is a clear move towards accepting electronic evidence in countries that were previously reluctant to do so,[226] it cannot be ignored that there will always be jurisdictions where electronic documents are not yet recognized.

---

[222] n 185.

[223] *R v Spiby* (1990) 91 Cr App R 186 192; *Minors* [1989] 2 All ER 208; *Coventry Justices, ex parte Bullard* (1992) 95 Cr App R 175. Electronic evidence may constitute real evidence, if it is formed directly by a computer or machine without human intervention, such as a film of radar echoes recorded by a shore radio station: *Statute of Liberty* (1968) 2 All ER 195. See also *R v Coventry Magistrates Court* [2004] EWHC 905, where printouts made from a web server database which had recorded the click streams and access to websites and which had recorded the name, home address, email address and credit card details of those logging on were held to be admissible as real evidence.

[224] CEA 1995, s 4.

[225] Bolero, International Legal Feasibility Report (1999), 54; Č Pejović, 'Legal Challenges in the Implementation of Electronic Data Interchange in Transport Documents' PPP god 59 (1997) 13, 24-25; UNCITRAL, *Recommendation on the Legal Value of Computer Records* (1985), UN Doc A/CN 9/265, 27-9.

[226] Bolero, International Legal Feasibility Report (1999), a legal survey report prepared by Allen & Overy and Richards Butler of 18 jurisdictions worldwide, first published at <http://www.bolero.net>. Sadly, the document is not publicly available anymore.

Since there remains a risk that an English court will not recognize eBLs as legally valid evidence, and for parties who desire greater legal assurance, it follows that an extra layer of security and protection needs to be added to ensure the admissibility of the electronic document. This can be done by way of contract, where all the parties involved in the eBL transaction agree that they accept the legal validity of evidence generated electronically, and that they will not take issue with the mere fact that the evidence has been so produced, transmitted and stored. In this regard, private systems can easily implement this feature, because all parties are in privity of contract with each other in all cases. Bolero Rulebook, for example, contains the following provisions on the admissibility of evidence formed on its platform:

> (1) Admissibility. Each User agrees that a Signed Message or a portion drawn from a Signed Message will be admissible before any court or tribunal as evidence of the Message or portion thereof.
> (2) Primary Evidence. In the event that a written record of any Message is required, a copy produced by a User, which Bolero International has authenticated, shall be accepted by that User and any other User as primary evidence of the Message.
> (3) Authenticated Copies to Prevail. Each User agrees that if there is a discrepancy between the record of any User and the copy authenticated by Bolero International, such authenticated copy shall prevail.[227]

Similar wording can also be found in T&C 6.1 of the DSUA.[228] The purpose of these provisions is to obtain the prior consent of the users in their respective eBL systems that the information generated therein will be given legal effect and constitute admissible evidence between them, so that when they go to court, the English courts will respect the parties' choice to accept these electronic messages as valid evidence of their content.

[227] Bolero Rulebook 1999, Rule 2.2.3.

[228] DSUA 2021.1, T&C 6.1:
Each User agrees that, in relation to any transaction, document or communication embodied in an eDoc, the requirement of any applicable law, contract, custom or practice that any transaction, document or communication of the type embodied in such eDoc shall be made or evidenced in writing shall be satisfied by such eDoc, and that the requirement of any applicable law, contract, custom or practice that any transaction, document or communication of the type embodied in such eDoc shall be signed and/or sealed shall be satisfied by a Signed eDoc. An eDoc, or a portion drawn from an eDoc, is binding upon a User to the same extent and shall have the same effect, status and result in law as if that document or portion thereof had existed as a paper document and, if Signed, as if such document or portion thereof had been manually signed and/or sealed. In agreeing to the terms and conditions of this Agreement, each User shall be taken to have agreed not to contend in any dispute arising out of, or in connection with, an eDoc that such eDoc is invalid on the grounds that it is not in writing, and in relation to a Signed eDoc, that such Signed eDoc is not signed and/or not sealed, provided always that such eDoc or Signed eDoc is in compliance with the relevant definition set out in these T&Cs.

Effective as the contract arrangement appears, it will not work its magic on a party who is not a user of the same system,[229] in which case there is no pre-existing contractual agreement to bind him in legal disputes. A reasonable workaround in this case would be to change the medium, i.e., to provide the parties with the option to switch back to the traditional pBL procedure. Upon such a conversion, all the rules of evidence governing the paper-based scheme would once again come into its own.

Presumably also though, the contractual mechanism would work equally in systems that are not closed, but rather open to anyone. In the absence of a contractual framework, it is necessary to redraft the terms of the underlying carriage contract to ensure that it has clear provisions stating that the parties recognize electronic data generated in an open system as legally accepted evidence, provided they can be verified by reliable methods such as blockchain, timestamps and digital signatures.[230]

From the observations above, it is fair to conclude that, provided there are appropriate contract terms and system procedures in place to safeguard the authenticity of the eBLs, as well as to demonstrate the integrity and security of the underpinning electronic system, there should not be a major problem with using the paperless documentation as legally valid evidence in the UK.

3.4 Legal effects of statements on eBLs

Once it is appreciated that eBLs can be accepted by the English courts for evidentiary purposes, the thesis shall then shift back to concentrate on the aspect of the evidentiary value of traditional pBLs, laying the groundwork for later discussions on the feasibility of emulating the same by the digital equivalents. The legal effects of a pBL as a receipt, in what concerns English law, has developed through the common law, the Carriage of Goods by Sea Act 1971 (Hague Visby Rules) and the Carriage of Goods by Sea Act 1992. Although the

[229] Also note M Clarke, 'Transport Documents – Their Transferability as Documents of Title; Electronic Documents' [2002] LMCLQ 356, 361: 'Given the respect shown by the courts for commercial practice, that is likely to be effective in the UK and common law countries but not, it seems, everywhere else.'

[230] In this regard, it is worth mentioning that BIMCO is actively exploring the potential of developing a new type of charter party that better reflects a more cooperative, transparent and collaborative approach to chartering ships in an era of digitalisation: G Hunter, 'An Open Standard for Electronic Bills of Lading Is The First Task of BIMCO's New Standards, Innovation & Research department' (*BIMCO*, 15 February 2022) <https://www.bimco.org/insights-and-information/contracts/20220215-sir-announcement> accessed 27 August 2022.

stances taken by these regimes do not differ significantly in essence, there are still notable differences that merit a closer examination.

3.4.1 Common law estoppel

At common law, it has long been accepted that generally, the pBL affords *prima facie* evidence of the facts between the shipper and the carrier;[231] it being *prima facie*, and so may be displaced by contradictory evidence;[232] the burden of proof rests on the defendant, who will usually be the carrier.[233] In the circumstances, therefore, where there are discrepancies between the descriptions of the goods shipped and the goods actually received, the carrier can get rid of that *prima facie* evidence and the potential liabilities associated with it, if he can adduce convincing proof to prove that the statements in the pBL are inaccurate.[234]

When the paper document is transferred to a third party, the doctrine of estoppel applies,[235] which effectively preclude the carrier as against a bona fide transferee[236] of the bill for value from the opportunity to adduce contrary evidence.[237] The pBL in this case constitutes exclusive evidence against the carrier. Nonetheless, the carrier may still be able to get away with the liability for misrepresentation at common law, even towards the transferee who has acted in reliance on such statements in good faith, due to the important but difficult development in *Grant v Norway*.[238] There, it was held by the Court of Common Pleas that the master of a ship has no authority from the shipowner to sign a pBL for goods which have

[231] *Smith & Co v Bedouin Steam Navigation Co* [1896] AC 70; *Compania Naviera Vasconzada v Churchill & Sim* [1906] 1 KB 237; *Hogarth Shipping Company v Blyth, Greene, Jourdain & Co* [1917] 2 KB 534. See also *J Aron v Comptoir Wegimont* [1921] 3 KB 435 438, rejecting Lord Blackborn's view in *Bowes v Shand* (1877) 2 App Cas 455 481 that a statement in the bill of lading as to the date of shipment was "conclusive" evidence.
[232] *The Draupner* [1910] AC 450 451.
[233] *R & W Paul Ltd v Pauline* (1920) 4 Ll L Rep 221.
[234] The burden born by the carrier however is not a light one, for he must present evidence that proves that the statements represented in the bill were clearly wrong: *Smith & Co v Bedouin Steam Navigation Co Ltd* [1896] AC 70 79. For example, if the carrier can prove non-shipment of the goods in question, he could defend himself against all actions for shortage: *Grant v Norway* (1851) 10 CB 665, 138 ER 263 (for more discussion on this case see below).
[235] Unless the statement is qualified by an "unknown" clause of the kind to be discussed below: sections 3.4 and 3.5.
[236] The pBL grantee however will not be entitled to take advantage of an estoppel if there is evidence of conclusive and overwhelming importance indicating that he knew that the statement was untrue: *Evans v James Webster Bros Ltd* (1928) 34 Com Cas 172 176; *Canada Sugar* [1947] AC 46 53-4; *Waitomo Wools (NZ) Ltd v Geo H Scales Ltd* [1976] 1 NZLR 143.
[237] *Compania Naviera Vasconzada v Churchill & Sim* [1906] 1 KB 237; *The David Agshamenebeli* [2003] 1 Lloyd's Rep 92. See also M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-089, fn 394-96 and the accompanying text.
[238] (1851) 10 CB 665, 138 ER 263.

never been put on board. In the event, therefore, the carrier was not liable for the master's misrepresentation because of the establishment of an estoppel to the endorser of the bill.

Grant v Norway has since come under blistering criticism.[239] It is logical that a carrier should not be responsible for all sorts of statements made by the master, but only for statements made by him in the ordinary course of the business for which he is employed; and no reasonable businessman should assume that a master has the right to perform anything beyond his functions and capacities. Therefore, it is reasonable to hold the carrier not liable for the statement in relation to the internal quality of the goods, an attribute that the master would not be expected to know.[240] However, it does not make sense that a pBL falsely stating goods to have been shipped when in fact no such shipment had ever been made should be excluded from the scope of application of the above reasoning: it is in the nature of things that the master of the ship will no doubt know whether or not the goods have been shipped or not, whereas a good faith grantee of a pBL is unlikely to have any first-hand knowledge of the loading process taking place in a foreign port, nor is he likely to have any oversight of the operation.[241] Besides, the decision also runs counter to the general agency principles in relation to apparent authority established later in *Lloyd v Grace, Smith & Co*.[242]

"Conceptually aberrant"[243] though *Grant v Norway* is, the doctrine has never been overruled,[244] and has in fact been extended to apply beyond situations other than total non-shipment, where a larger quantity of goods had been shipped than actually had been,[245] and even further to govern the position between shipper and carrier.[246] It is worthy of note that recent case law has shown an inclination in the court to limit the application of the rule in *Grant v Norway* at common law, either by disapplying it or by distinguishing it out of

[239] See particularly TG Carver, 'On Some Defects in the Bills of Lading Act, 1855' (1890) 6 LQR 289, 302; FMB Reynolds, 'The Significance of Tort in Claims in respect of Carriage by Sea' [1986] 1 LMCLQ 97, 109; J Beatson and JJ Cooper, '*Rights of Suit in Respect of Carriage of Goods by Sea*' [1991] LMCLQ 196; English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991); *Alimport v Soubert Shipping Ltd* [2000] 2 Lloyd's Rep 447.
[240] *Cox, Patterson & Co v Bruce & Co* (1886) 18 QBD 147 152.
[241] See C Debattista, *Bills of Lading in Export Trade* (3rd edn, Tottel publishing 2009) para 6.4.
[242] [1912] AC 716.
[243] *The Starsin* [2000] 1 Lloyd's Rep 85 97 (Colman J).
[244] Relied on by *Hubbersty v Ward* (1853) 8 Ex 330; 155 ER 1374; *George Whitechurch Ltd v Cavanagh* [1902] AC 117; *Russo-Chinese Bank v Li Yan Sam* [1910] AC 174; *Kleinwort Sons & Co v Associated Automatic Machines Corp Ltd* (1935) 151 LT 1 (HL); *Uxbridge Permanent Building Soc v Pickard* [1939] 2 KB 248 (CA).
[245] *M'Lean and Hope v Munck* (1867) 5 Macph (Ct of Sess) 893 899; affd (1871) 2 Sc & Div 128; *Thorman v Burt* (1886) 54 LT 349; *Rasnoimport v Guthrie & Co* [1966] 1 Lloyd's Rep 1.
[246] *Leduc & Co v Ward* (1888) 20 QBD 475 479.

existence.[247] It has henceforth been held not to apply to a statement that goods had been shipped under deck,[248] nor has it succeeded in applying to a pBL backdating the date of shipment.[249] Indeed, given the fact that *Grant v Norway* was decided on the basis of 'the usage of trade and the general practice of shipmasters'[250] against the backdrop of the mid-nineteenth century, it is conceivable that the antique rule would be, in many aspects, out of keeping with modern day transport needs where the trading practice is increasingly messier and complex. Nonetheless, the case remains authority at common law, at least for the narrow point that a master has no authority to sign a bill of lading for goods which have never been shipped.

3.4.2 Are the existing estoppel rules at common law amenable to eBLs?

It is clear from the above analysis that there should be no question of accepting the eBL as *prima facie* evidence as between the shipper and the carrier.[251] Doubt may however arise as to its evidential effect as between a remote party and the carrier, viz. whether the common law estoppel would apply in a paperless environment?

In order to establish an estoppel by representation, there must be: (1) a statement of fact, (2) relied upon by the person alleging estoppel, and (3) he must have acted on the representations to his detriment.[252] Provided that an eBL is operating properly and is able to show the statements made on it in a visible form, there should be no problem in establishing the first element. The last two elements, as can be seen, do not depend on the corporeal existence of a document.[253] Therefore, a grantee of an eBL should be entitled to the same presumption as a grantee of a pBL in relation to the establishment of detrimental reliance on a statement in the

[247] See for example *The Starsin* [2000] 1 Lloyd's Rep 85 97, where it was concluded by Colman J that, as a matter of general principle:

> *Grant v Norway* should be treated as conceptually aberrant and should not be used as a basis for the extension of the protection of shipowners against being bound by bills of lading issued by … agents on behalf of the owners, which by reason of some inaccuracy on their face, have been issued without actual authority.

[248] *The Nea Tyhi* [1982] 1 Lloyd's Rep 606.
[249] *The Saudi Crown* [1986] 1 Lloyd's Rep 261. See also *The Starsin* [2000] 1 Lloyd's Rep 85 which concerns the false dating and the issue of a clean bill not reflecting the clausing in mate's receipts).
[250] *Grant v Norway* 138 ER 263 272.
[251] See also M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.09.
[252] *Silver v Ocean Steamship Co Ltd* [1930] 1 KB 416 433.
[253] For further discussion on the requirements, see D Foxton and others, *Scrutton on Charterparties* (1st supp, 24th edn, Sweet & Maxwell 2021) art 73.

eBL, which should be satisfied, for example, when he accepts and pays for the said document.[254]

It is therefore fair to conclude that, the estoppel reasoning will apply to the electronic context in very much the same manner as to a traditional paper process, so that an eBL will also constitute exclusive evidence of its contents. In fact, the operation of the receipt function being the original function of the pBL is self-contained, which does not depend on it being a contract of carriage or a common law document of title, and so will not be affected by the non-existence of the other two distinct features owned by the pBL. Another facet to the discussion is that, as a matter of policy, there seems to be no plausible reason to hold a carrier not answerable to statements on an eBL simply because they are made in a format other than paper, considering that an eBL holder will rely as much on the statements of the goods in the electronic document as if he was holding a pBL at hand. It is hereby suggested by the author that the medium should not be the decisive factor to determine the evidentiary value of the information stored on it; it is the substance of the information that matters.

3.4.3 Statutory modifications

It is at least arguable, too, that the exception to the common law estoppel as established in *Grant v Norway* may find its way into the electronic scene, in which case there should be remedies available for those good-faith eBL holders.[255] In the conventional paper regime, the legacy left by *Grant v Norway* continued to haunt the international trade sphere until it has been overtaken by the arrival of the Hague-Visby Rules (HVR), given the force of law under COGSA 1971, and COGSA 1992. It is therefore necessary to inquire whether the rules under the statutes can be of assistance in relation to the issue in question. The thesis shall next touch on the intricacies and nuances of these rules.

(1) HVR

(a) Practicality of HVR as a liability regime for eBLs

Starting with the HVR. The stark question in principle is: do they apply to eBLs? Two considerations arise. First, the HVR have traditionally been applied to paper-based documents, and there is no relevant provision therein explicitly providing for an extension to

[254] *V/O Rasnoimport v Guthrie & Co Ltd* [1966] 1 Lloyd's Rep 1 4.
[255] A Møllmann, *Delivery of Goods under Bills of Lading* (Routledge 2018) ch 6, 175. cf P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 353.

a digital context. Second, the Law Commission in its 2001 advice was of the view that the eBLs are not within the ambit of COGSA 1971, and accordingly the HVR do not apply to the contract of carriage evidenced by an eBL.[256]

However, there are dissenting voices in some quarters advocating that the remit of HVR is susceptible of including contracts for the carriage of goods by sea in electronic form.[257] As far as this author is concerned, there is merit in this countervailing argument. The HVR applies to a contract of carriage 'covered by a bill of lading or any similar document of title',[258] yet how these documents are to be issued and transferred remains unclear. In this sense, it can be argued that granted that the language of the HVR do not state that the Rules apply only to paper-based bills of lading, there is nothing in them that prevents their application to bills of lading in the digital format.

That said, given that the HVR will only take effect when it has been incorporated into domestic law, under the realm of English law, the question of whether eBLs come within the provisions in HVR ultimately turns on the wording of COGSA 1971. Consistent with HVR, s. 1(4) of COGSA 1971 says that the Rules apply to 'a bill of lading or any similar document of title', but does not elaborate on the form in which such a document exists. This is subject to subsections (6), which provides two routes for invoking the mandatory application of the HVR:

> (a) any bill of lading if the contract contained in or evidenced by it expressly provides that the Rules shall govern the contract, and (b) any receipt which is a non-negotiable document marked as such if the contract contained in or evidenced by it is a contract for the carriage of goods by sea which expressly provides that the Rules are to govern the contract as if the receipt were a bill of lading…[259]

It has been suggested that an eBL probably would, on a very broad interpretation, satisfy the expression "any bill of lading", as long as the parties' intention to have an electronic equivalent governing their contract of carriage in lieu of a pBL is clearly demonstrated.[260] In

[256] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions – Advice from the Law Commission* (2001) para 4.9. See also S Baughen, *Shipping Law* (7th edn, Routledge 2019) 26.
[257] M Goldby, 'The CMI Rules for Electronic Bills of Lading Reaccessed in the Light of Current Practices' [2008] LMCLQ 56, 64-65; P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 352; Č Pejović, *Transport Documents in Carriage of Goods by Sea: International Law and Practice* (Informa Law from Routledge 2020) para 13.9.
[258] HVR, art I(b).
[259] COGSA 1971, s 1(6).
[260] M Goldby, 'The CMI Rules for Electronic Bills of Lading Reaccessed in the Light of Current Practices' [2008] LMCLQ 56, 64-65.

addition, taking into consideration that there has already been a precedent[261] to treat a straight pBL as a 'document of title' under the HVR, it is therefore not farfetched to propose that an eBL could also be categorized as such, provided that it also addresses itself as a bill of lading.[262] The alternative option for an eBL to trigger the application of the Convention would be to qualify as a 'non-negotiable document marked as such'. However, an eBL labelled as 'non-negotiable' means that it is not transferable, hence going down this route would defeat the purpose for which the eBL was originally designed – i.e., to create the functional equivalent of a transferable pBL to facilitate multiple trade transactions.

Alternatively, the HVR might be incorporated by means of a clause paramount. However, whether such a clause is sufficient to prevent other competing clauses in the eBL contract from overruling the terms of the HVR is uncertain. The contractual incorporation of the HVR, as opposed to its compulsory application by the force of law, will only have the force of contract. As a result, it would, in principle, be possible to incorporate part of the HVR and, in some other cases, to qualify or even to contract out some of the terms thereunder. In case of inconsistency, the terms in the eBL might, as a matter of construction, prevail over the incorporated terms of the HVR, save to the extent that there is a clause to the reverse effect.[263] Extreme caution should be exercised when adopting this approach, for there remains the risk that the statutory estoppel established under Art. III(4) might fail to be incorporated into the eBL contract; in such a case, the contract would fall back to the liability scheme under the common law in which *Grant v Norway* dilemma survives.

(b) Evidential status of eBLs under HVR

Assuming for the moment that COGSA 1971 applies to eBLs by virtue of a wider interpretation of the formulation of the statute, the next question we have to beg is: how far would the HVR affect the evidentiary value of statements recorded in eBLs?

Art. III(4) of the HVR begins by endorsing the common law's view with regard to the pBL as *prima facie* evidence of the leading marks, the number of packages, the quantity or weight of

[261] *J I Macwilliam Co Inc v Mediterranean Shipping Co SA (The Rafaela S)* [2005] UKHL 11; [2005] 2 AC 423; *Voss v APL Co Pte Ltd* [2002] 2 Lloyd's Rep 707 (Sing CA).
[262] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 352.
[263] Bolero Rulebook 1999, Rule 3.2(4) provides for the incorporation of international conventions into the eBLs, and *inter alia*:

> In the event of a conflict between the provisions of any international convention or national law giving effect to such international convention and the other provisions of the contract of carriage as contained in the BBL [Bolero Bill of Lading] Text, the provisions of that national law or that international convention shall prevail.

the goods received by the carrier for carriage, as well as of their apparent order and condition. The second part of the provision essentially embeds the principle of common law estoppel into statutory law: 'However, proof to the contrary shall not be admissible when the bill of lading has been transferred to a third party acting in good faith'. Where the statutory estoppel under the HVR differs from the common law position, is that the key trigger for the estoppel mechanism at common law – the requirement for action in reliance, is removed.[264] The article therefore appears to have done away with the rule in *Grant v Norway*, by attributing quantity statements to the carrier.

However, whether the lacuna created by *Grant v Norway* has been fully filled is questionable. In one respect, there is doubt as to the effectiveness of Art. III(4) of the HVR. *Carver* has made the forceful point that on a literal reading of the text of sub-paragraph (b) of Art. III(3) in conjunction with Art. III(4), a carrier under the HVR is prevented from denying that a different quantity of goods was received, but it appears that he will not be precluded from denying that no goods have been received at all, because 'in such a case the mis-statement in the bill can scarcely be described as one as to the quantity received'.[265] In another respect, Art. III(4) would only make an eBL proof of receipt of the goods, not to their shipment. It is probable that situations analogue to that of *Grant v Norway* may arise again in the digital environment, and proof of receipt may not be sufficient to support a claim against the carrier for non-shipment of goods.[266]

Further deficiencies are attributed to the narrow scope of application of the HVR. The application of the Rules depends on the existence of a contract of carriage 'covered by a bill of lading or any similar document of title'.[267] Under the instant assumption, this would mean that there should be a contract of carriage covered by an eBL. However, in the hands of the charterer, the eBL would not constitute a "contract of carriage" under the HVR, because it

[264] The remit of the statutory estoppel also appears to be wider than the common law counterpart, in that it also extends to leading marks 'necessary for the identification of the goods', which, at common law, had only *prima facie* effect (although the words 'necessary for the identification of the goods' may indicate that art III(3) refers only to marks that go to the commercial identity of the goods).
[265] G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 2-017. Although note the countervailing argument to this proposition: M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 5.11; D Foxton and others, *Scrutton on Charterparties* (1st supp, 24th edn, Sweet & Maxwell 2021), art 74.
[266] There is however authority for the proposition that the terms "received" and "shipped" can be used interchangeably as they are in effect two sides of the same coin: *Crossfield & Co v Kyle Shipping Co Ltd* [1916] 2 KB 885 891-92, 897, 900.
[267] The HVR stipulate that the bill can only be used as evidence of receipt of the goods by the 'carrier', a formulation they define as 'the owner or charterer of a ship under a contract of carriage with the shipper': see arts I(a) I(b) and III(4),

would not regulate the contractual relationship between the charterer and the carrier. As such, the transferee of the eBL who is also a charterer would not qualify as a "third party" under Art. III(4).[268] Moreover, in cases of total non-shipment, it could be argued that there is no contract of carriage, and hence no valid bill of lading to which the HVR could attach.[269]

(2) COGSA 1992

(a) Practicality of COGSA 1992 as a liability regime for eBLs

As far as COGSA 1992 is concerned, the relevant provision that deals with representations in pBLs is s. 4, and it has made itself clear that it will only apply to bills of lading. Taking account of the presence of s. 1(5) which envisages the making of specific regulations for cases where 'an electronic communications network or any other information technology' is used for effecting transactions conducted under bills of lading, and the fact that nothing has been made in that respect, it is safe to say that the current COGSA 1992 regime does not cover eBLs.[270]

Come what may, however, the above remarks do not preclude the possibility of future amendments to the legislation to extend its coverage. This is particularly true in light of the recent legislative activities by the Law Commission, which, if implemented, would extend the scope of application of the Act to electronic trade documents (including eBLs). There is therefore value in examining the evidential validity of eBLs in circumstances in which COGSA 1992 is applicable.[271]

(b) Evidential status of eBLs under COGSA 1992

The imposition of s. 4 of COGSA 1992 is intended to overrule *Grant v Norway* and tackle the partial solution provided by Art. III(4) of the HVR.[272] The section reads:

> A bill of lading which (a) represents goods to have been shipped on board a vessel or to have been received for shipment on board a vessel; and (b) has been signed by the

[268] *The President of India Lines v Metcalfe Shipping Co Ltd* [1970] 1 QB 289. Indeed, as one can see from HVR, art V, the assumption is against applying the Rules to charterparties.
[269] Unless such a contract can be established upon receipt for shipment or aliunde: *Heskell v Continental Express Ltd* [1950] 1 All ER 1033 1037; see too M Bridge (ed), *Benjamin's Sale of* Goods (1st supp, 11th edn, Sweet & Maxwell 2021), para 18-100; English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 4.6. see also the debate below: s 3.4.3(2)(b).
[270] See also the discussion in section 1.1.
[271] Assuming new meanings can be given in a paperless context to the concepts of "delivery", "indorsement" and "possession" of an eBL which are crucial to the operation of the legislation.
[272] English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) paras 4.7 and 7.1(5).

> master of the vessel or by a person who was not the master but had the express, implied or apparent authority of the carrier to sign bills of lading, shall, in favour of a person who has become the lawful holder of the bill, be conclusive evidence against the carrier of the shipment of the goods or, as the case may be, of their receipt for shipment.[273]

Thus, where eBLs are governed by COGSA 1992, representations as to the fact of shipment or receipt made by the master or the carrier's agent are conclusive evidence against the carrier in favour of the "lawful holder"[274] of an eBL. The factor that the master or agent has only apparent or ostensible authority to sign eBLs is not fatal to the carrier being held liable anymore. The section also extends the law to cover both shipped eBLs and received for shipment eBLs.

However, whether the intention has been fully realized is debatable. It will be remembered that, where no goods are shipped, there may be no contract of carriage, as a consequence the HVR may not apply;[275] by contrast, there is no equivalent requirement on the existence of a contract of carriage under s. 4. From this one might derive the proposition that s. 4 can apply even where no contract of carriage can be established. However, there has well been case law to the effect that in the absence of a contract of carriage, the pBL is a nullity;[276] it is not a 'valid and effective document',[277] so that COGSA 1992 will not apply to it at the outset, and there seems to be no reason why an eBL should be exempted from the rule.

Even if the above debate is not accepted and COGSA 1992 does apply, it may still be difficult to impose liability on the carrier due to the lack of a contract of carriage. This is because s. 4 is drafted as an evidential rule rather than a liability rule: the statutory estoppel does not of itself make the carrier liable for false statements as to shipment or receipt; to do this, a cause of action needs to be established, which in turn requires the presence of a contract between the transferee of the eBL and the carrier. However, if there is no contract of carriage in the first place, then arguably there are no rights of suit under s. 2 of the Act that can be transferred to the eBL holder. Such a reading would in effect allow *Grant v Norway* problem to persist and is counterproductive to the legislative intention behind the device of s. 4. In the instance, it has therefore been suggested that s. 4 be read as a statutory exception to

[273] COGSA 1992, s 4.
[274] COGSA 1992, s 5(2).
[275] See also section 3.4.3(1)(b) above.
[276] *Heskell v Continental Express* (1949-50) 83 Ll L Rep 438 455.
[277] *Hindley & Co Ltd v East Indian Produce Co Ltd* [1973] 2 Lloyd's Rep 515 519.

the common law principle that estoppel does not give rise to a cause of action, thereby implicitly permitting the holder of such an eBL to bring an estoppel action.[278]

In coming to our conclusion that s. 4 may not be as powerful a legal device as it is perceived to be, it is noticeable that the purpose of the provision was simply to remedy the conundrum wrought by the *Grant v Norway* decision and to obtain redress for misrepresentations in the pBL as to the fact of shipment or receipt of goods. As a result, some residual issues are left unresolved.

Firstly, it should be recalled that the rule only operates 'in favour of a person who has become the lawful holder of the bill',[279] which seems to suggest that it will not be of much assistance in cases where it is the original shipper who is not a holder that commenced an action against the carrier.[280] On this point, s. 4 may be contrasted with Art. III(4) of the HVR, which merely prescribes when, as opposed to in whose favour, or against whom, proof to the contrary shall not be admissible.[281]

Secondly, there remains a residual oddity of which the drafters of COGSA 1992 failed to take into due account. In *Hubbersty v Ward*,[282] the master was duped by the fraud of the agent of the shippers into signing two sets of pBLs for the same goods. The Court of Exchequer, in affirming the precedent in *Grant v Norway*, went even further to decide that 'when a captain has signed bills of lading for a cargo that is actually on board his vessel, his power is exhausted; he has no right or power, by signing other bills of lading for goods that are not on board, to charge his owner'.[283] It is interesting to note that the master in that case delivered the goods to the holder of the second pBL, and the holder of the first pBL was therefore successful in his action against the carrier for damages for non-delivery of the goods, for the

[278] See D Foxton and others, *Scrutton on Charterparties* (1st supp, 24th edn, Sweet & Maxwell 2021), para 8-015; G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) paras 2.020-2.021.
[279] COGSA 1992, s 4.
[280] *The Mata K* [1998] 2 Lloyd's Rep 614, 616; G Humphreys and A Higgs, 'An Overview of the Implications of the Carriage of Goods by Sea Act 1992' (1993) JBL 61, 64; See D Foxton and others, *Scrutton on Charterparties* (1st supp, 24th edn, Sweet & Maxwell 2021) art 75. Although note that the original shipper may become a holder on some occasions: G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) paras 2-034-2-035.
[281] *Carve*r therefore argues that '…where some goods have been shipped or where the contract can be established aliunde, it seems that, on a literal reading of Art. III.4, reliance can be placed on its provisions not only by the transferee, but also by the shipper': G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 2-036.
[282] (1853) 8 Ex 330; 155 ER 1374, referred to in the judgment: *The Atlas* [1996] 1 Lloyd's Rep 642 649.
[283] ibid 334.

reason that the master did have the authority to bind the carrier by the statements in the pBL first signed. However, it is certainly possible to think of situations in which it is the holder of the second set who sues the carrier for the non-delivery, and there is no adequate provision in s. 4 to thwart the carrier's attempt to avoid liability by relying on the argument that the second pBL was signed without its authority.[284] It is conceivable that such difficulty could also arise in an eBL context.

Finally, a less obvious problem lies in COGSA 1992 per se. Being a domestic statute law, the Act probably would not have any effect on cargo claimants that falls outside the provisions of the legislation,[285] or eBLs governed by a jurisdiction other than the English law.

(3) S. 5(5) of COGSA 1992

Completeness requires consideration also of the interplay between s. 4 of COGSA 1992 and Art. III(4) of the HVR: supposing that both COGSA 1992 and the HVR are applicable to eBLs, in the circumstances, would the application of one set of rules take precedence over another?

S. 5(5) of COGSA 1992 regulates that: 'The preceding provisions of this Act shall have effect without prejudice to the application, in relation to any case, of the rules (the Hague-Visby Rules) which for the time being have the force of law by virtue of section 1 of the Carriage of Goods by Sea Act 1971'. From this, one might propound that where a document could be subject to either of the two regimes, Art. III(4) of the HVR should prevail over s. 4 of COGSA 1992.[286] But is that so? It is submitted here by the author that the emphasis should be placed on the phrase 'without prejudice to'.

For one thing, as the thesis has repeatedly demonstrated, under Art. III(4) an eBL would constitute conclusive evidence only of the receipt of goods, whilst under s. 4 it would be conclusive evidence not only as to the receipt, but to the shipment of the goods as well. Clearly, the effect of s. 4 is wider than that of Art. III(4). It would appear that applying s. 4 would not conflict with the application of Art. III(4), in the sense that to make an eBL

[284] See D Foxton and others, *Scrutton on Charterparties* (24th edn, Sweet & Maxwell 2021) para 8-008; *Voyage Charters*, para 18.32.
[285] See eg S Baughen, 'Bailment's Continuing Role in Cargo Claims' [1999] LMCLQ 393, where the author points out four situations in which a claimant's action against its preferred defendant would not fall under COGSA 1992. See too S Baughen, 'Title to Sue and COGSA 1992: Is There Still A Legal Black Hole for Cargo Claimants?' (2019) 25 JIML 463.
[286] M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.20.

conclusive evidence of shipment would not impair its effect as proof of receipt. Furthermore, there might well be occasions in which Art. III(4) would apply but s. 4 would not. This could be because the signature of the eBL came from the carrier directly instead of the master or someone with the carrier's authority; or because the claim was instituted by the original shipper who is never a lawful holder of the eBL.[287] Where this would be the case, it is rather Art. III(4) that has a potentially broader scope than s. 4. But still it could not be said that the HVR would prevail over COGSA 1992; it is just that the HVR would apply, and COGSA 1992 would not.

For another, it should be added that it was their Lordships' opinion in *The Rafaela S*[288] that the domestic law ought not govern the interpretation of an international maritime convention founded on an international consensus.[289] It is therefore the author's provisional view that the purpose of s. 5(5) is not so much to give priority to the application of the HVR over COGSA 1992, but rather to ensure that the implementation of the latter does not in any way affect the application of the former.

3.4.4 Limited impact of the estoppel principle

Having said so, it must be appreciated that the estoppel can bear only limited legal effects on the carrier. To begin with, there are restrictions placed by the common law, namely that estoppel can be used as shields only and not as swords,[290] because estoppel does not of itself give rise to a cause of action[291] and must be based on a pre-existing contract or tort claim. Even if an independent cause of action can be established, there is authority for the proposition that words in a bill of lading as to the quantity of the goods shipped, and their apparent order and condition are not words of contract in the sense of a contractual promise or undertaking, but are at most an affirmation of fact or a representation.[292] Under these circumstances, the estoppel will not help a claimant in making the carrier liable in contract.

---

[287] See above section 3.4.3(2)(b).
[288] [2005] 1 Lloyd's Rep 347 351, 359.
[289] See too the Law Commission's 1991 report that led to the pass of COGSA 1992, where it basically says 'we have no mandate to alter the Hague-Visby Rules': English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 4.12.
[290] See for example *Evenden v Guildford City Association Football Club Ltd* [1974] ICR 554 558; *Riverside Housing Association Ltd v White* [2006] HLR 282 [70], cited in *Newport City Council v Charles* [2008] EWCA Civ 1541; [2009] 1 WLR 1884 [28].
[291] *Central London Property Trust Ltd v High Trees House Ltd* [1947] KB 130 134; *Combe v Combe* [1951] 2 KB 215, CA 219-20; *Syros Shipping Co SA v Elaghill Trading Co (The Proodos C)* [1980] 2 Lloyd's Rep 390 391-92.
[292] *V/O Rasnoimport v Guthrie & Co Ltd* [1966] 1 Lloyd's Rep 1 7.

In addition, nowadays in many standard pBL forms[293] will find a clause to the effect that 'weight, quantity and condition unknown'.[294] Such a qualification has been interpreted by the courts as actually negate the subject statement, to the extent that no representation was made about the goods being shipped at all.[295] As a result, a similar qualifying clause recorded in an eBL will equally drive a coach and horses through the evidential power of the electronic document accorded by the English law.

3.5 Viability of performing the receipt function by contractual means

It follows that, even where the HVR and COGSA 1992 do apply, a third party eBL holder may still be prejudiced by the aftermath of *Grant v Norway*. In view of this, and to ensure that a holder of an eBL will be accorded the same level of legal protection against carrier as if he is holding a pBL at hand, as a safety net, it makes sense for parties to make rules inter se for the evidentiary value of the eBL contractually. In this section the thesis will examine two established approaches that are often already in place and test their strength across a range of possible scenarios.

3.5.1 Conclusive evidence clause

Fundamentally, this could be done by the insertion of an express conclusive evidence clause which provides: 'the eBL shall be conclusive evidence against the owners of the quantity of cargo shipped or received as stated therein'.[296] By so agreeing, the clause seems to have completely avoided the application of *Grant v Norway* rule, as the carrier would then be precluded from contesting the quantity of the goods shipped, unless there is fraud on the part of the shipper or endorsee;[297] this would still be the case even if the claim is initiated by the shipper and the carrier could prove, for instance, that the goods were not shipped.[298]

Be that as it may, the finality guaranteed by a specific contractual provision as such

---

[293] Such as the Conlinebill and the Congenbill.
[294] Statements to the same effect take various forms, eg 'shipper's count', 'particulars furnished by the shipper'. As for 'said to contain', judicial doubts have been raised as to whether it has the same meaning as the unknown clause: *The River Gurara* [1998] QB 610 626; *The Boukadoura* [1989] 1 Lloyd's Rep 393 399.
[295] See *New Chinese Antimony Co Ltd v Ocean SS Co Ltd* [1917] 2 KB 644; *Canadian Dominion Sugar Ltd v Canadian National (West Indies) Steamships Ltd* [1947] AC 46; *The Atlas* [1996] 1 Lloyd's Rep 642. See also C Debattista, 'The Bill of Lading as a Receipt Missing Oil in Unknown Quantities' [1986] LMCLQ 97.
[296] *Crossfield & Co v Kyle Shipping Co Ltd* [1916] 2 KB 885 891-92, 897, 900; *Lishman v Christie* (1887) 19 QBD 333; cf *Thin v Liverpool* (1901) 18 TLR 226. Such a clause is not invalid under HVR, art III(8): D Foxton and others, *Scrutton on Charterparties* (24th edn, Sweet & Maxwell 2021) para 8-026.
[297] *Lishman v Christie* (1887) 19 QBD 333. However, the fraud consideration will not apply if the endorsee took the bill in good faith: *Evans v Webster* (1928) 34 Com Cas 172.
[298] *Fisher, Renwick & Co v Calder* (1896) 1 Com Cas 456; *The Herroe and Askoe* [1986] 2 Lloyd's Rep 281.

is not always absolute. In the first place, the inclusion of the provision in question would not divest the carrier of the right to clause the eBL, in which case it would become a useless weapon in the armoury of a claimant.[299] In the second place, there are authorities which show that the insertion of the qualifying words 'quantity unknown' in the pBL were held to render a conclusive evidence clause ineffectual. In *The Mata K*,[300] a case concerning a claim for short delivery, the subject pBL contained the qualification 'Weight, measure, quality, condition, contents and value unknown', whereas in the charterparty there was a conclusive evidence provision stating that '…Quantity/quality of cargo as determined by an International Independent Surveyor (SGS or another neutral international organization) together with Master to be final and binding for both parties. Owners to be responsible for quantities of cargo taken on board'. Clarke J propounded that:

> The bill of lading expressly provides that the weight is unknown. It is thus inconsistent with the conclusive evidence provision in cl. 46 of the charter-party. To put it another way, cl. 46 is repugnant to the "weight…unknown" provision in the bill of lading. As such, it cannot prevail over it and (as Scrutton puts it) must be rejected.[301]

In concluding that the charterparty was not incorporated into the pBL, the judge held, albeit *obiter*, that even if the charterparty conclusive evidence clause was successfully incorporated, then as a matter of construction, it must yield to the express 'weight…unknown' provision of the pBL. It is not a *non sequitur* to imagine that a similar reasoning could be applied in an electronic setting.

In the third place, there seems to be something paradoxical in utilizing the conclusive evidence clause to disapply the reasoning in *Grant v Norway*. To illustrate this, it is significant in this context to note the pronouncement of Mocatta J in *V/O Rasnoimport v Guthrie*,[302] in which the judge described the legal significance of a conclusive evidence as actually authorizing the carrier to sign for goods not on board:

> …it is not unknown for a master to have actual authority to sign for goods not on board as occurs in cases in which the charter-party for the voyage in question contains a conclusive evidence clause…[303]

---

[299] *Lohden v Charles Calder* (1893) 14 TLR 311, approved in *Crossfield v Kyle* [1916] 2 KB 885.
[300] [1998] 2 Lloyd's Rep 614. See also *Serraino & Sons v Campbell* [1891] 1 QB 238; *Hogarth Shipping Co Ltd v Blyth Greene Jourdain & Co Ltd* [1917] 2 KB 534; *The Herroe and Askoe* [1986] 2 Lloyd's Rep 281; *Tully v Terry* (1873) LR 8 CP 679.
[301] ibid 621.
[302] [1966] 1 Lloyd's Rep 110.
[303] ibid 10, citing *Crossfield & Co v Kyle Shipping Company Ltd* [1916] 2 KB 885 897 (Lord Justice Phillimore).

If we follow this line of reasoning, then presumably, *Grant v Norway* would have been decided differently had a clause to that effect was stated in the subject pBL: the master's signature on the eBL stating that a certain amount of cargo had been shipped when no cargo was actually on board, would have bound the carrier as if the statement had been made by him, thus giving rise to the operation of an estoppel against him. This is however in conflict with the *raison d'être* of such a conclusive evidence provision which *a contrario* evinces that the parties in fact had agreed not to dispute the quantity shipped, effectively dispensing with the need to provoke an estoppel to the detriment of the claimant by reliance on the declaration.[304]

Based on the points made herein, the author does not favour the insertion of a conclusive evidence clause in the eBL to remedy the mischief of *Grant v Norway*.

3.5.2 Approach taken by existing private schemes

Apart from amending the relevant contract of carriage evidenced by an eBL, for those using closed eBL trading networks, there is another route: to provide for the evidentiary validity of the eBL in their corresponding multilateral agreement. In this respect, the following provision in Rule 3.1 of Bolero Rulebook is worth mentioning:

> Without prejudice to the generality of section 2.2.2, any statement a Carrier makes as to the leading marks, number, quantity, weight, or apparent order and condition of the goods in the BBL Text will be binding on the Carrier to the same extent and in the same circumstances as if the statement had been contained in a paper bill of lading.[305]

This could in general be viewed as the contractual replica of the effect of Art. III(4) of the HVR, making an eBL falling within the compass of the Rulebook conclusive evidence in favour of the subsequent holder.[306] Goldby has pointed out that for a buyer who accepts and pays against an eBL in the Bolero network, his position would in fact be more secure than his fellow sticking to the use of a pBL, inasmuch as the underpinning contractual framework and the operating procedures of the electronic system would make it impossible for a carrier on the eBL to prove that the electronic document was issued without his authority, and that in

[304] This has also been convincingly and comprehensively argued in R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 4.74.
[305] Bolero Rulebook 1999, Rule 3.1(3). BBL: Bolero Bill of Lading.
[306] cf ET Laryea, 'Bolero Electronic Trade System – An Australian Perspective' [2001] JIBL 4, 7, where the author suggests otherwise, basing on the fact that "Bolero relies on the principles of novation and attornment to transfer contractual rights under BBLs. Novation means a new party is substituted for the shipper or holder of the BBL and a new contract is created between the substituted party and the carrier." However, as will be argued by this author later in the thesis, this basis is not entirely accurate: see section 4.6.

this sense the solution provided by Bolero could be seen as an improvement of the paper regime.[307] It is however contended by the author that this is not necessarily the case. Carrier was separately defined by Rule 1.1(17) as "[a] User which contracts with another User to carry goods by any means of transport, regardless of whether the Carrier is the owner or operator of the means of transport used". Thus, albeit in an oblique fashion, Bolero Rulebook is in fact akin to the HVR in requiring that the carrier under it should be a party to the contract of carriage.[308] Consequently, a carrier who is not a party to such a contract (because no goods have been shipped) would not be captured by Rule 3.1(3). It further follows that, under the rule in *Grant v Norway*, it would still be open for the carrier to prove that no goods had been shipped; in other words, the theoretical possibility that the buyer might be faced with a similar argument in the paper world persists.

Noteworthy, Rule 3.2(4) allows for the incorporation of international conventions[309] into the eBLs. The second sentence reads:

> In the event of a conflict between the provisions of any international convention or national law giving effect to such international convention and the other provisions of the contract of carriage as contained in the BBL [Bolero Bill of Lading] Text, the provisions of that national law or that international convention shall prevail.[310]

The DSUA takes a more elaborate approach. The relevant provisions are extracted below:

> 7.3 Electronic Records: Each Electronic Record shall: (a) contain or evidence the terms of the Contract of Carriage; (b) contain an acknowledgement by the Carrier of the receipt of goods shipped on board or received for shipment by the Carrier; and (c) contain such other Remarks as may be required or permitted by any international treaty, convention or national law which applies compulsorily and/or by virtue of T&C 7.5 below.
> 7.5 Incorporation of Treaties: Each User agrees with each other User that any international treaty, convention, or national law that would otherwise apply as a matter of compulsory law to the Contract of Carriage to which an Electronic Record or a Ship's Delivery Order relates if that Contract of Carriage were contained in or evidenced by a paper version of the Transport Document shall apply to such Electronic Record or Ship's Delivery Order either as a matter of law or hereby as a matter of contract.
> 7.6 Clausing: Each User agrees with each other User that any remarks (such as, for example only, 'clean on board' or 'shipper's weight, load, and count') or any other statement and/or description and/or qualification whatsoever made by the Carrier in the Electronic Record as to the leading marks, number, quantity, weight or apparent good

[307] M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.12.
[308] On this point, see the previous discussion on HVR: section 3.4.3(2).
[309] International conventions that apply to pBLs are: International Convention for the Unification of Certain Rules Relating to Bills of Lading 1924 (Hague Rules); Protocol to Amend the International Convention for the Unification of Certain Rules Relating to Bills of Lading 1924 (Hague-Visby Rules) (Hague-Visby Rules); United Nations Convention on the Carriage of Goods by Sea 1978 (Hamburg Rules). One of these rules applies in most countries.
[310] Bolero Rulebook 1999, Rule 3.2(4).

> order and condition of the goods (together, "Remarks") shall be evidence of such Remarks and shall have the same effect in relation to the Transport Document contained in such Electronic Record as if the same had been contained in a paper Transport Document.[311]

In another respect, it should be noted that the purpose of adopting the above clauses by the two closed systems is to subject the eBL to the same set of rules as pBL under the HVR as well as under the common law, either as a matter of law or contract, thereby putting users of an eBL on the same legal footing as their counterparts in the paper world.[312] However, as the thesis has already discovered, the current legal framework for safeguarding the receipt function of the pBLs under the HVR is not satisfactory, in that there are still pitfalls in it which have been discussed in the immediately preceding section.[313] The author therefore contends that the idea of establishing the eBL's evidentiary effect by incorporating the HVR into the eBL by contract is in fact misconceived.

3.6 Statements on eBLs written in computer code

There is another interesting dimension to ponder. For the most part, the carrier is liable for losses caused by the master's misrepresentation of the goods in the pBL, because he, as the principal of the ship-master, is responsible for the latter's general practice in the course of his employment. However, if it is someone else other than the master who resulted in the incorrect information of the goods to be recorded on the document, should the carrier still be held potentially answerable for that person's wrongdoing?

As the maritime industry looks to automate and digitalize workflows, processes, contracts and payments, using smart contract-powered blockchain system as a more optimized eBL solution (the so-called smart BL) seems to be the way forward and has gained considerable traction. Technically, the idea is to embed the legal stipulation that would normally appear on a pBL into a smart contract; the smart contract for the carriage of goods by sea will then be put on a blockchain to enable the automatic execution of functions defined by the terms contained in the contract as the trading of goods continues. The material point to note for the present purpose is that smart contracts, unlike traditional paper contracts, are computer programmes. This means, in order for a smart contract to work, the master's statements must

[311] DSUA 2021.1, T&C 7.3, 7.5, 7.6.
[312] M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.12.
[313] See section 3.4.3(1).

be translated into a computer-readable language by a third-party coder in order to instruct the computer – a process called coding.

However, just as other computer programmes, there is no guarantee that the coder developing the smart contract programme code is error proof.[314] This could be due to an oversight on the part of the coder, or a misunderstanding in communication between him and the carrier for the purpose of translating the statements in human language into machine-readable code, or any other reason. In some cases, even the simplest algorithms can go wrong and lead to significant losses.[315] This is because once the error has already been written into the blockchain network it cannot be easily (if not impossibly) corrected, owing to the self-enforcing nature of the smart contract and the irreversibility of the blockchain. On one extreme, it is possible for a smart contract to execute automatically based on the code entered, even in situations where it would be evident to a human operator that something has gone wrong.[316] On another extreme, it has otherwise been suggested that it may not always be easy to predict the performance of the code based on a reading of the code itself.[317]

The occurrence of this mistranslation could ultimately lead to legal liabilities. Assuming a buyer, deceived by the inaccurate statement occasioned by the coder's mistranslation into paying for the goods against a smart BL, sues the carrier. Under the circumstance, who is there to blame? It may well be that the coder is the carrier's agent; *ergo*, when he is translating, he is performing acts within his actual or apparent authority of the carrier. In such a situation, the general agency principle will apply, and so the carrier will be bound by statements on the eBL even if they are made wrongfully, except in the extreme case of non-shipment where he may not account for the statement as to quantity.

---

[314] K Delmolino and others, 'Step by Step Towards Creating a Safe Smart Contract: Lessons and Insights from a Cryptocurrency Lab' in J Clark and others (eds), *Financial Cryptography and Data Security – International Workshops, FC 2016, BITCOIN, VOTING, and WAHC, Revised Selected Papers* (Springer 2016) 79-94; K Werbach and N Cornell, 'Contracts Ex Machina' (2017) 67(2) Duke Law Journal 313, 365.

[315] In November 2017, the Parity wallet reportedly froze around 500 million Ethers on the Ethereum platform due to a coding error in the smart contract, amounting to between $150 million and $300 million: A Wan and D Rice, 'Oops, I Accidentally Froze $150 Million of Ether. Or, How Smart Contracts Are Not Invulnerable' (*crowdfundinsider.com*, 9 November 2017) <https://www.crowdfundinsider.com/2017/11/124379-oops-accidentally-froze-150-million-ether-smart-contracts-not-invulnerable/> accessed 20 July 2022. See also the recent Singaporean case *Quoine Pte Ltd v B2C2 Ltd* [2020] SGCA (I) 02, where Quoin's oversight in making certain minor changes resulted in the loss of 2,000 bitcoins overnight.

[316] Herbert Smith Freehills, 'Arbitration of Digital Disputes in Smart Contracts and the Release of the Digital dispute Resolution Rules from the UK Jurisdiction Taskforce' (*Herbert Smith Freehills*, 23 April 2021) <https://hsfnotes.com/arbitration/2021/04/23/arbitration-of-digital-disputes-in-smart-contracts-and-the-release-of-the-digital-dispute-resolution-rules-from-the-uk-jurisdiction-taskforce/> accessed 4 June 2023.

[317] Law Commission, *Smart Legal Contracts: Advice to Government* (Law Com No 401, 2021) para 4.30.

Of course, there may well be no agency relationship at all between the carrier and the coder. This may throw up a vexed legal issue: for one thing, the old liability regime is all about holding the carrier responsible for the statements on the bill, and for another, where it is the coder that is clearly in the wrong, there is no corresponding liability imposed on him, or the smart BL solution operator supposedly, whom the coder works for. It would be unreasonable to hold the carrier liable for statements made by a person who has neither actual or ostensible authority to make it. In this regard, the law must rectify the situation by striking a better balance between protecting the position of the buyer who pays on the strength of the representation and imposing liability only on the party responsible for the representation.[318]

One might think that coding errors could be remedied by the interpretation of a smart contract. However, there is uncertainty as to how an English court would apply the traditional canon of construction to a smart contract written in computer code. It has been suggested that where the code is written in an unambiguous manner, the meaning presented by the code would mean no more than the code itself says, and there is next to no room left for the court to manoeuvre.[319] This submission reflects the orthodox approach to the interpretation of contracts under English law that 'the clearer the natural meaning the more difficult it is to justify departing from it'.[320] In borderline cases where the subject code is susceptible of different interpretations, the judge might be encouraged to refer to other parts of the code, and even look beyond the four corners of the smart contract where extrinsic evidence is likely to be needed.[321]

In this context, it has been advised that the court should take a two-phase test: the first one is to identify the intention of the carrier by reference to the conventional reasonable reader test,[322] that being to determine 'what a reasonable person having all the background knowledge which would have been available to the parties would have understood them to be using the language in the contract to mean'.[323] To the extent that the carrier interacts with the computer programming, the application interface which they use for sending out instructions

[318] P Todd, 'Representations in bills of lading' [2003] JBL 160, 169.
[319] UK Jurisdiction Taskforce, 'Legal Statement on Cryptoassets and Smart Contracts' para 150 (*technation.io*, November 2019) <https://technation.io/lawtechukpanel/> accessed 20 July 2022.
[320] *Arnold v Britton* [2015] UKSC 36 [18] (Lord Neuberger). See also *Rainy Sky SA v Kookmin Bank* [2011] 1 WLR 2900 [23].
[321] UK Jurisdiction Taskforce, 'Legal Statement on Cryptoassets and Smart Contracts' paras 151-52 (*technation.io*, November 2019) <https://technation.io/lawtechukpanel/> accessed 20 July 2022.
[322] S Green, 'Smart Contracts, Interpretation and Rectification' [2018] LMCLQ 234, 248.
[323] *Chartbrook Ltd v Persimmon Homes Ltd* [2009] AC 1101 [14].

should provide the court with ample evidence of what he would have expected the computer to do. Phase two is to ascertain whether a reasonable coder, having been provided with the knowledge of the carrier's intention identified in the first stage, would apprehend what should have been achieved by the execution of the computer programme.[324] On this matter, there may well be communications between the coder employed by the smart BL business operator and the carrier regarding what a particular term actually means in human languages.

Under this approach, an English court may conclude that the code does not reflect the carrier's original intent, in which case a correction to the smart BL would be required;[325] accordingly, the conflict between the original instruction from the shipmaster and the resulting smart contract caused by an error in coding will be reconciled. Howbeit, it is questionable that the courts would have the competency to adjudicate cases involving smart contracts, not only because the smart contracts are based on computer codes rather than natural human language that they are used to dealing with, but also because the meaning and logic reasoning of the smart contracts go far beyond the normal function and knowledge of a judge.[326]

The risk of coding error introduced by smart contracts, therefore, is a grey area yet to be embraced by the current English legal framework, with the likely consequence that the carrier might end up finding himself liable for the coder's negligence and yet have no recourse.[327] For the time being, it follows that the best practice perhaps would be for the parties to the smart BL contract to enter into an agreement with the system operator with respect to the risk allocation in the event of a coding error, to the extent that the latter should assume liability for any loss or damage caused by the operation of the system.[328]

---

[324] S Green, 'Smart Contracts, Interpretation and Rectification' [2018] LMCLQ 234, 248.
[325] Although note that the threshold for rectification is high: *FSHC Group Holdings Ltd v Glas Trust Corporation Ltd* [2019] EWCA Civ 1361 [176]. See also S Green, 'Smart Contracts, Interpretation and Rectification' [2018] LMCLQ 234 249-51; Law Commission, *Smart Legal Contracts: Advice to Government* (Law Com No 401, 2021) paras 5.4-5.29.
[326] United Nations – Economic and Social Council, 'Blockchain in Trade Facilitation: Sectoral challenges and examples' (ECE/TRADE/C/CEFACT/2019/9/Rev 1, 2020) para 80. There are also practical difficulties in ratification: Law Commission, *Smart legal Contracts: Advice to Government* (Law Com No 401, 2021) paras 5.14-5.26.
[327] Although the scope for errors in coding should decrease where standard code has been developed, but where bespoke code is required, the potential for negligence would surely persist: see S Green, 'Smart Contracts, Interpretation and Rectification' [2018] LMCLQ 234, 238, fn 18.
[328] On this score, CargoX Blockchain Based Smart Bill of Lading Solutions Special Terms and Conditions, Version 1, cl 13.3 sets a good example: 'Notwithstanding 13.1 and 13.2 above, CargoX accepts liability, up to but not exceeding the limit of liability in clause 14 below, in the event that an Originating User or Subsequent

3.7 Conclusion and some final remarks

The centre of gravity of this chapter has been revolving around whether the receipt function of the conventional pBLs could be reproduced in an electronic context. This long-standing function is still an important one, given that modern international trade still depends on the accuracy of the representations contained in the paper instrument. In answering the question posed, the thesis has tested the legal recognition of evidence in electronic documents, examined the legal validity of statements in eBLs from the common law as well as the statutory law position, as well as discussed the anticipated question of attribution of responsibility emerging from the use of smart BLs underpinned by disruptive blockchain technology.

By so doing, the chapter has sought to demonstrate that English law as it now stands does not foreclose the admission of electronic evidence in court proceedings to prove certain facts of a contract. The deployment of digital signatures can effectively enhance the authenticity and reliability of eBLs; despite that, the admissibility of electronic documents may still be subject to the English courts' scrutiny. Seeing this, obtaining parties consensus of accepting eBLs as admissible evidence between them in the form of a contractual agreement seems to be the solution to the problem just adverted, to which an English court should not find difficulty in giving effect.

Next, drawing on the evidential and representational status of the pBLs under the common law rules and statutory provisions, the author argues that the existing liability regime under the HVR for pBLs can be applicable to eBLs. However, the legal devices are by no means ideal; moreover, despite statutory improvements there remains significant loopholes in law to be closed. A wiser and more reasonable course would be to create a better legal regime for eBLs, presumably by reason of contract; howbeit it should be stressed that the mere incorporation of HVR into eBLs does not seem to provide a complete answer to *Grant v Norway*. The situation where COGSA 1992 is made applicable to eBLs has also been considered in this chapter. It appears that most of the evidentiary issues caused by *Grant v Norway* can be solved, but the statute has no impact on the ones left in the paper world. In anticipation of the potential dual application of the statutes, the principle underlying s. 5(5) of

User suffers loss, damage or delay directly caused by failure of the CargoX website.' It has also been advised that parties to a smart legal contract may need to obtain insurance, at additional cost, to cover errors made by coders and system operators: Law Commission, *Smart legal Contracts: Advice to Government* (Law Com No 401, 2021) para 2.112.

COGSA 1992 is to ensure that the application of one legal framework would not affect the application of another.

One further thing to note is that existing solutions utilizing contractual mechanisms, viz. the inclusion of conclusive evidence clause and the contractual provisions devised by certain eBL systems, to perform the receipt function do not fully preserve the protection accorded to a pBL grantee against misstatements by the carrier. Finally, the use of smart contracts and blockchain technology to perform the evidential function may give rise to the possibility of incorrect statements caused by coding errors. This would expose English courts to substantial challenges in interpreting smart contracts which they are ill-prepared for by the existing legal infrastructure.

Last but not least, as we have already seen, in most cases, the existing liability regime for pBLs works well in terms of making a shipowner liable to a remote holder for the misrepresentation in the document, and the impasse resulted from *Grant v Norway* has been to a large extent resolved. Consequently, only in rare cases do issues in connection with the evidential function of the pBL that cannot be solved by statutory restrictions surface. These issues would probably continue to exist in the paperless world; nevertheless, the legal difficulties they might cause would probably be alleviated with new technologies being implemented and full technical operations being put in place. Bear in mind also that, the statutory estoppel can only lend evidential assistance in the presence of a cause of action. In this connection, it is sensible to expect that the significance of the above discussion about recreating the function of the receipt of goods in the digital world will be diluted.

Chapter 4 Contractual function

This chapter discusses the second function acquired by the pBL, namely the contractual function, by virtue of which rights and obligations are able to be transferred to a third party to the original contract of carriage concluded between the shipper and the carrier. In this sense, it has been referred to as 'a potentially transferable carriage contract'.[329]

4.1 Privity of contract doctrine

It is trite law that only the original parties to a contract are entitled to the rights and obligations under it and, where appropriate, to sue on its terms, as hypothesized by the famous common law doctrine of privity of contract. In the particular field of carriage of goods by sea, the theory has indeed caused great pain to the participants involved in the supply chain of trade transaction. On the one hand, it is readily apparent for the consignee or transferee of a bill of lading to sue the carrier in cases where the goods are damaged or lost during the transit. On the other hand, the carrier may also wish to recover from the transferee in respect of unpaid freight or demurrage charges under the bill of lading and charterparty. Nevertheless, they are all barred from placing any reliance on the relevant carriage contract, simply because of the fact that they are not parties to it. Even though the transfer of a bill of lading has been established by the custom of merchants as having the ability to pass the property in the goods,[330] that does not in law amount to a transfer of contractual rights under the bill of lading contract to the transferee against the carrier; vice versa, nor does it vest in any rights to the carrier against the transferee. This perennial problem has been criticized not only by the judiciary, but also by academics.[331]

As a result, two remedies have been developed with the aim of bridging this 'privity' gap and consequently have given rise to the contractual function of the pBL, that being the transferability of rights and obligations to third parties. The first remedy provided by the common law is to imply a contract between the consignee and the carrier. The need for this

[329] S Baughen, *Shipping Law* (7th edn, Routledge 2019) 8.
[330] *Lickbarrow v Mason* (1794) 5 TR 683 685-86. More on this case see the relevant discussion in ch 5.
[331] *Beswick v Beswick* [1968] AC 58 72 (Lord Reid); *The Gudermes* [1993] 1 Lloyd's Rep 311 314 (Staughton LJ); *The Pioneer Container* [1994] 2 AC 324 (PC) 335 (Lord Goff); *White v Jones* [1995] 2 AC 207 262-63 (Lord Goff); *The Mahkutai* [1996] AC 650 664-65; [1996] 2 Lloyd's Rep 1 (PC) 8 (Lord Goff). See also the extrajudicial remarks by the late Lord Roskill, 'Half-a-century of Commercial Law 1930-1980' (1982) 7 Holdsworth LR 1, 6-7; FMB Reynolds, 'The Carriage of Goods by Sea Act 1992' [1993] 436; JF Wilson, 'A flexible Contract of Carriage – the Third Dimension?' [1996] LMCLQ 187.

type of implied contract has almost been eliminated with the introduction of the second remedy – COGSA 1992, the successor of the Bills of Lading Act 1855 (the 1855 Act).

Neither of these remedies should be assumed to apply automatically to eBLs; should they not be immediately available, it is clearly of the utmost importance that eBLs developers endeavour to find a contractual solution to the problems at stake, so as to ensure that the rights and liabilities under them are as well maintained as those of pBLs when they are passed along the chain of endorsement. Against this background, it should be recalled that many eBL systems currently in operation purports to provide for a novation of the contract of carriage to the consignee, by virtue of which the new holder is entitle to rights on the new contract and is subject to liabilities. In other words, they replicate the system established by COGSA 1992 by contract. Furthermore, there is little or no literature that touches on the underlying reasons for the preference of novation over other contractual manoeuvres, which underlines the doctrinal necessity for a more in-depth study.

In the light of the above, all relevant models derived from common law, statute and contract will be dissected, analysed and compared to determine the probability of their potential application to eBLs. The thesis will then consider alternative new contractual avenues that have not historically been used in the paper system, namely bailment on terms, assignment and, of course, novation, with a view to an exhaustive search for the best possible means of circumventing the problem of privity. For the reasons that will appear, this thesis argues that novation (unlike that envisaged by Bolero) seems to offer a better approach to the problem in question.

4.2 The implied contract

Where the main contract of carriage is between the shipper and the carrier, it is possible still to imply a contractual relationship between the carrier and the receiver of the goods at common law. This is the so-called the implied contract or *Brandt v Liverpool*[332] type contract, which was named after the leading case *Brandt v Liverpool*, but the concept actually stretches much farther back. Ever since the implementation of COGSA 1992, the rule has been relegated to a position of lower importance than formerly – but this is by no means to suggest that it is now only a matter of legal history. It is however suggested by the author that this

[332] *Brandt v Liverpool Brazil & River Plate Steam Navigation Co Ltd* [1924] 1 KB 575; [1923] All ER Rep 656 (CA).

former remedy still warrants re-evaluation here, because it is of considerable relevance to eBLs, in the sense that it cannot only vest in rights, but also impose liabilities on the person to whom delivery is, or is to be made.[333] Although the author's provisional view is that COGSA 1992 currently does not apply to eBLs,[334] even if it did, the *Brandt v Liverpool* doctrine still has a role to play where situations arise that fall outside the scope of COGSA 1992.[335]

Before getting into the anatomy of the doctrine, we should be clear about one point from the start. *Brandt v Liverpool* will not serve a useful purpose in a Bolero-like closed system, where a multi-contractual relationship is already in place; nor, for that matter, is it likely to have much application where contractual techniques such as assignments or novations are used.[336] An implied contract could, however, be made out between the carrier of goods and the consignee under an eBL that are in no sense privy to each other.[337] Presumably also though, there could be a situation similar to that of *Glencore v MSC*,[338] where the carrier delivers against PIN codes.[339] This might well be a situation where *Brandt v Liverpool* could apply, if some degree of communication or co-operation between the PIN codes holder and the carrier can be found.[340] By extension, on similar grounds, a carrier who had agreed to deliver against an eBL, and in fact did so, might find that an implied contract arises, if there were no other existing contract with the eBL holder.

Therefore, as far as this thesis is concerned, it is necessary for us to discuss the bulk of cases where situations were held to give rise to an implied contract, and to determine whether this method affords a satisfactory solution to the problems here posed.

---

[333] See G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 5-118.
[334] See sections 1.1 and 3.4.3(2). See also section 4.3.1 below.
[335] See R Bradgate and F White, 'The Survival of the *Brandt v Liverpool* Contract' [1993] LMCLQ 483, 484; FMB Reynolds, 'The Carriage of Goods by Sea Act 1992' [1993] 436; S Baughen, '*The Gudermes*: What Future for *Brandt v Liverpool*?' 1994 JBL 62, 64; G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 5-117.
[336] A possible exception is where the terms of the new contract differ from those of the contract being assigned or novated, for example, where the terms of a charterparty are assigned and the new contract of carriage is implied on the terms of the eBL.
[337] This is likely to happen in an open system: see the discussions in sections 4.6.6 below. Of course, if the transmission is dependent on the operation of the online service provider, an element of agency will be essential for the purposes of establishing this contractual link.
[338] *Glencore International AG v MSC Mediterranean Shipping Co SA* [2017] EWCA Civ 365; [2017] 2 Lloyd's Rep 186 [62]. More on this case see section 5.1.3.
[339] Probably he has agreed with the shipper to deliver to anyone with the PIN codes.
[340] As a result of the application of *The Captain Gregos (No 2)* [1990] 2 Lloyd's Rep 395, assuming consideration issues could be overcome: see section 4.2.

4.2.1 Issue of consideration

Early authorities before the decision of *Brandt v Liverpool* were all concerned with liability of the receiver, and whether he had entered into an implied contract to pay residual freight or demurrage to the shipowner.[341] These cases resulted in an inconsistent view of the English court on the implication of a contract between the parties that were not initially in a contractual relationship.[342] Unlike its precedent, *Brandt v Liverpool* turned to the opposite situation, namely that of a receiver seeking a remedy from the carrier under what he claimed to be an implied contract. The Court of Appeal successfully implied a fresh contract between the receiver and the carrier on the terms of the pBL, based on the fact that the shipowner delivered the goods against presentation of the pBL, and that the receiver paid the freight. The period post 1924 has seen the successful application of the implied contract in a spate of cases, whilst in some others it has failed lamentably, presumably in part due to the diminishing confidence of the English courts in deploying the *Brandt v Liverpool* device when confronted with the seemingly insurmountable problem of consideration.

Like any other enforceable contract, for an implied contract to arise, the court would have to identify offer, acceptance and consideration in accordance with 'ordinary contractual principles'.[343] In general, it is not difficult to find the three elements when the goods are delivered to a pBL holder against payment of outstanding freight and demurrage: the act of demanding delivery is evidence of an offer on its part to comply with those conditions; the delivery accordingly by the master is evidence of its acceptance of that offer;[344] and the consideration moving from each side is satisfied by the holder's making of such payment and the shipowner's surrender of its lien on the goods. However, it is also not unknown for freight and other charges to be prepaid by the shipper, in which case it may be hard to find any

[341] *Cock v Taylor* (1811) 13 East 399; *Sanders v Vanzeller* (1843) 4 QBD 260; *Stindt v Roberts* (1848) 17 LJQB 166; *Young v Möller* (1855) 5 El & Bl 755; *Allen v Coltart* (1883) 11 QBD 782; *W N White & Co Ltd v Furness Withy & Co Ltd* [1895] AC 40.

[342] As far back as in 1811, it was held in *Cock v Taylor* (1811) 13 East 399 that the act of demanding delivery by a purchaser under the pBL and the delivery accordingly by the master, without more, is evidence of a new contract between the parties. This statement was softened in *Stindt v Roberts* (1848) 17 LJQB 166, but then negated in a following decision in *Young v Möller* (1855) 5 El & Bl 755, a case considered as express authority for the proposition that mere presentation of the bills of lading coupled with delivery is not sufficient factual material upon which to found an implied contract.

[343] Ie, offer, acceptance and consideration: *The Aramis* [1989] 1 Lloyd's 213, 224.

[344] Delivery is usually vital in inferring acceptance, and there seems to be no basis for implying a contract under the *Brandt v Liverpool* doctrine, for instance, where the ship sinks. See also *The Captain Gregos (No 2)* [1990] 2 Lloyd's Rep 395, where no implied contract arose between the carrier and the immediate holder: sections 4.2. Although exceptionally there may be other conduct from which acceptance may be inferred: *Allen v Coltart* (1883) 11 QBD 782.

consideration provided by the consignee. In *The Kelo*,[345] Staughton L.J. saw no reason to infer any contract on the terms of the pBL, because no payment was made by the receiver at all in return for delivery of the cargo.

Would the difficulty of finding consideration still be a big headache for implying a contract on the terms under an eBL? There is no doubt that consideration can easily be found on the carrier's side, since the 'performance by the shipowner of its obligation to the shipper could amount to consideration for a promise by the holder of the bill of lading'.[346] So viewed, in the *Glencore v MSC* alike scenario contemplated earlier, the consideration moving from the carrier would be the delivery of the cargo against the PIN codes. Even if the carrier and the shipper had merely agreed to deliver in this way, this would in fact constitute consideration for the new contract, because if the person with the PIN codes or the eBL holder was not the true owner, he would expose himself to liability. The crux of the matter, however, is finding consideration moving from the eBL holder.

A way to satisfy the legal requirement of consideration is to put more weight on commercial convenience or 'business reality',[347] which accounted for the rare occasions where English courts have 'sacrificed the cow of principle on the pyre of commercial convenience'.[348] However, this strand of thought is questionable. Although it is all very well calling for a broader and flexible approach,[349] consideration has always been the problem for *Brandt v Liverpool* contracts, and the courts have set their faces firmly in *The Aramis*[350] and *The Gudermes*[351] against casting principle aside and simply opting for a commercially just solution. Further, in light of the Court of Appeal's attitude in the very recent *Glencore v MSC* towards the use of an electronic release system, it is doubtful that the English courts will make a volte-face in recognizing an established commercial practice in favour of other types of electronic systems.

[345] *Kaukomarkkinat O/Y v Elbe Transport-Union GmbH (The Kelo)* [1985] 2 Lloyd's Rep 85 88.
[346] *The Aramis* [1989] 1 Lloyd's 213 849.
[347] *Ilyssia Compania Naviera SA v Ahmed Abdul Oawi Bamadoa (The Elli 2)* [1985] 1 Lloyd's Rep 107 115 (May LJ).
[348] As canvassed by M Clarke, 'Transport Documents: Their Transferability as Document of Title; Electronic Documents' [2002] LMCLQ 356.
[349] As hoped for by Lord Wilberforce in a different context, in *New Zealand Shipping Co Ltd v A M Satterthwaite & Co Ltd (The Eurymedon)* [1975] AC 154 (PC).
[350] *The Aramis* [1989] 1 Lloyd's 213.
[351] *The Gudermes* [1993] 1 Lloyd's Rep 311.

It has otherwise been suggested that consideration could be provided in the form of releasing the carrier from potential lawsuits for misdelivery.[352] If traders feel unsure about it, presumably the problem could also be cured by a deliberate construction of the eBL implementation process. In *The Captain Gregos (No. 2)*,[353] BP furnished a letter of indemnity as required by the voyage charter in order to get the goods. It is therefore safer to set up the relevant eBL system to require the new holder to take certain actions for the benefit of the carrier upon acquisition of the eBL. This could be an immediate reimbursement of the expenses incurred by the carrier during the sea carriage,[354] or an undertaking from the new holder that he consents to be subject to potential liabilities under the contract of carriage, e.g., payment obligations such as freight and demurrage charges at delivery, if he wishes to invoke the contractual rights thereunder. The idea is that, since the new contract will take the terms set out in the bill of lading contract, the requirement of consideration is satisfied by the fulfilment of the unperformed promises on each side contained therein.[355]

Meanwhile, it is worth noting that there is a tendency in the recent cases to water down the importance of satisfying the consideration requirement. While Staughton L.J. tried to restrict the ambit of the *Brandt v Liverpool* approach,[356] other judges tended to extend its application and use it as a convenient band-aid solution. In *The Elli 2*,[357] Ackner L.J. was of the view that supplying a guarantee that a pBL will be presented on arrival has an equal effect as presenting the bill per se in raising the inference that the delivery and acceptance of the goods was on the terms of the pBL produced, or to be produced, so far as they were applicable to discharge at the port of discharge. In so holding, the judge ruled that an implied contract had been formed between the carrier and the consignee, even though the pBL was never present at the time of delivery and the consignee had not paid the freight – none of which were matters of great moment. Again, in *The Captain Gregos (No.2)*, the consignee never paid freight or undertook to pay it, nevertheless a contract was found to have come to existence

[352] P Todd, 'Dematerialisation of Shipping Documents' in C Reed, I Walden and L Edgar (eds), *Cross-Border Electronic Banking: Challenges and Opportunities* (2nd edn, Informa Law from Routledge 2000) 77.
[353] [1990] 2 Lloyd's Rep 395.
[354] Or simply a nominal fee: see P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, fn 203.
[355] G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 18-183. See also *The Aramis* [1989] 1 Lloyd's Rep 213 225 ('bundle of rights and duties which the parties would respectively obtain and accept'). Although note that problem could still arise where there is no promise remaining unperformed.
[356] See eg *The Kelo* [1985] 2 Lloyd's Rep 85; *The Aliakmon* [1983] 1 Lloyd's Rep 203; *The Gudermes* [1993] 1 Lloyd's Rep 311.
[357] *Ilyssia Compania Naviera SA v Ahmed Abdul Oawi Bamadoa (The Elli 2)* [1985] 1 Lloyd's Rep 107.

between the carrier and the ultimate purchaser, based on their active co-operation in relation to the discharge of the cargo. Indeed, as Bingham L.J. propounded in *The Aramis*,[358] that 'Once an intention to contract is found no problem on consideration arises, since there would be ample consideration in the bundle of rights and duties which the parties would respectively obtain and accept',[359] it is therefore not far-fetched to suggest that the element of consideration has been reduced to a less than significant level in finding an implied contract.

4.2.2 Position of the intermediaries

Quite distinct from the mechanism run under the COGSA 1992 scheme,[360] the *Brandt v Liverpool* theory does not provide for the extinction of rights and liabilities. The point is crucial in the sense that it may affect the situation of an intermediate holder of the eBL. In most cases, an intermediate holder will not have any interest in advancing a claim against the carrier, because he will not remain at risk after he has parted with the bill.[361] It is usually difficult (if not impossible), as is the case where COGSA 1992 applies, for an intermediate holder of an eBL to be able to sue the carrier on the basis of a new contract inferred between them, since if there is no real direct contact or communications between a middleman trader and the carrier, the grounds for inferring a contractual relationship will be rather weak.[362]

Theoretically, though, a contract could be implied in the extreme event, such as a salvage or general average incident during the voyage,[363] which would consequently give rise to the occurrence of interaction between the carrier and the intermediate eBL holder at the time being, thereby satisfying the principles in *The Captain Gregos*. Hence the transfer of the eBL would not bring to an end the implied contract between an intermediate holder and the carrier, revesting the contractual rights once accorded to him to the next succeeding holder, but rather result in a situation that the newly implied contract between the succeeding holder and the carrier exists alongside with the former. Although there is no limit in law on the number of contracts that can coexist, with a string of sales, this would mean that intermediate holders would still be privy to their individual contracts of carriage with the carrier.

[358] [1989] 1 Lloyd's 213.
[359] ibid 225.
[360] s 2(5) of COGSA 1992.
[361] English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) paras 2.40-2.41.
[362] The case of *The Captain Gregos (No 2)* [1990] 2 Lloyd's Rep 395 affords a useful example.
[363] F Stevens, *The Bill of Lading: Holder Rights and Liabilities* (1st edn, Routledge 2019) para 143.

In this regard, the author proposes that the inclusion of a cesser clause in the eBL requiring the carrier to only sue the consignee might help remedy the situation by relieving intermediate holders of liability. Likewise, to protect the carrier from being exposed to a higher litigation risk than he would have assume under the regime of COGSA 1992, eBL holders could also agree to give up rights of suit after transfer of the eBL.

4.2.3 Further considerations

A further difficulty lies in the ambiguity of the boundaries of the doctrine. Thus, in *The Aramis*,[364] the Court emphasized that the inference of a contract must be necessary and not merely for commercial convenience; with that in mind, the Court set out a high threshold that an implied contract will only be created where the conduct relied upon is referable to the contract contended for. Although *The Captain Gregos (No. 2)* brought a short-lived resurgence of the application of the *Brandt v Liverpool* principle, the extraordinary circumstances of this particular case took it outside the norm, such as the fact that BP, the cargo receiver, became owners of the cargo before discharge and were taken to have consented to carriage on the terms of the pBL. Ultimately, in *The Gudermes*,[365] the Court of Appeal echoed the sentiments expressed in *The Aramis* and laid down a stringent test that took away any possibility to expand the breadth of *Brandt v Liverpool*, as well as the positive impact from the judgment in *The Captain Gregos (No.2)*, thereby putting the final nail in the coffin of the utility of the ancient doctrine.[366]

A provisional observation one can make on the recent decisions[367] is perhaps that, while the evidence of a sufficient degree of co-operation between the parties may be enough,[368] it on its own is not sufficient to meet the requirements of an implied contract, since their conduct must reflect consistency only with there being a new contract implied, and inconsistency with there being no such contract;[369] the court has to look at all the facts, and consider the problem

[364] [1989] 1 Lloyd's Rep 213.
[365] [1993] 1 Lloyd's Rep 311.
[366] Law Commission, *Rights to Goods in Bulk* (Working Paper No 112, 1989) para 3.17. Curiously, insofar as Himalaya clauses are concerned, using the implied contract appears to have been accepted since *The Eurymedon* [1975] AC 154.
[367] *The Aramis* [1989] 1 Lloyd's Rep 213; *The Captain Gregos (No 2)* [1990] 2 Lloyd's Rep 395; *The Gudermes* [1993] 1 Lloyd's Rep 311.
[368] *The Captain Gregos (No 2)* [1990] 2 Lloyd's Rep 395; *Allen v Coltart* (1883) 11 QBD 782.
[369] The paradigm cases of the shipowner giving up its lien, or the receiver paying the freight, illustrate that: *The Gudermes* [1993] 1 Lloyd's Rep 311 320. If their conduct is equally referable to and explicable by their existing rights and obligations, albeit such rights and obligations are not enforceable against each other, there is no material from which the court can draw the inference: *The Aramis* [1989] 1 Lloyd's 213 [79]. cf *Sanders v Vanzeller* (1843) 4 QB 260.

as a whole in one stage, in preference to viewing each criterion in isolation.[370] While this may seem to have marked an end to the prolonged uncertainty on the fate of the *Brandt v Liverpool* theory, however, special note should be taken, that it has long been established that any implied contract was a matter of fact[371] to be decided on the circumstances of each case.[372] In light of this, unless the facts in another case are precisely identical, none of the previous decisions can be binding authority for more than that, or compel a judge to reach a particular conclusion on the fact.[373]

Last but not least, a crucial facet of the *Brandt* device is that the implied contract might, but need not, be on all fours with the pBL terms. It has been held in *The St. Joseph*[374] that the proper law of a contract to be implied may be different from the proper law of the original contract of carriage, viz. the pBL, as a result of which the receivers in that case were not affected by the package or unit limitation provided for by the Hague Rules. In the same vein, it follows that not all of the terms contained in the original eBL contract would necessarily be imported into the implied contract between the carrier and a new holder. Mustill J has put the point in *The Athanasia Comninos*:[375] 'the consignee, by taking delivery of the goods under the bill of lading, assumes only those rights and liabilities created by the contract of carriage which concern the carriage and delivery of the goods, and the payment therefor'.[376] To the extent that a carrier is concerned, it is certainly desirable, to ensure that the original contract and the new contract are back to back, not least those key terms such as the governing law clause. The implied contract, as such, cannot be treated as a complete transfer of the rights and liabilities contained in the original contract.

In light of the above observations, it is reasonable to conclude that, while it is technically possible to solve the typical consideration problem by crafting a transactional process for the eBL in which the holder provides some benefits and promises to the carrier, the implied contract provides only a piecemeal solution that does not necessarily transfer contractual rights to a third party. A possible result is that a carrier might be bound by similar terms

[370] *The Gudermes* [1993] 1 Lloyd's Rep 311.
[371] That is mainly, the conduct of the parties: *The Aramis* [1989] 1 Lloyd's 213.
[372] *Sanders v Vanzeller* (1843) 4 QB 260; *Kaukomarkkinat O/Y v Elbe Transport-Union GmbH (The Kelo)* [1985] 2 Lloyd's Rep 85; *The Elli 2* [1985] 1 Lloyd's Rep 107 (CA); *The Aramis* [1989] 1 Lloyd's Rep 213.
[373] *The Gudermes* [1993] 1 Lloyd's Rep 311.
[374] [1933] P 119. A similar voice was sounded in *The Elli 2* [1985] 1 Lloyd's Rep 107.
[375] *The Athanasia Comninos* [1990] 1 Lloyd's Rep 277 281, where it was held that the consignee did not assume the shipper's responsibility for the shipment of dangerous goods.
[376] ibid 281.

between itself and different parties down the chain. Besides, there has been a lot of obscurities caused by the courts' failure to enunciate harmonized guidelines on the application of the doctrine, and one cannot help but notice the considerable amount of judicial discretion to be exercised in each specific case in assessing the utility of implied contracts. Even if it is accepted that some implied contract has been agreed, the extent to which a term can be implied is rather limited as a corollary of the decision in *The Athanasia Comninos*.

It is therefore the author's considered opinion that parties cannot afford to adopt the *Brandt v Liverpool* technique, as it will lead them nowhere but to uncertainty.

4.3 Statutory 'force of law'

4.3.1 COGSA 1992

To put it in a nutshell, as English law currently stands, COGSA 1992 prescribes the circumstances under which a third party may acquire the rights under a contract of carriage, as well as the circumstances in which attendant liabilities shall fall to that party. COGSA 1992 applies to shipping documents, namely negotiable bills of lading, sea waybills (including straight bills of lading) and ship's delivery orders. No express reference to eBLs is made, but power is given under s. 1(5) which allows for the making of provision for the application of COGSA 1992 to situations where 'an electronic communications network or any other information technology is used'.[377] Be that as it may, no such regulations have yet been put in place. Two strands of thought have therefore developed. The dominant view, to which the author concurs, is that for the time being, eBLs do not fall under the remit of COGSA 1992, for that had COGSA 1992 been intended to apply to electronic communications, the design of s. 1(5) would be entirely unnecessary.[378] The dissenting voice raised in some quarters, however suggests that the presence of the sub-section may indicate that an eBL is to be treated as a document for the purpose of COGSA 1992.[379]

[377] s 1(5) of COGSA 1992.
[378] See eg S Baughen, *Shipping Law* (7th edn, Routledge 2019) 47; H Beale and L Griffiths, 'Electronic Commerce: Formal Requirements in Commercial Transactions' [2002] LMCLQ 467, 477; P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 356.
[379] R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 2.120. Reference was made to Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions* (19 December 2001). However, in that advice the Law Commission clearly stated that an electronic bill of lading (referred to as "electronic contracts for carriage") is not within the ambit of COGSA 1992: see para 4.9. See also

In any event, however, the lack of a specific regulatory and legal protection regime does not mean that traders using eBLs in facilitating shipping transactions can never invoke English law, as it only applies to paper documents – there is nothing in English law to the extent that it does not apply to electronic documents; it is simply that, hitherto, there has been no case law or statutory provisions in place with an explicit intent to cover electronic transactions in relation to the carriage of goods by sea.

Nonetheless, as already noted by the Law Commission in its 2001 advice on the use of electronic documents in an e-commerce context, the provisions of COGSA 1992 can always be replicated by way of contract, if parties using electronic contracts for carriage choose to do so.[380] This brings us to the next question: can we set up a contractual equivalent of the legal structure under COGSA 1992,[381] or go to the simple expedient of an incorporation of the whole legislation,[382] deeming eBLs to be documents for the purpose of COGSA 1992 instead? There are various legal obstacles to this approach. The main sticking point seems to lie in the notion of possession, which is one of the basic concepts underlying the operation of COGSA 1992. In order to acquire the rights of suit under s. 2, a claimant must be a lawful holder as prescribed in s. 5(2), where material possession of the bill of lading is expressly required 'as a result of the completion, by delivery of the bill, of an indorsement of the bill'.[383] It has been convincingly argued by *Carver*, therefore, that:[384]

> [The concept] cannot be applied, except by way of somewhat inexact metaphor, to electronic documents; for even if their transmission could be said to give the recipient of the electronic document a kind of possession of them, it would not of itself deprive the sender of such possession. The transmission of a paper document, by contrast, not only gives the recipient possession of it but necessarily deprives the sender of that possession.

A Rogers, J Chuah and M Dockray, *Cases and Materials on the Carriage of Goods by Sea* (5th edn, Routledge 2019) 324; N Gaskell, *Bills of Lading 2e: Law and Contracts* (Routledge 2017) 1.61; M Brindle and R Cox, *Law of Bank Payments* (5th edn, Sweet & Maxwell 2017) para 7-083.

[380] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions* (19 December 2001) para 4.9.

[381] Wave claims its legal framework to be imitating the provisions of COGSA 1992, rather than relying on novation and attornment: see L Starr and J Tan, 'Electronic Bills of Lading – An Update Part II' (*ukpandi.com*, 1 April 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-ii> accessed 21 June 2022. For a description of Wave see section 2.3.2.

[382] This is indeed what e-title does: see L Starr and J Tan, 'Legal Briefing: Electronic Bills of Lading' (*UKP&I*, May 2017) <https://www.ukpandi.com/fil eadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 16 June 2022. For a description of e-title see section 2.3.2.

[383] s 5(2) of COGSA 1992.

[384] G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 8-096. For more on the issue of possession, see ch 5.

There are, of course, other difficulties in implementing COGSA 1992 in an electronic environment through a network of contractual arrangements. Under COGSA 1992, s. 2(1) operates as a statutory assignment of contractual rights exempting itself from any further requirement set out by the general law relating to the assignment of choses in action;[385] however, once placed in the context of a contractual machinery, the stipulation would lose this special statutory treatment, such that the passing of rights under the contract would not give rise to incidental liabilities. This would amount to one of the ordinary contractual assignments and would therefore be subject to the statutory requirements for a valid legal assignment.[386] The concept and legal requirements of assignment will be further discussed in the assignment part below.[387]

Another concern is related to the liabilities of the holder under the Act. While COGSA 1992 explicitly provides that the rights of the holder are extinguished if he transfers the bill of lading to a subsequent holder,[388] there is no equivalent provision for the extinction of liabilities; although s. 3(3) makes it clear that the liability of the original party to the contract is reserved come what may, it makes no mention of the position of an intermediate holder, in terms of whether an intermediate holder should remain liable after the transfer of the bill of lading. The answer was rather provided in *The Berge Sisar*,[389] where the House of Lords unanimously opined that the liability of the intermediate holder is divested once he makes the transfer of the bill to another party. The point to be made here is that the reasoning in *The Berge Sisar* is only confined to situations that are covered by COGSA 1992 and cannot be said to be equally applicable to eBLs under a contractual framework.[390]

[385] See the discussion on assignment below at section 4.5 below. See too G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 8-097.
[386] Inter alia, the formality of the assignment must be in writing in accordance with the Law of Property Act 1925, s 136.
[387] See section 4.5.
[388] COGSA 1992, s 2(5).
[389] *Borealis AB v Stargas Ltd (The Berge Sisar)* [2001] 1 Lloyd's Rep 663 (HL), upholding the decision of the majority of the Court of Appeal: [1998] 2 Lloyd's Rep. 475. In this case the court found that the additional condition for liability under s 3(1)(c) of COGSA 1992, the demand for delivery, has not been fulfilled, which has led to some to view this dictum to be obiter: R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 9.114. cf *The Aegean Sea* [1998] 1 Lloyd's Rep. 39 63, where a different albeit preliminary view (arguably too, obiter) is expressed.
[390] ibid [41] (Lord Hobhouse): '… the answer to the question must be found by seeking out from the drafting of the Act and the report, pursuant to which the Act was drafted, what is the scheme of the statutory provisions and what principles they reflect.'

It follows that a simple verbatim reproduction or incorporation of COGSA 1992 could not resolve the problems beyond the scope of the legislation, which would instead have to be resolved by the common law in the absence of law reform.[391]

4.3.2 Contracts (Rights of Third Parties) Act 1999

Another statutory exception to the stringent rule of privity of contract is the Contracts (Rights of Third Parties) Act 1999,[392] whereby under s. 1(1) a person who is not a party to a contract, also known as a third party, is entitled to bring an action in its own right to enforce a contractual term. It is important to note that the 1999 Act does not confer on rights on a third party under a contract for the carriage of goods by sea 'contained in or evidenced by a bill of lading, sea waybill or a corresponding electronic transaction',[393] thereby lending some support to the hypothesis that eBLs are in any case ruled out of the remit of the 1999 Act.[394]

The author would argue, however, that this is not the only possible interpretation of the provision. It is likely, at least in theory, for the 1999 Act to apply to paperless documentation. First, s. 6(5) of the 1999 Act exempts 'a contract for the carriage of goods by sea'. S. 6(6) goes on and defines this as a contract 'contained in or evidenced by a bill of lading, sea waybill or a corresponding electronic transaction'. The meaning of 'a corresponding electronic transaction' is further explained in s. 6(7)(b) as 'a transaction within section 1(5) of that [the 1992] Act which corresponds to the issue, indorsement, delivery or transfer of a bill of lading, sea waybill or ship's delivery order'. It is at least arguable, therefore, that until any regulations are made under s. 1(5) of COGSA 1992, the exceptions prescribed under ss. 6(5)-6(7) do not exclude the operation of the 1999 act where an eBL is used, if a semantic analysis of the wording is undertaken.[395]

Second, the purpose of limiting the applicability of the 1999 Act as set out in s. 6(6) and (7) has been articulated as subjecting those third parties to the contracts of carriage to the special statutory scheme created by COGSA 1992, and excluding those to which COGSA 1992 could potentially apply under s. 1(5) of that Act (e.g., a contract for the carriage of goods by sea

[391] Note that potential legislative changes are underway: see section 6.2.2. If the draft Bill is put into force, then all the problems identified here will automatically vanish.
[392] Hereinafter referred to as the 1999 Act.
[393] See the 1999 Act, ss 6(5)-(7).
[394] J Cooke, T Young and M Ashcroft, *Voyage Charter* (4th edn, Informa Law 2014) para 85.225; S Baughen, *Shipping Law* (7th edn, Routledge 2019) 27; M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.22.
[395] See too P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, fn 199.

evidenced by an electronic Act [sic] of lading).[396] What the 1999 Act seeks to exclude are the parties who ought to be regulated by COGSA 1992, so as to avoid any future gaps, contradictions and duplication in coverage. As already established, the application of COGSA 1992 to eBLs would await future regulations being put forward,[397] therefore leaving the door open for the application of the 1999 Act to confer rights to an eBL transferee.

Nonetheless, supposing it has been made clear that an eBL is not a 'bill of lading' for the purpose of COGSA 1992, is it desirable to bring it within the realm of the 1999 Act? Three points call for discussion. First, by s. 1(3) of the Act, the third party must be expressly identified in the contract by name, class or description. It is therefore unlikely that an eBL holder would be able to satisfy this requirement, as in most cases the electronic document would simply have the words "order (or assigns)" inserted instead of a named consignee, the terms would probably be too broad to identify a class of any kind so as to bring the holder within the scope of s. 1(3).[398] *A fortiori* if it is a bearer bill, in which case the bill would conceivably be endorsed in blank with no identifiable name whatsoever.

Second, the 1999 Act only deals with the conferral of the benefit, not the imposition of liabilities under a contract on the third party, thus a separate solution is still required to transfer liabilities arising hereunder. A final point is devoted to the ground of commercial certainty and expedience. The underlying theory is that to have a parallel legislation for eBLs whereas its paper equivalent is still governed by the old COGSA 1992 scheme would generate confusion and uncertainty in the law; rather, a much sensible litigation strategy should be pursued by keeping the law of paper and eBLs in its entirety, just as what 1999 Act has achieved by intentionally excluding a third party that comes within the sphere of COGSA 1992 from relying on it to enforce a contract for carriage of goods by sea.[399]

---

[396] Contracts (Rights of Third Parties) Act 1999 – Explanatory Notes, para 27. This is even so notwithstanding the fact that no new regulations have been made under s. 1(5) of COGSA 1992 to make special provisions for eBLs.

[397] See sections 1.1, 3.4.3(2), and 4.3.1.

[398] Even if it could be established that the holder was impliedly identified by a process of construction of the relevant term, that would not be justifiable under s 1(3) of the 1999 Act: *Chudley v Clydesdale Bank Plc* [2019] EWCA Civ 344, [2019] 2 All ER (Comm) 293, [77]; *Starlight Shipping Co v Allianz Marine and Aviation Versicherungs AG* [2014] EWHC 3068 (Comm); [2014] 2 Lloyd's Rep 579 [88]; *Avraamides v Colwill* [2006] EWCA Civ 1533 [19]; see also *Laemthong International Lines Co Ltd v Artis (The Laemthong Glory) (No 2)* [2005] EWCA Civ 519, [2005] 1 Lloyd's Rep 632 [48].

[399] essDOCS has deliberately excluded the general operation of the 1999 Act in favour of an explicit contractual mechanism for the transfer of rights and responsibilities: DSUA 2021.1, T&C 19.8. See also the discussion of International Group Requirements for Electronic Trading System Providers, Version 5/12/2017, s 6.1.1.

As we have seen from the last few paragraphs, it is reasonable to conclude that the existing statutory interventions, COGSA 1992 and the 1999 Act considered above that aim to bypass the harsher consequences of the privity rule and let a third party to enforce a contract in his own right, are tailored to the needs to facilitate the use of traditional paper-based bill of lading and does not fit happily with the situation where an eBL is involved; this is an area that would require future legislation to regulate.

4.4 Bailment on terms

4.4.1 Law of bailment in the maritime space

Bailment is not new a concept in common law. It has its roots in English property and contract law, which can be traced back to as early as the medieval period and had been well defined in the early eighteenth century in the landmark case *Coggs v Bernard*[400] for the first time. Over the past century or so, the law of bailment has constantly been shaped by the evolution of contractual terms, so much so that, it no longer acted as the core part but rather is pushed into a marginal area of the world stage of shipping law. In fact, it has already been criticized that allowing the coexistence of bailment action alongside the contractual regime that COGSA 1992 seeks to make exclusively flies in the face of the policy under the legislature, that being to funnel all rights of suit into the hands of a single claimant (namely the lawful holder of the bill of lading as defined under s. 5(2) of the legislature), and to remove causes of actions sounding in other areas of substantive law by anyone else.[401] Given that the author of this thesis is of the opinion that as the English law currently stands COGSA 1992 does not govern eBLs,[402] it can be argued that this concern is no longer valid.[403]

Reduced to its fundamentals, to quote Sir Richard Aikens, the principles of the law of bailment can be summarized as follows:[404]

> (1) A bailment arises when a person, the bailee, takes exclusive possession of a chattel which is either the property of another, the bailor, or to the possession of which that other has the immediate right.

[400] (1703) 2 Ld Raym 909.
[401] N Palmer, *Palmer on Bailment* (3rd edn, Sweet & Maxwell 2009) para 20-014. See also P Todd, *Bills of Lading and Bankers' Documentary Credits* (4th edn, Informa Law 2007) ch 5.
[402] See sections 1.1, 3.4.3(2), and 4.3.1.
[403] Although note that the sentiment is likely to regain its footing if the Law Commission's draft Bill is implemented: see section 6.2.2.
[404] R Aikens, 'Which Way to Rome for Cargo Claims in Bailment When Goods Are Carried by Sea?' [2011] LMCLQ 482.

(2) The relationship and its consequent obligations arise because the taking of possession in the circumstances involves an assumption of responsibility for the safekeeping of the goods.
(3) A bailment can be for reward or gratuitous.
(4) Reservation by the bailor of the right to require that the chattel be ultimately restored to his own possession or his order is not necessary in either a contractual or a gratuitous bailment.[405]

No attempt will be made here to provide a full analysis of the law of bailment, but suffice to say that the delivery of goods for carriage by sea is a species of bailment for reward,[406] which comes into existence when the shipper entrusts its goods temporarily to the carrier without intending to give up title, giving rise to a voluntary assumption of possession of another's goods by the bailee.[407] Usually, where a pBL is contemplated under a contract of carriage, the bailment will be on the terms of the pBL on which the carrier voluntarily accepts custody of the goods.[408]

In this regard, in cases where it is alleged that a contract has come into being between a third-party pBL holder and the carrier, the argument may be based on a bailment relationship between the two. The overall premise for establishing such a relationship, however, is that there would have to be an attornment[409] by the carrier, as bailee of the goods, to the new pBL holder, acknowledging that he is now holding the goods for the benefit of the holder, unless the shipper can somehow be regarded as having acted as an agent[410] on behalf of the transferee who was nominated as receiver of the shipped goods in the pBL.

Given that in modern international trade where sale of goods while afloat is not uncommon, a pBL may have to pass through multiple hands before it finally reaches the final buyer, it is manifestly impractical for the carrier to attorn to every transferee during the course of the sea transit. In particular, where the goods are made deliverable to a bearer, there can be no

[405] ibid 483.
[406] *Volcafe Ltd & Others v Compania Sud Americana De Vapores SA* [2018] UKSC 61 [33], referring to *Aktieselskabet de Danske Sukkerfabrikker v Bajamar Compania Naviera SA (The Torenia)* [1983] 2 Lloyd's Rep 210 216.
[407] N Palmer, *Palmer on Bailment* (2nd edn, Sweet & Maxwell 1991) 37-40.
[408] *Transcontainer Express Ltd v Custodian Security Ltd* [1988] 1 Lloyd's Rep 128. Contracts of carriage can and often do co-exist with the relationship of bailor and bailee, but this is not always the case: see the extraordinary case of *East West Corp v DKBS 1912* [2003] 1 Lloyd's Rep 239, the shipper was held to have transferred its contractual rights other than its bailment rights to the named consignee.
[409] More on attornment see the discussion below in ch 5.
[410] The transferee can by an application of the agency reasoning become privity to a contract of carriage of goods by sea with the carrier: *East West Corp v DKBS 1912* [2003] EWCA Civ 83, [2003] QB 1509 [34]-[35]. However, the approach does not always lend itself well in a shipping context: see for example G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 5-003.

question of the carrier's being able to make the acknowledgement of title necessary for the creation of an attornment, as he simply cannot identify who is the pBL holder.[411]

On the other hand, it is worth stating that there had been much debate in the legal literature and case authorities surrounding the question of whether the transfer of a pBL also transfers rights under a bailment by virtue of the principle of "transferable attornment" or "attornment in advance".[412] A detailed analysis of the relevant materials is beyond the scope of discussion, but it is sufficient to say that the prevalent view is that the mere transfer of a pBL, on its own, does not constitute an attornment. It would therefore appear that the transfer of an eBL would not result in an attornment to the new holder either.

Being constrained by the bottleneck of the current practice in the maritime industry that heavily relies on manual processes, bailment therefore would not be able to function in an effective manner, since the technique could not, of itself, overcome the age-old impasse existing in the common law with which the thesis is concerned here: the rights and liabilities arising under the pBL can only be enforced by or against an original party to the contract, the shipper, as a result of the principle of privity of contract, and a transferee of the pBL is precluded from relying upon the terms of it.

4.4.2 Relevance of bailment in the paperless context

Technically, provided that the underlying eBL transaction processing system is properly set up, the deployment of the attornment as a way to "transfer" contractual rights and liabilities to third parties could function effectively. The idea is that by the operation of the system an attornment will take place each time with the transfer of an eBL, confirming that the carrier is now holding the goods to the new holder's order. Where there is a string of sub-sales, the system would have to make sure a contiguous chain of attornments is recorded in a complete, auditable and timely manner.

---

[411] Bear in mind that a mere promise to the shipper to deliver the goods to the shipper's order could not be deemed as an attornment to the holder: see M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-139.

[412] See eg *Borealis AB v Stargas Ltd (The Berge Sisar)* [2002] 2 AC 205 [18]; P Todd, *Bills of Lading and Bankers' Documentary Credits* (4th edn, Informa Law 2007) para 7.76; *East West Corp v DKBS 1912* [2003] EWCA Civ 83, [2003] QB 1509 [42]; N Palmer, *Palmer on Bailment* (3rd edn, Sweet & Maxwell 2009) para 20-015; P Todd, 'The Bill of Lading and Delivery: the Common Law Actions' [2006] LMCLQ 539, 558; M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) paras 18-091-3; R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 9.62; GH Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, Sweet & Maxwell) paras 6-012-5.

This could be achieved either through a centralized database solution, for example a title registry as adopted by Bolero, acting as the carrier's agent in performing the act of attornment, or in a decentralized way, for instance by using a blockchain. The immutable and tamper-proof nature of the blockchain technology makes it well placed for tracking data and recording transactions, hence is considerably a more reliable method, in the sense that it largely mitigates the probability of a broken chain of attornments. Conveniently, appropriate self-executing smart contracts could also be utilized, preferably with the facilitation of the blockchain, to help streamline processes and implement provisions automatically. The transfer of an eBL and the update on the corresponding chain of attornments would be executed every time the conditions prescribed in the smart contract are met. The trigger condition for starting the smart contract engine can be anything as simple as receiving a payment from the buyer's bank. Such a hypothetical model could allay concerns about the impracticality and disruptive nature of successive attornments in traditional paper-intensive shipping practices.

Several problems still persist, however, even when the transferee has gained rights of suit in bailment as a result of the attornment aforementioned. In the first place, the justification for the rationale of the concept of bailment on terms has been focusing on restricting the bailor's rights by qualifying the bailee's responsibility towards the bailor as one of custodial duties;[413] no attempt has been made to persuade the English Court to go beyond and compel the bailor to perform its positive obligations, such as the duty to pay freight due under the relevant eBL.[414]

In the second place, with a contractual bailment, the relevant terms of the bailment will normally be those of the eBL contract; upon an attornment taking place, while there is no *a priori* reason[415] why the terms of an antecedent, defunct bailment should have any bearing on a separate new bailment between overlapping, but not identical parties, it is generally assumed that the carrier continues to hold upon the same terms as it held of his former bailor, the preceding bill of lading holder. This is not a rule of law, however. In *The Gudermes*,[416] goods were shipped by a voyage charterer, the Court of Appeal found that the terms of the

[413] *East West Corp v DKBS 1912* [2003] EWCA Civ 83, [2003] QB 1509 [69].
[414] G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 5-007.
[415] Some suggest this could be justified on the grounds of commercial expediency: see generally N Palmer, *Palmer on Bailment* (3rd edn, Sweet & Maxwell 2009) ch 25.
[416] *The Gudermes* [1993] 1 Lloyd's Rep 311.

bailment were on the terms of the charterparty differing from those of the bill of lading. This would be most undesirable as well as unfair to the new eBL holder, who enters into a bailment relationship with the carrier by way of attornment, not only because the charterparty terms may well appear to be more favourable to the shipowner, but also because of the fact that he would have to be bound by a contract he has neither seen nor agreed to the clauses contained therein.

It follows, therefore, that while new technologies have made it possible for maintaining chains of attornments, the bailment on terms doctrine still fails to provide an answer to the privity of contract argument for the reasons identified above.

4.5 Assignment

Apart from the solutions provided by the common law and the legislation, parties could also, in principle, resort to contractual manoeuvres, i.e., assignment and novation. It further follows that the cure for the eBL may be found in contract.

4.5.1 Difficulties posed by statutory requirements

The possibility of using assignment as a method to transfer the shipper's contractual rights against the carrier to the transferee had, in fact, once been considered as an alternative to the statutory reform of the 1855 Act.[417] The effect of an assignment is to allow the assignee to stand in the shoes of the assignor, and take over the benefit of the contract presently owned by the assignor. In the event of a breach from the obligor, the assignee has standing to sue in its own name under the contract of carriage. No consent from the obligor, the benefit of whose obligations have been assigned, is required in order to perfect the assignment.[418]

However, the method was ultimately not adopted due to various technical and practical barriers. S. 136 of the Law of Property Act 1925 requires legal assignments of choses in action to be in writing, meaning written notice should be served to the carrier upon each transfer of the bill – this requirement is rather cumbersome to satisfy in cases where chains of sales are involved. Besides, a chain of notice of assignments would have to be kept at all

[417] English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 2.13. It was also suggested as a solution in *Leigh and Sillavan Ltd v Aliakmon Shipping Co Ltd (The Aliakmon)* [1986] AC 785 (HL) 819 (Lord Brandon).
[418] *Mulkerrins v Pricewaterhouse Coopers (firm)* [2003] UKHL 41, [2003] 1 WLR 1937 [13].

relevant times along with the passing of the pBL,[419] and the trigger for the assignment would have to rest on the assignor, the shipper, who may not be willing to take great pains to co-operate, especially where he has stronger bargaining power in the market.[420]

Successive assignments, however, could be set up without difficulty in an electronic setting. This could be effected through digital trade platforms acting as third-party intermediaries, or more preferably, via the medium of blockchain technology, with smart contracts running on it. Apropos the latter, a trigger for assignment could be introduced in the smart contract to be imbedded in the blockchain, to the effect that when an eBL is transferred from one user to another, and upon certain conditions are met,[421] an assignment process will be automatically executed in accordance with the terms of the smart contract and recorded in the blockchain. In the case of an eBL trading platform, an electronic message could be sent via the platform on behalf of the transferor each time an eBL changes hands, confirming that the rights under the eBL contract has now been assigned to the new holder of the bill. In all cases, where commercially viable, it would be most desirable for parties to record all the agreements reached between them in the system, so that the assignee would be able to discern the contours of the rights it has acquired.[422]

Issues with compliance of statutory formalities, too, are susceptible of being overcome, especially in view of the current climate[423] in the court. At first blush, it might seem that an electronic form of notice does not comply with the formalities of 'express notice in writing',[424] in the sense that it is not something of physical substance that can be held and touched. It should be recalled that, while s. 8 of the Electronic Communications Act 2000 confers the appropriate Minister the power to modify existing legislation for the purpose of authorising or facilitating the use of electronic communications, including for the doing of anything which under any such provisions is required to be or may be done or evidenced in writing,[425] no order has yet been made under the Act.

---

[419] This also makes the whole process vulnerable, since it takes only one break to destroy the chain: see P Todd, *Bills of Lading and Bankers' Documentary Credits* (4th edn, Informa Law 2007) para 5.20.
[420] For example, where the shipper is a government agency: see B Sas, 'Legal Aspects of Risk Management and Forward Oil Trading: The Forward Oil Markets and their Contracts' (1989) 7 JENRL 1, 15.
[421] The trigger conditions could be any desired degree of complexity, as long as they can be implemented by a computer program, eg payment against tender of the eBL.
[422] This is mainly to deal with the undesirable consequence of the 'subject to equities' principle: see section 4.5.2.
[423] See section 3.1.
[424] Law of Property Act 1925, s 136(1).
[425] Electronic Communications Act 2000, s 8(2)(a).

However, there were already calls by the Law Commission as early as almost a decade ago for a broader interpretation of the meaning of writing within the Interpretation Act 1978[426] to reflect technological developments.[427] If this proposition is accepted, a chain of electronic messages capable of representing or reproducing words in a visible form would be effective to give the carrier a notice of assignment as required by the statute. Recent case law seems to favour this argument. Notably, it has been held in *Golden Ocean Group v Salgaocar Mining Industries*[428] that a contract of guarantee contained in a long sequence of emails is to be regarded as an agreement in writing for the purpose of the Statute of Frauds 1677 – this is notwithstanding the fact that no amendment was ever made hereunder by virtue of the 2000 Act. By extension, the attitude of the court in that case could nonetheless provide a pointer to how the 1925 Act should today be construed in a digital context.[429]

4.5.2 'Subject to equities' principle

A salient feature of an assignment is that it takes effect 'subject to equities'.[430] The rule was developed to protect the obligor from any potential injustice that may be caused by such act.[431] In the context of carriage of goods by sea, this would mean that the carrier would be entitled to raise against the transferee of an eBL any defence that could have been raised against the shipper; the fact that the transferee did not take note of any external agreement between the original parties to the contract that limited or had the effect of limiting their rights under eBL at the time of the assignment is immaterial, as it was its duty to make enquiries.[432] The transferee of an eBL therefore would not have all the rights of a *bona fide* holder for value. This would go in direct counter to the common law position in respect of the relationship between the carrier and a transferee, viz. inter se the bill of lading is not merely evidence of the contract of carriage but the contract itself,[433] independent of the antecedent

[426] Interpretation Act 1978, Sched 1 defines writing as including: 'typing, printing, lithography, photography and other modes of representing or reproducing words in visible form, and expressions referring to writing are construed accordingly.'
[427] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions* (19 December 2001) para 3.7.
[428] [2012] EWCA Civ 265, [2012] 1 WLR 3674.
[429] cf S Baughen, *Shipping Law* (7th edn, Routledge 2019) 26.
[430] Law of Property Act 1925, s 136(1). See *Mangles v Dixon* (1852) 3 HLC 702 731; *Edward Nelson & Co Ltd v Faber & Co Ltd* [1903] 2 KB 367.
[431] L Gullifer, *Goode and Gullifer on Legal Problems of Credit and Security* (6th edn, Sweet & Maxwell 2017) paras 7.70-7.75.
[432] See for example *Bibby Factors Northwest Ltd v HFD Ltd* [2015] EWCA Civ 1908, [2016] 1 Lloyd's Rep 517.
[433] *Leduc v Ward* (1880) 20 QBD 475.

contract between the carrier and the shipper, and does not admit of any extraneous evidence that may vary or prove contradictory to the terms contained therein.[434]

Further, where the shipper were a charterer, the assignment would be of rights under the charterparty which might not enable a carrier to take advantage of the one-year time bar under Art. III(6) of the HVR; and an assignee in the instant case might not take advantage of the defence under Art. III(8) of the HVR either.[435] Whilst the present common law standpoint is based on a desire to promote commercial convenience,[436] an assignment, quite to the contrary, might have the opposite effect of undermining the independence and autonomy[437] of the eBL contract.

Most often it is the case, as with the paper world, that the transferee might be only a trader in the middle of a long supply chain, thereby giving rise to successive assignments as the transferee passes the bill on. However, there is also the question of whether the rights under the eBL acquired by the next holder as a subsequent assignee are subject to the agreements reached between its predecessor and the carrier. The authority for the view that an assignee is not liable to equities available against an intermediate assignee but only to those available against the original assignor can be found in *The Raven*,[438] where Parker J opined that 'The rule that an assignee takes subject to equities means, in my judgment, equities against the assignor and does not include claims against an intermediate assignee'.[439]

With respect, it remains somewhat unclear the exact basis of Parker J's sentiment, as the judge did not advance the argument significantly further. Indeed, one does not see why claims or defences against an intermediate assignee should be distinguished from those made against the original assignor. An assignee cannot acquire a greater right than the assignor possessed prior to the assignment; this is simply a straightforward application of the *nemo dat*

[434] C Debattista, 'The Bill of Lading as the Contract of Carriage – A Reassessment of *Leduc v Ward*' (1982) 45 MLR 652, 660.
[435] See English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 2.13.
[436] The reasons why the position between carrier and transferee is treated differently from that between carrier and shipper have been boiled down in G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 3-010.
[437] R Harling, 'eB/Is – the Legal Perspective Legal Mechanisms of the ESS Databridge Services and Users Agreement (2011)' London Shipping Law Centre – Maritime Business Forum, PART C.
[438] *The Raven* [1980] 2 Lloyd's Rep 266.
[439] ibid 273. See also *Re Milan Railways Co* (1884) 25 Ch D 587 593.

rule.[440] It has therefore been suggested that a subsequent assignee should at least be made liable in circumstances where such claims or defences against a mesne assignee arose prior to the notice of the assignment being given.[441] However, were this view to be adopted, it is conceivable that after numerous transactions having been conducted, the consignee of an eBL might well find himself in a state of not knowing exactly what rights he has acquired under the instrument, because he is potentially subjected to any equities the carrier has against all the preceding intermediate holders.

The principle of 'subject to equities' may nevertheless in some cases be excluded[442] or modified[443] by statute. Where a carrier is subject to the statutory assignment contained in COGSA 1992, he is estopped as against the assignee of a bill of lading, who has become the lawful holder within s. 5(2)(b), from denying the truth of the statements in the bill,[444] on the ground that the bill is conclusive evidence of the receipt for shipment of the goods between them.[445] Unfortunately, given that COGSA 1992 only has effect in relation to paper shipping documents,[446] the transferee of an eBL would not therefore have the benefit of the estoppel enjoyed by the holder of a paper bill of lading.

There is yet a further corollary derived from the principle: namely, that an assignee of a chose in action has no substantial claim against the carrier for the loss suffered by himself but not the transferor, since the obligor's liability to the assignee must be measured by the loss which would have been suffered by the assignor had there been no assignment.[447] A similar reasoning could apply to an eBL scenario, if the assignment model is chosen, where the buyer to whom the goods were shipped makes a claim against the carrier under the eBL and as the shipper (who has a contractual relationship with the carrier only) has not suffered any loss, he cannot claim against the carrier.

The problem could perhaps be circumvented if the factual matrix of the case comes within what is called *The Albazero* exception. The exception, whose genesis is found in *Dunlop v*

[440] L Gullifer, *Goode and Gullifer on legal Problems of Credit and Security* (6th edn, Sweet & Maxwell 2017) paras 7.70-7.75; see also G Tolhurst, *The Assignment of Contractual Rights* (2nd edn, Hart Publishing 2016) para 8.95.
[441] E Peel, *Treitel's Law of Contract* (14th edn, Sweet & Maxwell 2015) para 15-043; G Tolhurst, *The Assignment of Contractual Rights* (2nd edn, Hart Publishing 2016) para 8.95.
[442] Bills of Exchange Act 1882, s 38(2).
[443] COGSA 1992 s 4.
[444] ie, by altering the original annotations or making further qualifications.
[445] COGSA 1992 s 4.
[446] See sections 1.1, 3.4.3(2) and 4.3.1.
[447] *Dawson v Great Northern & City Ry Co* [1905] 1 KB 260.

Lambert[448] but later refined in *The Albazero*,[449] is that there is an exception developed in contracts of carriage to the general rule of English law that an innocent party to a breach of contract may only recover damages for loss which he himself suffered.[450] As a result, the shipper could sue the carrier for breach of contract and recover from the carrier the loss sustained by the transferee occasioned by such a breach.[451] The rationale for the exception was that, where the shipper and carrier have contemplated that property in the goods may be transferred to third parties after the contract has been concluded, the shipper must be treated in law as having made the contract of carriage for the benefit of all persons who might after the time of contracting acquire interests in the goods.[452] The rule therefore does not apply in cases where no transfer of ownership has been contemplated in the course of commercial dealings;[453] this implies that *The Albazero* exception would not help a consignee of an eBL who has become the owner of the goods prior to assignment.

The scope and utility of the rule is however not confined to contracts of carriage; it has thereafter been applied to building contracts,[454] and has been extended radically to cases where the transfer of ownership takes place before assignment[455] and even to cases where no transfer of ownership is envisaged at all.[456] It remains unclear whether the same line of reasoning developed in the context of building contracts will be applied equally in carriage by sea cases.

Despite all this, one should always bear in mind that the law is far from clear on the precise limits of the *Albazero* exception. Uncertainty has been generated by the split judicial opinions in *Alfred McAlpine Construction Ltd v Panatown Ltd*.[457] There, two members of the majority in the House (Lords Clyde and Jauncey of Tullichettle) approved the extension of *The Albazero* exception in *Darlington*[458] and would have found for the assignor in that case, on

[448] (1839) 6 Cl & F 600.
[449] [1977] AC 774.
[450] *The Albazero* [1977] AC 774 844.
[451] *The Albazero* [1977] AC 774 846.
[452] *The Albazero* [1977] AC 774 847 (Lord Diplock).
[453] *Alfred McAlpine Construction Ltd v Panatown Ltd* [2001] 1 AC 518 545, 583 (Lord Goff and Millett, dissenting).
[454] *St Martins Property Corpn Ltd v Sir Robert McAlpine Ltd* [1994] 1 AC 85.
[455] *Offer-Hoar v Larkstore Ltd* [2006] EWCA Civ 1079, [2006] 1 WLR 2926, applying Staughton LJ's analysis in *Linden Gardens Trust v Lenesta Sludge Disposals* (1992) 57 BLR 57 [80]-[81]; *Pegasus v Ernst & Young* [2012] EWHC 738 (Ch).
[456] *Darlington Borough Council v Wiltshier Northern Ltd* [1995] 1 WLR 68, following *St Martins Property Corp Ltd v Sir Robert McAlpine & Sons Ltd* [1994] 1 AC 85, HL.
[457] [2001] 1 AC 518.
[458] *Darlington Borough Council v Wiltshier Northern Ltd* [1995] 1 WLR 68.

that basis if it were not for the Duty of Care Deed which gave the assignee direct contractual rights against the obligor,[459] but Lord Goff and Lord Millett dissented on this point, arguing that the adoption of *The Albazero* exception was in any way inapposite,[460] and that the extension of the principle in *Darlington* was difficult to justify.[461] Furthermore, *Panatown* has since received mixed response from courts, as indicated by later cases.[462]

Nevertheless, it is always possible to make provisions to contract out of the operation of the doctrine, since priority should be given to party autonomy when it appears from the nature or terms of the contract that it must have been intended to be assignable free from and unaffected by such equities.[463] A solution might therefore be to include in the original contract of carriage between the shipper and the carrier a stipulation, to the effect that a subsequent eBL holder taking the bill in good faith acquires title without regard to any equities that might exist between the carrier and the prior transferors, thereby taking advantage of the 1999 Act to enshrine the rights of a third party.[464] However, as the above observations illustrate, deploying the statute in an eBL context can be somewhat problematic. The idea seems also run counter to the consideration of simplifying and consolidating in one place the law governing bills of lading in general, be it paper-based or electronic.[465] Another option might be for the carrier to provide an extra contractual warranty directly to the transferee of the eBL.[466] At any rate, it can scarcely be supposed that the carrier, who is often in a stronger bargaining position, would consent to such an agreement to its detriment

[459] *Alfred McAlpine Construction Ltd v Panatown Ltd* [2001] 1 AC 518 531, 566. See also M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) fn 1450.
[460] *Alfred McAlpine Construction Ltd v Panatown Ltd* [2001] 1 AC 518 545.
[461] ibid 584-85.
[462] The reasoning of Lord Goff and Lord Millett in *Panatown* was followed in the most recent *BV Nederlandse Industrie Van Eiprodukten v Rembrandt Entreprises Inc* [2019] EWCA Civ 596 (CA). See also *Swynson Ltd v Lowick Rose LLP (In Liquidation) (formerly Hurst Morrison Thomson LLP)* [2017] UKSC 32; *Giedo van der Garde BV v Force India Formula One Team Ltd (formerly Spyker F1 Team Ltd (England)* [2010] EWHC 2373 (QB); *Mirant Asia-Pacific Construction (Hong Kong) Ltd v Ove Arup & Partners International Ltd* [2007] EWHC 918 (TCC); *Offer-Hoar v Larkstore Ltd* [2006] EWCA Civ 1079. cf *Rolls Royce Power Engineering Plc v Ricardo Consulting Engineers Ltd* [2003] EWHC 2871 (TCC); *DRC Distribution Ltd v Ulva Ltd* [2007] EWHC 1716 (QB).
[463] *Re Agra & Masterman's Bank* (1867) LR 2 Ch 391 397; *Re Blakely Ordinance Co* (1867) 3 Ch App 154 CA 159-60.
[464] The proposal assumes that the 1999 Act will be applicable to eBLs: see P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 367.
[465] R Harling, 'eB/Ls – the Legal Perspective Legal Mechanisms of the ESS Databridge Services and Users Agreement (2011)' London Shipping Law Centre – Maritime Business Forum, PART C. see also section 4.3.2.
[466] S Curtis, I Gaunt and W Cecil, *The Law of Shipbuilding Contracts* (Routledge 2020) 256, fn 21. This should have a similar legal effect to the Duty of Care Deed in *Alfred McAlpine Construction Ltd v Panatown Ltd* [2001] 1 AC 518.

without achieving some degree of compromise from the other side, now that he is no longer enmeshed in the network of COGSA 1992.

4.5.3 What about liabilities?

The law of assignment has been very clear that the burden of the contract can never be assigned.[467] As a direct consequence, an assignment of the eBL contract would not transfer liabilities, which still remains with the shipper. A carrier in this circumstance would be disturbed to find that he is not able to sue the consignee for outstanding freight or demurrage;[468] the shipper on the flip side, by maintaining the role of the contractual counterpart of the carrier, would always be liable vis-à-vis the carrier, for the consignee's actions.[469]

To safeguard the interest of both sides, therefore, it would be wise to have a separate subcontracting agreement that delegates the obligations embodied in the bill of lading all the way down the chain of the shipper to the intermediate sellers and thence the consignee. Again, disruptive technologies like blockchain and smart contracts are well suited for keeping a chain of subcontracting agreements. However, it is significant in this context to point out that, subcontracting is not a transfer of obligation per se but rather an arrangement to secure vicarious performance of contractual obligations; the original contractor is therefore still liable if the obligations are not performed or are performed badly.[470]

In light of the difficult position that the assignment would place the shipper in, it is therefore sensible for an eBL transferor and its immediate transferee to include in the subcontracting arrangement an indemnity clause, to the effect that the immediate transferee will indemnify its transferor in respect of any liabilities accrue post the assignment. The effectiveness of the

---

[467] *Linden Gardens Trust Ltd v Lenesta Sludge Disposals Ltd* [1994] 1 AC 85 103. See also *Tolhurst v Associated Portland Cement Manufacturers (1900) Ltd* [1902] 2 KB 660 668; *Nokes v Doncaster Amalgamated Collieries Ltd* [1940] AC 1014 1019; *Davies v Collins* [1945] 1 All ER 247 249; *Southway Group Ltd v Wolff* (1991) 57 BLR 33 52; *Don King Productions Inc v Warren* [1998] 2 Lloyd's Rep 176 193 (affirmed [2000] Ch 291). In paratheses, under Scots law, obligations can be assigned (as well as rights) unless there is an element of delectus personae.

[468] Even worse, if the shipper is charterer and there is a cesser clause in the charterparty, the carrier would be denied redress against anyone.

[469] Although the assignee may be liable in tort or, in certain situations, as sub-bailee. In *Pan Ocean Shipping Ltd v Creditcorp Ltd* [1994] 1 WLR 161, the House of Lords held that an assignee paying hire under a charterparty is not liable to the debtor (the charterer), either contractually or in the event of reinstatement, for the repayment of hire not paid for the ship during the period of the charter: on the contrary, the liability to repay unearned hire remains, by the express terms of the charterparty as set out in the facts, entirely with the assignor. This is the case whether or not the debtor has a defence to an action for non-payment of hire by the assignee.

[470] *Davies v Collins* [1945] 1 All ER 247 249 (Lord Greene). See also *Southway Group Ltd v Wolff* (1991) 57 BLR 33, (Lord Justice Bingham).

indemnity clause, however, would have to depend on the financial status of the transferee who gives such contractual promise, and so each transferor would always be exposed to the risk of its transferee's insolvency.[471] In another respect, recent case law has demonstrated the difficulty an intermediate party may find itself in a chain of indemnities, as the court will nevertheless hold it to its independent indemnity.[472]

As we have seen in this section, whereas it is impossible to ensure successive assignments are kept at all times throughout the life cycle of a pBL, a chain of assignments can be built up in an electronic environment, and issues with compliance of statutory formalities can prospectively be overcome. However, as the thesis has also explored, the utility and spectrum of the device are constrained by the straitjacket of the principle of 'subject to equities', and there are always damages issues with assignments.[473] In addition, the deployment of subcontracting agreements and indemnity clauses as an alternative measure to impose liabilities on third parties is not at all satisfactory, given that the indemnity down the eBL chain is only as good as the next person in the chain who gives it – this may not be a real problem in practice, but the industry would probably prefer not to take the risk – hence the preference for novation (which is the focus of the next section), should it be possible automatically to set it up, and to resolve the consideration problem.

4.6 Novation

Novation is, in essence, not regarded as a pathway to sidestep the privity issue. It is not strictly a transfer of both contractual rights and duties to a third party,[474] but the extinguishment of a contract between two parties and the creation of a new contract but in identical terms between one of the parties and a third party; in other words, it repeoples the original contract, leaving its provisions, including its dates, unchanged.[475] The term is an elastic expression, the effect of which turns on the clauses contained in the novation contract: novation can take the form of a replacement of a new contract between the same parties for an old one, with the intent to discharge the old contract obligations; but it is normally taken to mean the variation of the existing contract by substituting one of the original contracting

[471] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 366.
[472] *Trafigura v Clearlake and Clearlake v Petrobras (Miracle Hope)* [2020] EWHC 995 (Comm).
[473] The resolution would depend on the width of the *Albazero* exception: see previous discussion on this point at section 4.5.2.
[474] Although the word "transfer" is used in standard city practice in connection with novation: see *Argo Fund Ltd v Essar Steel Ltd* [2005] EWHC 600 (Comm), [2005] 2 Lloyd's Rep 203, affd [2006] EWCA Civ 241, [2006] 2 Lloyd's Rep 134.
[475] *CMA CGM SA v Hyundai MIPO Dockyard CO LTD* [2008] EWHC 2791 (Comm) [23].

party with a new one, with the intent to release the retiring party from any performance obligation.[476] In short, the effect of a novation therefore is to terminate the existing contract and to give rise to a new contract.

Novation appears to be a workable solution for a third party to acquire rights as well as liabilities under a contract. It is therefore valuable and appropriate to assess the practical effect of the contractual device, in particular to enquire into whether it can fully simulate the characteristics of a pBL operating in the shipping context. Remarkably, novation has de facto been adopted by many mainstream eBL service providers.[477] Where appropriate, in the discussion that follows, Bolero is used as an example to comment on this business practice.[478]

4.6.1 Formalities and requirements of a novation

There is regrettably a tendency in current practice to use the words "novation" and "assignment" interchangeably.[479] However, it is important to acknowledge that novation is distinct from an assignment. The major differences between a novation and an assignment have been clarified In *Argo Fund Ltd v Essar Steel Ltd*:[480]

> First, a novation requires the consent of all three parties involved…But (in the absence of restrictions) an assignor can assign without the consent of either assignee or the debtor. Secondly, a novation involves the termination of one contract and the creation of a new one in its place. In the case of an assignment the assignor's existing contractual rights are transferred to the assignee, but the contract remains the same and the assignor remains a party to it so far as obligations are concerned. Thirdly a novation involves the transfer of both rights and obligations to the new party, whereas an assignment concerns only the transfer of rights, although the transferred rights are always 'subject to equities'. Lastly a novation, involving the termination of a contract and the creation of a new one, requires consideration in relation to both those acts; but a legal assignment (at least), can be completed without the need for consideration.[481]

---

[476] *Scarf v Jardine* (1882) 7 App Cas 345 351; John Cartwright, *Formation and Variation of Contract* (3rd edn, Sweet & Maxwell 2021) para 9-05.
[477] Novation is used by Bolero, essDOCS, edoxOnline, CargoX, TradeLens, IQAX and TradeGo as the mechanism to transfer the rights and liabilities under the carriage contract: L Starr and J Tan, 'Legal Briefing: Electronic Bills of Lading' (*UKP&I*, May 2017) 4<https://www.ukpandi.com/fil eadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 16 June 2022; L Starr and J Tan, 'Electronic Bills of Lading – An Update Part II' (*ukpandi.com*, 1 April 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-ii> accessed 21 June 2022.
[478] These eBL schemes in the market have similar terms to effect novation, but Bolero is chosen because there are more publicly available materials on its operation. In the following, for the purpose of setting out the arguments, the relevant articles designed by Bolero are set out verbatim where appropriate.
[479] See eg *Carey Group Plc v AIB (UK) Plc* [2011] EWHC 567 (Ch) [2012] Ch 304 (facility agreement); *Deutsche Bank AG v Unitech Ltd* [2013] EWCA Civ 1372 [35]-[37].
[480] [2005] EWHC 600 (Comm).
[481] ibid [61].

The speech has rather highlighted the key elements of a novation. It follows that, in order for rights and liabilities under a contract of carriage to accrue to an eBL transferee, the novation process should have all the ingredients identified in *Argo Fund Ltd v Essar Steel Ltd* from novation.

4.6.2 Consent

In principle, The requirement for consent[482] should not be too much of a concern for eBLs, considering that prospective electronic systems run by pre-set computer programs should be able to send out clear instructions for consent to parties involved in a novation, and conversely, there should not be any difficulty for the parties to furnish their consents[483] necessary for provoking the novation process. If desired, the parties can also agree in advance in the original eBL contract to subsequent novations in favour of transferees who meet certain criteria, such as payments against the eBL, provided that the underlying computer program allows this (remember that smart contracts can greatly assist in the automatic performance of contracts).

4.6.3 The original contractual relationship is extinct, with a new one created in its substitution

The second element propounded in *Argo Fund Ltd v Essar Steel Ltd* is that the effect of novation is not to assign or transfer a right or liability, but to extinguish the original contract and replace it by another.[484] The novation of an eBL contract thus would mean that the privity between the original parties (carrier and the transferor) would be terminated and a new privity would be created between the carrier and the transferee instead; it is self-explicable that, since the concept envisages a new contract, the transferee should never be in privity under the original eBL contract novated.

Current operational eBL business initiatives leveraging novation all operate in a contractual environment and are hence membership based. These systems centre on the functioning of an integrated multiparty legal agreement, under which each potential user will have to contract with not only the system provider, but also with other users in the scheme. Bolero for

[482] *Rasbora Ltd v JCL Marine* [1977] 1 Lloyd's Rep 645; *Damon Compania Naviera SA v Hapag-Lloyd International SA (The Blankenstein)* [1985] 1 WLR 435; *The Aktion* [1987] 1 Lloyd's Rep 283 310-11.
[483] The Consent could be in the form of a pdf letter.
[484] *Argo Fund Ltd v Essar Steel Ltd* [2006] Lloyd's Rep 134 (CA) [63].

instance, claims novation to be the cornerstone underpinning the contractual framework of its multipartite agreement – Bolero Rulebook 1999:

> 3.5 Novation of the Contract of Carriage
> 3.5.1 Occurrence and Effect
> The Designation of a new Holder-to-order or a new Consignee Holder after the creation of the Bolero Bill of Lading, other than one who is also the Head Charterer, shall mean that the Carrier, the Shipper, the immediately preceding Holder-to-order, if any, and the new Holder-to-order or Consignee Holder agree to all of the following terms in this section 3.5.1:
> (1) New Parties to Contract of Carriage. Upon the acceptance by the new Holder-to-order or Consignee Holder of its Designation as such, or, at the expiry of the 24hour period allowed for the refusal of the transfer under Rule 3.5.2 (New Holder's Right to Refuse Designation), whichever is the earlier, a contract of carriage shall arise between the Carrier and the new Holder-to-order or Consignee Holder either:
> (a) on the terms of the contract of carriage as contained in or evidenced by the BBL [Bolero Bill of Lading] Text; or
> (b) when the Shipper is a Head Charterer, on the terms set out or incorporated in the BBL Text, as if this had contained or evidenced the original contract of carriage.[485]

Although the word "novation" was expressly used in the subheading, however, in a closed network like Bolero, each member is inextricably linked with each other in a multiparty contractual nexus. The flow of rights and obligations under the eBL contract from one member to another is therefore transacted in full compliance with the existing contractual framework – no old contract is extinguished, and no new contract is formed either.[486] If anything, the author would argue that what is described here is nothing more than a way of operating the multi-party contract.

An explanation that might account for this is to regard it as a variation of the underlying contract: the transferee of an eBL, although being in contractual relationship with the transferor and the carrier under the multipartite agreement, is nevertheless a relative third party to the original contract of carriage. Thus, novation takes place when the transferee, agrees with the transferor and the carrier that, upon the transfer of the eBL he shall stand in the shoes of the transferor; in this way a new carriage contract is created between himself and the carrier in place of the preceding transferor-carrier contract.

---

[485] Bolero Rulebook 1999, Rule 3.5. Similar provisions can also be found in eg DSUA 2021.1 T&C 8.3 and 8.5; CargoX Blockchain Based Smart Bill of Lading Solutions Special Terms and Conditions, Version 1, cl 7.2. See also R Harling, 'eB/Is – the Legal Perspective Legal Mechanisms of the ESS Databridge Services and Users Agreement (2011)' London Shipping Law Centre – Maritime Business Forum, PART C, para 23. The reason for adopting novation as a means of assigning a contract is said to be to avoid the requirement of a written assignment that exists in many jurisdictions, particularly those based on civil law: R Caplehorn, 'Bolero.Net – The Global Electronic Commerce Solution for International Trade' (1999) 10 JIBFL 421.
[486] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 359.

While there is something to be said for looking at the carriage contracts in isolation, one cannot ignore the fact that the contractual linkage is already in place between all the relevant parties involved in the trade transaction. It follows that it would be hardly conceivable to account the contract of carriage as independent of the overarching multilateral contractual framework. At any rate, since the agreement has already provided for the rules for transferring the contract of carriage, the additional implementation of a novation mechanism in order to circumvent the limits of privity is largely unnecessary and unhelpful, and may cause confusion and even have the counterproductive effect of casting doubt on the contractual viability of the multi-party contract itself.[487]

4.6.4 Rights and obligations are transferred altogether

The third element of novation is that not only the rights, but also the obligations under the novated contract are transferred from the original party to the new contracting party replacing him.

Historically, the conventional view has been that the 1855 Act and the now COGSA 1992 provides for a statutory assignment. Curiously, however, there are some academic considerations suggesting that the 1855 Act amounts to a novation.[488] The theory is that under the old 1855 Act regime, the transfer of a bill of lading had the effect of transferring and vesting in the consignee or endorsee 'all rights of suit, and be subject to the same liabilities in respect of such goods, as if the contract contained in the bill of lading had been made with himself',[489] the result is therefore similar to that of a novation, albeit a species of what is called a 'statutory novation',[490] whereby a third party consignee or endorsee becomes a party to the contract in substitute for the transferor without the need to conform with the formalities and requirements of a novation.

A statutory novation is, however, not supported by authorities any way.[491] In *The Giannis NK*,[492] the House of Lords placed great emphasis on the difference of language intentionally used in s. 1 of the 1855 Act with regard to the rights of suit and liabilities respectively. In this

[487] See the following discussion on the operation of the alleged novation under Bolero.
[488] See eg M Bridge and others, *The Law of Personal Property* (2nd edn, Sweet & Maxwell 2017) para 24-020.
[489] The 1855 Act, s 1.
[490] M Bridge and others, *The Law of Personal Property* (2nd edn, Sweet & Maxwell 2017) para 24-020.
[491] *Fox v Nott* (1861) 6 H. & N. 630; *Effort Shipping Co Ltd v Linden Management SA (The Giannis NK)* [1998] 1 Lloyd's Rep. 337; *The Delfini* [1990] 1 Lloyd's Rep 252. See also Law Commission, *Privity of Contract: Contract for the Benefit of Third Parties* (Law Com No LC 242, 1996) para 2.59.
[492] [1998] 1 Lloyd's Rep 337 343.

connection, it was held that whereas the rights under the contract of carriage were to be transferred, the liabilities were not, as a result the shippers were to remain liable. Lord Lloyd remarked, *inter alia*, that:

> Whereas a statutory assignment of rights under the bill of lading contract would represent but a modest step forward in pursuit of commercial convenience, a statutory novation, depriving the carriers of their rights against the shippers, and substituting rights against an unknown receiver, would have represented a much more radical change in the established course of business.[493]

Whatever the historical or legislative explanation for the position under 1855 Act, its successor COGSA 1992 has made it clear by separating the passing of contractual rights from liabilities, as well as by reserving the liabilities of any person as an original party to the contract under s. 3(3). The structure of COGSA 1992 therefore does not lend itself to the idea of novation.

While it has been made clear that the "novation" described in the Bolero Rulebook may be something of a red herring, in order to better illustrate this point, where appropriate, it is useful to review the relevant provisions thereunder for "novation" of contracts of carriage, which closely replicate COGSA 1992.

Two points call for discussion. One is that there is a remarkable distinction between a transferred pBL contract covered by COGSA 1992 and a novated eBL contract, being that in the former case, liability arises only when the holder accepts or demands delivery, whereas in the latter case, liability arises at the same time as the acquisition of rights. The legal result is therefore analogous to that of s.1 of the 1855 Act on the transferee of a pBL. Such an approach would bring about the commercially undesirable outcome of giving the carrier standing for an action against a person who has become a lawful holder of the bill only by way of security, regardless of the fact that it has asked for delivery or not. This will therefore expose the recipient of the eBL to risk from the moment it accepts the transfer of ownership of the document.[494] In this regard, it should be noted that the 1992 COGSA strengthens the inadequate protection afforded to a new holder by the 1855 Act by severing the link between the acquisition of rights and liabilities under s. 2.[495] Corresponding contractual duplication of

[493] ibid. See also eg, Law Commission, *Privity of Contract: Contract for the Benefit of Third Parties* (Law Com No LC 242, 1996) para 2.59.
[494] No doubt the new holder may take time to decide as to whether they wish to accept the title, and, in this regard, the Bolero Rulebook 1999 provides for a maximum of 1 day.
[495] English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) paras 2.30-2.31.

s. 2 of COGSA 1992 can be found in Rule 3.5.3 of the Bolero Rulebook. Novation, by contrast, would not give the same level of legal protection to a new eBL holder, such as a pledgee bank.

The other thing is that, under the COGSA 1992 regime, the continuing liability of the original party under the carriage contract is preserved. This is said to guard against situations where:

> An exporter shipped a cargo of highly poisonous gas which escaped and caused extensive property damage and loss of life, a shipowner would be disturbed to find that the shipper had been absolved of his liabilities simply by indorsing the bill of lading to another; the more so, since if the new holder did not seek to enforce the contract, the shipowner would be denied redress against anyone.[496]

In order to mimic the protections provided by COGSA 1992, Bolero in its Rulebook provides:

> (3) **Prior Designee's Rights and Liabilities Extinguished**. The immediately preceding Holder-to- order's rights and liabilities under its contract of carriage with the Carrier shall immediately cease and be extinguished, unless:
> (a) such immediately preceding Holder-to-order is also the Shipper, in which case its rights but not its liabilities under its contract of carriage with the Carrier shall cease and be extinguished; or
> (b) such immediately preceding Holder-to-order is the Head Charterer, in which case neither its rights nor its liabilities under its contract of carriage with the Carrier shall cease or be extinguished.[497]

It is difficult to see how this can be tied in with novation if one adopts the classical conceptual analysis that novation always takes effect by extinguishing the original contract and replacing it with a new one.[498] Rather, the use of the novation label may afford a shipper who wishes to escape his liabilities under the original carriage contract a defence by challenging the effectiveness of the novation before an English court.[499] Where novation is construed in the strict sense, the Bolero Rulebook inadvertently provides another stark example of the incompatibility of the novation vehicle and the contractual provisions modelled on the COGSA 1992.

Having said that, there appears to be no good reason why there cannot be a novation of part of a contract with respect to rights only, while leaving the rest, i.e., duties under the initial

[496] English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 3.23.
[497] the Bolero Rulebook, Rule 3.5.1(3).
[498] See H Beale, *Chitty on Contracts* (29th edn, Sweet & Maxwell 2004), vol 1, paras 19-085-19-087, cited by Aikens J in *Argo Fund v Essar Steel* [2006] EWCA Civ 24 [63]. See also S Baughen, *Shipping Law* (7th edn, Routledge 2019) 27.
[499] The Bolero Rulebook, Rule 2.5(2) provides that the Rulebook contract is governed by English law.

contract, to survive.[500] The extent of the novation is, as well expounded by Atkinson J in *Lorentzen v White Shipping Co Ltd*,[501] a matter of construction of the terms of the novation:

> Now, if there was novation, what is the position then? That must depend upon the terms of the novation. Novation requires a tripartite agreement; the buyers must agree with the charterers to perform, and the charterers must agree to look to the buyers for performance and to discharge the sellers from their obligations. But to perform what and to discharge from what? That must depend on the precise terms of the contract of novation. You might have a contract of novation extending to the whole contract right from its inception. The buyer might say, "I will be liable under this contract from its inception and liable for any breach you may have committed." There is nothing to prevent him doing that. On the other hand, the contract of novation may only be as from the date of the tripartite agreement. The buyer agrees to take over as from that date; the charterer can look to the buyer and as from that date look only to the buyer.[502]

It follows that novation needs not always be used in its strict legal sense of the old contract being discharged, and one must look at the substance of the matter, not the form.[503] The court will look to the terms and language of the contract to determine the meaning of the words used by the parties, bearing in mind the factual and commercial matrix of the case; the fact that they even do not use the word "novation" to describe the agreement in question is immaterial, as long as it is clear that novation is what they intend to achieve. Thus, although the traditional view is that novation is generally a renewal of the contract as a whole, the court will seek to give effect to it if the intention of the parties is simply to renew the liability while maintaining the rights enjoyed by the original contracting party.[504]

By the same token, it appears that, if it is clearly documented that it is the true intention of the parties to modify or discharge some of the original terms in the existing contract while leaving the rest to survive, there seems to be no reason why a novation of part of the contract cannot be allowed. In the recent case *Langston Group Corporation v Cardiff City Football Club Limited*,[505] the High Court held that a novation agreement, which purports to transfer a particular obligation in a large and complex contract by replacing one debtor with another,

---

[500] See *Chitty*, 19-090.
[501] (1942) 74 Ll L Rep 161.
[502] ibid 165.
[503] *Langston Group Corporation v Cardiff City Football Club Limited* [2008] EWHC 535 (Ch) [37].
[504] In the "quasi-novation" case of *Customs and Excise Commissioners v Diners Club Ltd* [1989] 1 WLR 1196, the customer's liability for debt was extinguished when the retailer accepted the credit card, which was a non-recourse substitute for the customer's obligation to pay. However, the retailer's liability to the customer in respect of the fitness for purpose and quality of the goods or services should have remained unaffected.
[505] [2008] EWHC 535 (Ch) [42], [48]. See also *Telewest Communications Plc v Customs and Excise Commissioners* [2005] EWCA Civ 102, 2005 WL 62331 [20]; *Finning UK Ltd v Inveresk Plc* [2007] EWCA Civ 1563, 2007 WL 1292821 [19]. For an academic espousal of partial novation see *Chitty*, Section 4, Assignment, Novation and Acknowledgment.

does not necessarily mean that the remaining obligations that are not novated must be deemed to be terminated by the novation and replaced by an entirely new contract. The authority seems to suggest that there can be a partial novation under English law, to the effect that part of the existing contract is terminated and replaced with another with a third party, while part of the existing contract remains on foot. And it would seem that the concept of partial novation of the contract is a good vehicle for eBLs to replicate the legal framework for pBLs (if it is the ultimate goal).[506]

That is by no means to say that the concept of partial novation is free of difficulties. In recent years, concerns have been expressed about the uncertainties surrounding the delimitation and application of this notion. First of all, partial novation appears to have the characteristics of both an assignment and a novation, which may lead to confusion in the courts as to how to distinguish between a partial novation of a contract and an assignment of rights under the contract.[507] There is also a potential risk that a court in applying the canon of contract construction will find that the purported novation has not taken effect as intended by the parties, and may even find that a complete novation has taken place, all obligations under the existing contract are discharged and a new contract is created de novo. *Langston*, on the other hand, was neither applied, let alone considered, in subsequent published decisions; nor is there, regrettably, a clear guidance given by the English court on the issue under discussion.[508]

This, however, is not the "endgame" for our debate on novation. A striking aspect of the concept is that, in relation to the rights which have already accrued under the original contract, it appears to produce an effect analogous to an assignment of rights[509] of the original contracting party to the new party, as opposed to creating new rights *ab initio* in replacement of the existing ones. In the Scottish construction case *Blyth & Blyth Ltd v Carillion Construction Ltd*,[510] a novation agreement was entered into for the design and construction of a leisure development, with the effect of extinguishing the original contract between the

[506] With all due respect, it is the author's contention that this is the wrong point of departure: see section 7.3.2 below.
[507] *Taurus Petroleum Ltd v State Oil Marketing Co of the Ministry of Oil, Republic of Iraq* [2017] UKSC 64; [2018] A.C. 690 133, where the Court seems to equate the effect of assignment with a novation; cf Bolero, International Legal Feasibility Report (1999), 12 and 72.
[508] See *Deutsche Bank v Unitech Global Ltd* [2013] EWCA Civ 1372 [37], where the Court of Appeal considered it not the right time to address the partial novation problem.
[509] In as much as an assignee is generally subject to all the equities between the assignor and his or her debtor: see the relevant discussion in section 4.5.2.
[510] (2001) 79 Con LR 142 (OH).

employer and the consultant and replacing it with a contract containing identical terms and conditions, but between the contractor and the consultant. Upon a dispute between the consultant and the contractor arising thereafter, the Court held that the contractor could not recover for their own losses as a result of a breach of contract by the consultant prior to the date of novation, because the breach was committed at a time when the consultant still owed its contractual obligations to the employer, and resultantly the losses sought by the contractor is limited to the extent that the employer would have suffered due to the breach who had, suffered nothing at all.

The attitude of the Court in that case to treat the novation in respect of the pre-novation rights as taking effect as an assignment is nonetheless indicative of the reception that is likely to be met by the user of an eBL developed on the foundation of the concept of novation. If the reasoning in *Blyth & Blyth* were made applicable to eBLs, a claim brought about by the transferee of an eBL against the carrier for a breach of contract taking place before the time of novation might not be allowed, if the previous holder, being the original contracting party to the carrier prior to novation (the transfer of the eBL contract), would have suffered no loss.[511] A countermeasure for dealing with such a situation, however, might be the inclusion of a clause in the novation agreement to treat the transferee as if he had been a party to the original contract from the beginning, so that the eBL transferee will be entitled to claim directly against the carrier any losses it has suffered that occurred before novation.[512]

4.6.5 Consideration is required for the new contract

Finally, the last element stated in *Argo Fund Ltd v Essar Steel Ltd* is that, since a new contract is formed, consideration should also be provided;[513] and in theory it can be a matter of relevance with a network operated by novation.

Dating back as early as the 18th century, in *Bradford Old Bank v Sutcliffe*,[514] Scrutton L.J. had remarked that the consideration for the novated contract would mutually be the discharge of the old contract, as well as the undertaking of rights and duties by the new party.[515] It is

[511] eg, property has passed to the transferee before novation.
[512] It might be modelled on the standard form of novation agreement published by the City of London Law Society, City of London Law Society Novation Agreement, 28/10/2007. Therefore, the provision appears to achieve a similar effect by way of contract to that of COGSA 1992, s 2.
[513] *Tatlock v Harris* (1789) 3 TR 174 180. See also *Cuxon v Chadley* (1824) 3 B & C 591; *Wharton v Walker* (1825) 4 B & C 163.
[514] [1918] 2 KB 833 (CA) 849.
[515] See also *Scarf v Jardine* (1882) 7 App Cas 345 351.

reasonable to assume, therefore, that what Scrutton L.J. had in mind is a traditional novation where rights and duties are novated with the extinction of the initial contract. The sentiment therefore does not apply to novation where only rights are novated, but liabilities remains with the departing party. This probably does not overly matter for eBLs operated, as the observations made earlier in this chapter suggest that the issue of finding consideration for a contract that has been partly novated is soluble by means of an appropriate setup of the electronic trading system.[516]

4.6.6 Novation as a practical legal tool to facilitate eBL trading

As the thesis has discussed, novation will have no place in a contract-based eBL framework, where rights and duties can simply be obtained by playing with the terms under the contractual agreement. Instead, it is in an open environment, where there is never a contractual relationship between the parties, that novation – although perhaps not in the traditional legal sense – will be truly effective. An open eBL scheme should be open to anyone to use, and its operation should not depend on the subscription to membership of any particular digital platform. An eBL user is therefore never in privity of contract with anybody else. It is in this context that novation has room to function. However, as noted earlier, a traditional novation would extinguish the original contract of carriage in its entirety, which is inconsistent with the provisions of COGSA 1992; under the statutory regime, the person seeking to enforce its rights under the pBL is undoubtedly acting under the bill of lading, which in turn triggers liability, but the shipper's continuing liability under the pBL is maintained. A plausible solution, as proposed by the author, might be to treat the effect of novation as only partial.

For all that, this is not to ignore the fact that this half-way house to full novation could be a potential recipe for problems. In this light, an eBL contract to be partially novated must be drafted in such a way that the intentions of the parties are clearly documented, and that extreme care is taken to draw the dividing line between what are to be novated and what are to remain as they are – in the instant context, the rights and obligations under the contract of carriage. For those traders who wish to avoid any doubt about the validity of a partial

[516] About a quarter of a century ago, Malcolm Clarke proposed that there could be consideration problems with a novation in Bolero: M Clarke, 'Transport Documents: Their Transferability as Document of Title; Electronic Documents' [2002] LMCLQ 356, 365-66. It is worth restating that, novation has no role to play where no new contract is given birth under the contractual construct of Bolero, and so consideration is actually not of concern at all (which is instead provided by the Rulebook contract): see the relevant discussions on the point of consideration in section 4.2.1.

novation, a safer, if slightly more cumbersome, option might provide a way forward – as adopted by practitioners in the construction industry – namely, two separate agreements signed by the parties at the beginning of the supply chain. This would require a contractual variation agreement between the carrier and the shipper, reflecting the terms of the original contract of carriage to be changed and that the shipper remains liable to the carrier under the old carriage contract regardless of the transfer of the eBL, and at the same time as the variation, a discrete new contract between the carrier and the first eBL transferee, setting out the novated parts of the original contract. Importantly, it would be the second contract that is the subject of successive novations, which ideally would be executed on a blockchain, automated by smart contracts.[517]

4.7 Conclusion

Thus far, this chapter has examined various possible models, either under common law or under contract, which could guide eBLs through the puzzle of the doctrine of privity of contract, and provide a practical contractual solution for dealing with the transfer of rights and duties under a contract of carriage.

Although the implied contract of common law origin has become less important in modern shipping law, it is still relevant to the discussion in this chapter, as it was used as a solution to deal with privity issues prior to COGSA 1992. Theoretically, then, it may have application probabilities for eBLs running in open systems. However, there are several problems surrounded the implied contract that make its application difficult (if not insuperable).

The first is the issue of consideration, which has been a perennial problem for the implied contract, and it is expected that courts would have the same struggle in finding consideration moving from an eBL holder (although it may not be as problematic as it used to be). The author suggests that this dilemma could be addressed by a specific setting in the endorsement process for eBL implementation, requiring the prospective new holder to perform a contractual promise for the benefit of the carrier. Second, in most cases, the position of the intermediate holder has little importance, but it may be of concern in extreme cases where the interaction between the carrier and the intermediary leads the court to infer an implied contract between them. In order to extinguish the rights and liabilities of the parties under an

[517] For a description of how the technologies would work together with eBLs transfer, see sections 4.3.2 and 4.5.1. See also P Todd, 'Electronic bills of lading, blockchains and smart contracts' [2019] 27 IJLIT 339, 368.

implied contract to minimise the possibility of litigation, it would be wise to include preventive measures in the contract, such as a cessation clause or a waiver clause. There are further considerations in applying an implied contract: because it is fact-bound, there is not a bright-line rule as to the implication of a contract; and where there is an implied contract, there is a risk that it is not identical to the original contract.

Next, the thesis has considered the possibility of giving formation of contract between the carrier and the new pBL holder the force of law by statutory rules. Principally, there are two routes, one is COGSA 1992, and the other is the 1999 Act. With regard to the former, the author's preliminary view is that, given the existence of s. 1(5), it is almost certain that COGSA 1992 will not at present apply to eBLs, but this does not foreclose the prospect of its application in the future when the time comes, for example, if there is a favourable judicial decision, or a legislative reform. On the other hand, there is always the option to replicate the statutory pBL regime by way of contract. However, the analysis in this thesis suggests that there are difficulties in incorporating COGSA 1992 as a whole, or in creating a contractual version of COGSA 1992 (although granted that all of these considerations will not hold true anymore if the proposed law reform by the Law Commission is eventually enacted): the concept of possession, if used in its original sense, would not be directly applicable to eBLs; the effectiveness of these provisions would be limited in a contractual context; and most fatally, the legislation does not address the extinguishment of the intermediate holder's liability.

In contrast, the phraseology of the 1999 Act suggests that, at least in principle, eBLs may come within its scope. However, the analysis of this thesis shows that the application of the 1999 Act to eBLs is not desirable: not every type of eBLs would meet the requirement of s. 1(3) for express identification; as with COGSA 1992, the 1999 Act deals only with rights and not with liabilities; and lastly, for reasons of commercial certainty and convenience, there is a compelling theory to exclude the operation of the Act from cases of carriage of goods by sea. On the basis of the above, the discussion concludes that extending the relevant statutory regimes to eBLs does not provide an ideal resolution to the problem of privity.

The underlying relationship between shipper and carrier is one of bailment, established on the terms of the contract of carriage, thereby opening up the possibility that the doctrine of bailment on terms can be used as a technique to transfer rights and liabilities under an eBL contract. The thesis observes that although cumbersome to operate in a manual, paper-

intensive process, it is technically possible for the doctrine to operate in a more automated, electronic environment on a centralized or distributed basis. The latest developments in blockchain and smart contracts deployment could make successive attornments feasible, taking note of their advantages in maintaining chains of transactions and tracking the movement of data. However, it still suffers from a number of problems: the doctrine of bailment focuses on determining the liabilities of the bailee, but seems to omit provisions for the liabilities of the bailor; worse still, parties to a bailment relationship through an attornment may be caught up in the reality that the contractual bailment is not on the same terms as the prior eBL contract.

Contractual means that have not been traditionally used in carriage of goods by sea contracts have been subsequently examined in this chapter. A fifth possible path to avoiding the principle of privity of contract is that of assignment. This was once considered as an option to remedy the failings in the 1855 Act, but was subsequently not adopted in view of the onerous statutory requirement to give written notice of each assignment. However, eBLs implementing blockchain and smart contracts could make successive assignments work, and it would seem that the written requirement is no longer a problem today.

There are, again, legal issues of particular concern. The first thing to note is the difficulty caused by the principle of 'subject to equities', which means that the carrier and the transferee of the eBL will be at a less favourable position at common law than they would have been if they had used the pBL, and it is unlikely that the principle will be disapplied by statute. A further disadvantage caused by the doctrine is that the eBL holder may not be able to recover damages for loss from the carrier if the shipper has sustained nothing; on the other hand, there is no guarantee that *The Albazero* exception would be invoked successfully and, although it is possible, as is argued by this author, contracting out the operation of the doctrine 'subject to equity' would not be an easy exercise. The second problem that invariably arises from the assignment is that liabilities can never be assigned, and subcontracting liabilities and setting up indemnity clauses to address the liability issue would seem all too risky.

The last (but not least) model to be assessed is novation. Thus, although not strictly speaking a transfer, it can transition a party's rights and obligations under a contract to a third party by structuring a new contract, and therefore seems a suitable fit for eBLs to break the logjam

over the privity of contract problem. There are several elements that need to be proven in order to satisfy the formalities and requirements for a novation by eBLs.

Firstly, the requirement for consent can be easily met by eBL systems if properly computer programmed. Secondly, the requirement that the original contractual relationship extinct with a new one created in its substitution entails no privity between the parties involved in a novation; this cannot be satisfied by a private eBL system such as Bolero, which presupposes the creation of a multilateral contractual framework. Accordingly, the author considers that what is envisaged in the Bolero Rulebook is merely a specification of how the contract will operate and that the additional use of novation is rather self-defeating. Thirdly, the requirement that rights and obligations be transferred altogether does not sit happily with the provisions of COGSA 1992. In one respect, the transfer of rights and liabilities under COGSA 1992 takes place separately, whereas under novation it occurs simultaneously. A novated eBL would therefore strip away from a pledgee holder the protection it would have been afforded by COGSA 1992. In another respect, COGSA 1992 specifically reserves the continuing liabilities of the shipper under the original contract of carriage, where under novation full liabilities are transferred to the new contract.

The incompatibility might be reconciled by interpreting the effects of novation as only partial. However, there are uncertainties over the extent and application of the theory of partial novation. Moreover, partial novation shares the same common failings as the classic novation, to the extent that no question of loss will arise on novation in respect of the recovery of losses suffered as a result of the performance of the initial contract (although this might be soluble by inclusion of other contractual term). Fourthly, drawing on the findings on the implied contract, the requirement of consideration for the new contract would be unlikely to pose a significant problem for eBLs employing the concept of novation.

In general, the author argues that novation can be used as a legal tool to facilitate the transfer of eBL contract terms in an open environment. Where there is doubt as to the exact legal effect of a partial novation, a practical way of removing it might be to enter into two new agreements before successive novations commence.

The final conclusion reached at the end of this chapter is that, after a detailed examination of the various legal solutions to the transfer of rights and responsibilities, given the number and significance of legal obstacles, assignment and novation tend to achieve the better result of all

the methods considered, howbeit it should nonetheless be acknowledged that more or less, each method is subject to legal obstacles and uncertainties. That said, the author concludes that novation (nothing like the “novation” professed by e.g., Bolero) might be a better bet than assignment, not only because it has the prospect of handling liabilities, but also because it is better adapted to deal with the transfer of rights and liabilities under a contract of carriage.

Chapter 5 Document of title function

Following the discussions on the receipt function and the contractual function in the previous two chapters, this chapter now turns to the function of the document of title, which has been described as the most important characteristic of the pBL.

It is not possible to give a single definition of the 'document of title' here, because the phrase is used in different ways and in different contexts.[518] When placed in the context of the contract of carriage, the pBL as a document of title represents the goods, allowing traders to transfer cargo simply by passing the paper document over, or demanding delivery of the goods by producing the original document; the latter act by the holder in turn affords the carrier a convenient identification tool to determine who is entitled to the goods and, insofar as he does so, he is protected from claims of misdelivery. The holdership in turn vests in them the right to sue the carrier on a contract concluded by the original shipper for loss of or damage to the goods. When put in the context of the contract of sales, the pBL, on the strength of it being a document of title, enables a trader to obtain finance from the bank by creating a pledge over the goods afloat, and triggers the application of international conventions regulating rights and obligations in the carriage of goods by sea and statutory rules in relation to property rights; where documentary performance is involved, the bank on the other hand, has a duty to pay the price on presentation of the pBL required by the letter of credit contract concluded pursuant to the underlying sales contract.

It follows that any pBL alternatives including eBLs should be able to preserve the attributes just adverted to. However, the answer to the question of whether the aforesaid goal could realistically be achieved by an eBL is not a straightforward one. This is due to the disputed judicial nature of such a document.[519] Under English law, that the pBL is accorded the status of a document of title embodies disparate meanings and legal ramifications at common law and under relevant statutes. The common law definition mainly concerns with the ability of a pBL to transfer constructive possession of the goods represented by the document;[520] whereas

[518] For a brief discussion see for example C Debattista, *Bills of Lading in Export Trade* (Tottel 2009) para 2.1-2.6; M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-007. See also generally A Lista, 'Knocking on heaven's door: in search for a legal definition of the bill of lading as a document of title' in J Chuah (ed), Research Handbook on Maritime Law and Regulation (Edward Elgar Publishing 2019) ch 11.
[519] M Clarke, 'Transport Documents – Their Transferability as Documents of Title; Electronic Documents' [2002] LMCLQ 356, 365.
[520] Also termed in *Carver* as the "conveyancing" functions of a bill of lading at common law: G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 6-002.

the statutory rules that were only developed later encompass much broader spectrums: not only do they codify but also improve the common law position which is unsatisfactory from the perspective of the sale of goods.[521]

Against this background, this chapter considers and attempts to address a cascade of three questions in turn: will an eBL be deemed as a document of title under the common law and statutes? Does the English law admit of the document of title function being replicated by the eBL? And lastly, is it conceptually feasible to establish an "electronic document of title" under English law, at all? In addressing the questions at issue, it is essential first to take an in-depth look at the key attributes of a traditional pBL as a document of title under both common law and statutory senses so as to discern what they each entail, with a view to identifying the potential problems that may be posed to a prospective paper-based alternative, such as an eBL. The focus of the analysis will thereafter naturally shift to the likelihood of an eBL being accounted as a document of title under both senses; where the answer is negative, the prospect of recreating the characteristics of a common law or statutory document of title by the eBL is further considered, as well as the extent to which the existing English legal regime could be applied or adapted to transactions that dispense with documents in the traditional paper form.

As will be seen, the existing common law does not recognize an eBL as a legal document of title. The discussion in this chapter leads to the opinion that it is presumptively feasible for the paper substitute to reproduce most of the constituent elements of a document of title, yet this means has its drawbacks and limitations. There is also the prospect of qualifying as a common law document of title, albeit legal uncertainties remain. In contrast, statutes on documents of title may apply, but may raise new legal issues. More specifically, the author contends that there may well be situations where the existing law operates better in an increasing digital era of maritime trade.

5.1 The common law definition

It is advisable that we start by delving a little into the history. The story of a conventional pBL as a document of title all began with the celebrated and yet controversial case of *Lickbarrow v Mason*,[522] in which the court found that by a custom of merchants shipped pBL

[521] See below section 5.3.2.
[522] (1794) 5 Term Rep 683.

are documents of title which are 'negotiable and transferable', and that the endorsement and delivery, or transfer of the document also transferred the property in the goods it represented.[523]

5.1.1 No direct property consequence

Lickbarrow v Mason has since come under continuous scrutiny in subsequent cases, with judges coming to competing opinions on the true interpretation of the reference to property.[524] Finally, the mystery was resolved in *Sewell v Burdick*,[525] where the House of Lords held that the mere transfer of the bill of lading does not necessarily transfer the property in the goods altogether – it being a matter of the parties' intention to be determined in the underlying sales contract in pursuance of which the indorsement was made, and that the special verdict in *Lickbarrow v Mason* should best be interpreted in accordance with this line of thinking.[526] It is therefore perfectly fine for property in goods shipped under a pBL to pass before, after, or independently of the transfer of the bill;[527] and where property did pass upon the transfer, it might not necessarily be the general property of the goods.[528] In other words, the passing of property is not inherently bound up with the status of a document of title.

It has been argued that, insofar as the transfer of property is concerned, the rules governing traditional pBLs would probably apply to eBLs equally without the need for further transposition.[529] In truth, there seems to be no plausible reason why the rules cannot apply to electronic documents,[530] given that property passes when it is the parties' intention to pass, and that such an intention would be equally ascertainable where an electronic contract for carriage was used.[531] In any event, as the law cannot be said to be set in stone, it is advisable

[523] ibid 685-86.
[524] Internal inconsistencies can be found in *Coxe v Harden* (1803) 4 East 211 and *Newsom v Thornton* (1805) 6 East 17, both held by Lord Ellenborough. See also *Pease v Gloahec* (1866) LR 1 PC 219; *Leduc v Ward* (1888) 20 QBD 475; *Barber v Meyerstein* (1817) 4 HL 317.
[525] (1884) 10 AC 74.
[526] As suggested by Lord Selborne in *Sewell v Burdick* (1884) 10 AC 74 80.
[527] Eg, Coxe v Harden (1803) 4 East 211; *Meyer v Sharpe* (1813) 5 Taunt 74; *The Delfini* [1990] 1 Lloyd's Rep 252 (CA).
[528] *Hibbert v Carter* (1787) 1 TR 745. In *Sewell v Burdick* (1884) 10 App Cas 74, the transfer of the bill of lading only passed a special property in the goods.
[529] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 346.
[530] Ss 16-18, and 20 of SGA 1979 all do not refer to any specific type of documentation. See too P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 346.
[531] H Beale and L Griffiths, 'Electronic Commerce: Formal Requirements in Commercial Transactions' [2002] LMCLQ 467, 478.

to add a doubt-avoidance clause to the underlying sales contract, specifying the exact moment on which the property passes.[532]

This is indeed the logic behind Rule 3.10(1) of the Bolero Rulebook, which provides that:

> If as a result of either the intention of the parties to the transaction or the effect of any applicable law, the transfer of constructive possession of the goods and/or the novation of the contract of carriage as provided for in this Rulebook have the effect of transferring the ownership or any other proprietary interest in the goods (in addition to constructive possession thereof), then nothing in this Rulebook shall prevent such transfer of ownership or other proprietary interest from taking place.

Rule 3.10(2) goes on to clarify that its multipartite contract by no means effect the transfer of property:

> Nothing in this Rulebook shall be construed as effecting the transfer by the owner of property in the goods which are subject to a contract of carriage contained in or evidenced by a Bolero Bill of Lading or other Transport Document.

By virtue of these clauses, therefore, the Rulebook seeks to make sure that it will not in any case stand in the way of property transfer pursuant to the parties' intention, the latter being a matter solely to be determined by the underlying sales contract.

5.1.2 A 'negotiable and transferable' document of title

Another interesting analytical point thrown up by *Lickbarrow v Mason* is the description of bills of lading as 'negotiable and transferable'.[533] Although the phrase has since been around for over twenty decades, it is now settled law that what a bill of lading is "negotiable" actually means is merely "transferable" in nature,[534] in the sense that it cannot, as can be done by negotiation of a bill of exchange, give the transferee a better title than the transferor has got; instead, it can only by endorsement and delivery give as good a title.[535] In reality, on the other hand, simply holding a pBL will not afford a person any right or favourable treatment; the value of the bill, rather, flows from its utility in the course of dealing with it between

---

[532] On this point, there is a compelling contention that the transfer of property with the eBL is rational: P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 361, fn 161 and the accompanying text.

[533] The use of the phrase can be traced back to *Lickbarrow* v *Mason* (1794) 5 TR 683, 685.

[534] *Heskell v Continental Express Ltd* (1949-1950) 83 Ll L R 438, 453. See Raymond Negus, 'The negotiability of bills of lading' (1921) 37 LQR 442; Charles Debattista, *The Sale of Goods Carried by Sea* (2nd edn, Butterworths 1998), para 3-15.

[535] *JI MacWilliam Co Inc v Mediterranean Shipping Co SA (The Rafaela S)* [2003] 2 Lloyd's Rep 113 [79], aff'd [2005] 2 AC 423; *Kum v Wah Tat Bank* [1971] 1 Lloyd's Rep 439, 446 (Lord Devlin); *Gurney v Behrend* (1854) 3 El & Bl 622 633-34. The rule that a transferee of a bill of lading takes no better title than his transferor is, however, subject to certain exceptions contained in ss 24-25 of SGA 1979 and ss 8-9 of FA 1889: see below section 5.3.2.

commercial parties involved in the seaborne trade.[536] Consequently, it is the attribute of being "transferable" that constitutes the most important characteristic of the traditional pBL and makes of the instrument as a document of title at common law today.[537]

(1) What is transferable?

With that in mind, however, what exactly does a pBL transfer? Early answers were provided in *Barber v Meyerstein*,[538] in which the House of Lords said:

> There has been adopted, for the convenience of mankind, a mode of dealing with property the possession of which cannot be immediately delivered, namely, that of dealing with the symbols of the property. In the case of goods which are at sea being transmitted from one country to another, you cannot deliver actual possession of them, therefore the bill of lading is considered to be a symbol of the goods, and its delivery to be a delivery of them.[539]

This is on no account an isolated statement. Similar reasoning can be found in *Sanders v Maclean*:[540]

> A cargo at sea while in the hands of the carrier is necessarily incapable of physical delivery. During this period of transit and voyage, the bill of lading by the law merchant is universally recognised as its symbol, and the indorsement and delivery of the bill of lading operates as a symbolical delivery of the cargo… It is a key which in the hands of a rightful owner is intended to unlock the door of the warehouse, floating or fixed, in which the goods may chance to be.[541]

Therefore, as a document of title, the indorsement and transfer of a shipped negotiable pBL while the ship is at sea operates 'exactly the same as delivery of the goods themselves to the assignee after the ship's arrival would do'.[542] It follows that, since the pBL represents the goods, transfer possession of the paper instrument is tantamount to transferring constructive (or symbolic) possession of the goods without the need of the carrier's involvement and participation.[543] Most significantly, it should however be added that, like the document of title, the notion of constructive possession is again an elusive one, and there is a tendency

---

[536] Chandler 'Maritime Electronic Commerce for the Twenty First Century' (1997) 32 ETL 647, 654-655; Clarke, 'Transport Documents: Their Transferability as Documents of Title; Electronic Documents' (2002) LMCQ 363; P Todd, *Principles of the Carriage of Goods by Sea* (Routledge 2015) 348.
[537] M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-007.
[538] (1870) LR 4 HL 317, followed by *Sanders v Maclean* (1883) 11 QBD 327. See generally MD Bools, *The Bill of Lading: Document of Title to Goods an Anglo-American Comparison* (LLP Ltd 1997) ch 7.
[539] (1870) LR 4 HL 317 330.
[540] (1883) 11 QBD 327.
[541] ibid 341.
[542] *Meyerstein v Barber* (1866) LR 2 CP 38 45 (Erle CJ).
[543] The pBL is the one and only exception to the rule that a change in the right to possession of goods in the keeping of a third party requires him to attorn: *Official Assignee of Madras v Mercantile Bank of India Ltd* [1935] AC 53 (PC) 58–59, cited *The Future Express* [1993] 2 Lloyd's Rep 542 (CA) 550 (Lloyd LJ).

among judges and commentators to use the terms "constructive possession" and "symbolic possession" interchangeably as if they bear the same meaning. It has been argued by some commentators that this is not the case: constructive possession is the right to take possession of the goods, whereas symbolic possession is in fact a legal fiction of the equivalent of possession, enabling the bill of lading to be used to create a pledge, for example, even where the pledgee cannot be in actual possession of the goods.[544] Since the distinction is of little moment as far as the thesis is concerned, the term 'constructive possession' will be used to cover both aspects as to the possessory function and symbolic quality of the bill of lading for the ease of discussion.

The court thence has replaced ownership with possessory right as the interest embodied in the pBL. It further follows that, because the pBL enables the right to demand the goods from the carrier to be transferred by delivering the pBL,[545] the transferee thereby obtains control of the goods,[546] thus it is natural to draw the inferences that parties to the underlying contract of sale also intend the property to pass together with it;[547] if the seller retains the pBL in his hands which is made out, *inter alia*, to the seller's order,[548] then this is preliminary evidence that the seller intends to reserve the property in the goods until payment is made against the pBL.[549]

---

[544] See eg P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 347; R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 9.19; MD Bools, *The Bill of Lading: Document of Title to Goods an Anglo-American Comparison* (LLP Ltd 1997) 180-81. Others criticized the use of the concept 'symbolic possession': Č Pejović, *Transport Documents in Carriage of Goods by* Sea (London: Informa Law from Routledge 2020) s 7.6. cf *Enichem Anic SpA v Ampelos Shipping Co Ltd (The Delfini)* [1990] 1 Lloyd's Rep 252 268 (Mustill LJ): 'the bill of lading is 'a symbol of constructive possession'; see also generally A Lista, 'Knocking on heaven's door: in search for a legal definition of the bill of lading as a document of title' in J Chuah (ed), Research Handbook on Maritime Law and Regulation (Edward Elgar Publishing 2019) ch 11.

[545] British Law Association, 'Response to Questionnaire Prepared by CMI Working Group on Issues of Transport Law' (*bmla.org.uk*, 30 September 1999) <https://www.bmla.org.uk/documents/issues_transport_law.htm > accessed 31 July 2022.

[546] See R Goode, H Kronke, and E McKendrick, *Transnational Commercial Law* (2nd edn, OUP 2015) 284-85; E McKendrick, *Goode on Commercial Law* (5th edn, Penguin 2016) 934, para 32.52; Clyde & Co, 'The Legal Status of Electronic Bills of Lading: A Report for the ICC Banking Commission' (2018) 16 <https://cdn.iccwbo.org/content/uploads/sites/3/2018/10/the-legal-status-of-e-bills-of-lading- oct2018.pdf> accessed 31 July 2022. The holder will then be able to instruct the carrier in relation to delivery, including activities such as the unloading, rerouting and disposal of the cargo: K Marxen, 'Electronic Bills of Lading in International Trade Transactions – Critical Remarks on Digitalisation And the Blockchain Technology' [2020] Cov LJ 25(1), 32.

[547] For a discussion of the tie-in between property and constructive possession, see P Todd, *Bills of Lading and Bankers' Documentary Credits* (4th edn, Informa Law 2007) paras 6.3-6.6.

[548] *The Charlotte* [1908] P 206 216; *The Gabbiano* [1940] P 166; *Stein Forbes & Co v County Tailoring Co* (1916) 115 LT 215 (bill made out to the order of the seller's financing bank).

[549] This presumption is now reflected in s 19(2) of the Sale of Goods Act 1979. More on this aspect see R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) paras 6.25-6.27; G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) ch 6, s 4.

However, it needs to be pointed out that, although the delivery of a pBL is capable of delivering the constructive possession of the goods, it does not always do so: just as was the case with property, the transfer of a bill of lading will only transfer the constructive possession when that is the intention of the parties.[550] Be that as it may, existing case law has shown that it is only in exceptional cases that the bond between a document of title and possessory interest will be broken, and that the normal assumption will apply automatically in the absence of contractual intention to the contrary.[551] The consideration of whether possession of the bill has given the holder a sufficient possessory right in the cargo at the relevant time may have little impact from a practical operational perspective, as the occurrence of trading events do not rely on the determination of the problem in question; but it can be of particular importance in determining whether a plaintiff has standing to sue in tort and, *inter alia*, to sue in conversion, for instance where there has been an allegation against the carrier of a cargo misappropriation.[552]

(2) Reproducing the ability to transfer constructive possession in an electronic environment

(a) No custom of deeming an eBL as a document of title

It is thus apparent from the above discussion that it is vitally crucial for any paper substitute such as an eBL to simulate this important aspect of a conventional pBL: the possession of the document is, in many respects, equivocal to the possession of the goods (the so-called constructive possession); *ergo*, the delivery of the document usually achieves the same legal effect as an actual delivery of the goods themselves. This is in reality where the nub of the issue lies: while the transfer of a pBL amounts to a delivery of the goods by the carrier to the transferee, his handing to the transferee of other documents does not amount in itself to delivery. The pBL obtains this legal position from the custom found in *Lickbarrow v Mason*

[550] In particular, of the transferor's intention when transferring the bill of lading. *The Future Express* [1992] 2 Lloyd's Rep. 79; aff'd [1993] 2 Lloyd's Rep. 542.
[551] An instant example is *The Future Express* [1993] 2 Lloyd's Rep 542, where the goods had been delivered, and almost certainly consumed, long before the bill of lading was transferred. The bill of lading was accordingly held to pass no right to possession by the time the bill of lading was transferred to the transferee. This is an exceptional case since, at the time of transfer, the transferor had no right of possession to transfer.
[552] Possession is necessary in establishing actions in conversion. See generally L Gullifer, 'Constructive Possession after the Sale of Goods (Amendment) Act 1995' [1999] LMCLQ 93. See also Law Commission, *Digital Assets: Electronic Trade Documents* (Law Com No 254, 2021) para 6.19.

that it is a document of title, whose delivery or transfer of possession is capable of effecting the constructive delivery of the goods.[553]

In comparison, it has never been accepted by, or at least been contended before the court that there is an established custom which makes a document other than the pBL 'negotiable and transferable' by endorsement and delivery or transfer. In the absence of proof of a mercantile usage, an eBL may not be characterized as a negotiable document of title at common law and may not directly operate to transfer to a new holder the constructive possession of the goods. The solution to this difficulty would probably await another "*Lickbarrow v Mason*" to arise in a paperless situation, in which the court would be given the opportunity to expand the meaning of document of title, a concept that has traditionally relied on the existence of documents in physical forms to transfer possessory rights in the goods.

In *The Future Express*,[554] the Court Appeal noted, inter alia, that: 'the bill of lading is the one exception to the rule that a change in the right to possession of goods in the keeping of a third party requires [the latter] to attorn'.[555] It follows that, as long as the English law as it currently stands fails to treat an eBL in the same way as its paper counterpart, the need to communicate with, or to obtain the assent of the carrier, i.e., attornment is an essential requirement for the purpose of achieving constructive delivery of the goods evidenced by an eBL. The usefulness of attornment could perhaps best been shown by the counterexample in *Glencore International AG v MSC Mediterranean Shipping Co SA* where the element of an attornment was missing, therefore occasioning a failure in delivery of the goods.[556]

This case may be viewed, simply, as limited to the narrow question as to whether provision of PIN codes amounts to constructive delivery. Nevertheless, since the judgment turns on the peculiar facts of the case and the construction of the contract (of carriage), it is likely that a change in the facts might have yielded a different result. It is worthy of note that in the case itself, only PIN codes had been issued and transferred – nothing more and nothing less; however, the author would submit that, had there been an attornment from the carrier with the issue of the PIN code, the result of the case would have been different. This case is also relevant to the matter at hand in highlighting the need for proper contractual provision to be

[553] *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep 439 446.
[554] [1993] 2 Lloyd's Rep 542.
[555] ibid 550.
[556] *Glencore International AG v MSC Mediterranean Shipping Co Inc* [2015] EWHC 1989 (Comm), [2015] 2 Lloyd's Rep 508, affirmed [2017] EWCA Civ 365; [2017] 2 CLC 1.

made for delivery to be against PIN codes or (presumably) any other electronic document or piece of information. It is therefore necessary to engage with certain facets of the case, insofar as they are material.

(b) *Glencore International AG v MSC Mediterranean Shipping Co SA*: a failed attempt to replace document of title in an electronic context

The case concerned an incident of cargo misappropriation arising from the use of an electronic release system. Between January 2011 and June 2012, MSC carried 70 shipments of cobalt to Antwerp for Glencore under traditional pBLs naming Glencore as shipper, Steinweg as "Notify Parties", and MSC as carriers. The bills of lading contained materially similar terms, which provided, *inter alia*, that "one Bill of Lading, duly endorsed must be surrendered by the Merchant to the Carrier...in exchange for the Goods or Delivery Order".[557] Notwithstanding this, and without the knowledge of Glencore, MSC used a new electronic release system (ERS) introduced by the Port of Antwerp instead of prescribed ship's delivery orders.[558] Pursuant to the ERS, the carrier would, upon presentation of the bills of lading, provide computer-generated PIN codes which were sent in release notes via email to the cargo owners, or their agents, and the port terminal. In practice the collecting drivers would enter the PIN code manually in order to gain access to the terminal who would then enable the former to collect containers eventually. When Steinweg arrived to collect the cargo, it was discovered that two of the three containers in the shipment had been misappropriated by persons unknown who succeeded in penetrating the release procedures. Following the cargo loss Glencore issued a claim against MSC claiming damages for breach of contract, bailment and conversion.[559]

i. PIN code as constructive delivery

Constructive delivery was one of the central arguments in the Court of Appeal. MSC floated the idea of equating delivery of a PIN code with delivery of a pBL, arguing that it is not reasonable to draw a demarcation between the two in the twenty-first century context, insofar as the latter would be likely to be at least as secure if not more so.

[557] *Glencore International AG v MSC Mediterranean Shipping Co SA* [2017] EWCA Civ 365; [2017] 2 Lloyd's Rep 186 [8].
[558] The new practice was adopted by MSC's local agent in Belgium from January 2011.
[559] The claim for conversion was not pursued eventually.

The court did not find this argument compelling. Although it was accepted that delivery of the goods can be achieved by delivery of a symbol, such as a PIN code, notwithstanding that the delivery of the code may in practice be able to deprive the recipient of the actual goods after the code has been provided (or does so, the remedy in the latter case being in conversion);[560] nonetheless, whether or not delivery of a means of access to goods constitutes delivery under a contract of carriage must depend on the context and terms of the contract.[561] Where an express provision to that effect is absent, simply delivering a certain symbol cannot amount to delivery. In the instant case, since the contract expressly provided for either actual delivery against presentation of the bill or in accordance with a delivery order, delivery of a code cannot by itself constitute delivery.

ii. Actual delivery under the bill of lading

At first instance, in order to set the scene for the parties' submissions on what is in issue, Andrew Smith J set the scene by giving his opinion on what would constitute delivery. The critical point is that the shipowner must actually surrender possession by divesting himself of all powers to control any physical dealing in the goods, to the person entitled under the terms of the contract to obtain possession of them.[562] This is certainly not the case here, where the goods were not put into the port authority, but the terminal operated by MSC, who retained at all times the power to invalidate the PIN code it sent to Steinweg by email. As such, MSC did not divest itself of all powers to control any physical dealing in the goods and delivery had not taken place on the original bill of lading terms.

At first instance, it was also found that once a PIN code was issued to Steinweg, it would remain revocable by MSC. That finding raised a further issue on appeal. MSC argued that the revocability of the code was by no means relevant here, for even if such revocation was physically possible for MSC, it could not have done so legitimately, and so delivery was effected upon the provision of the PIN code anyway regardless of the code being revoked. The question therefore was whether in practice MSC had power to prevent release against the code or whether it could, vis-à-vis Glencore, legitimately do so that is crucial in determining delivery had been satisfied? Sir Christopher Clarke, by offering his train of thought in interpreting Diplock LJ's reasoning in *Barclays Bank Ltd v Commissioners of Customs and*

[560] *Glencore International AG v MSC Mediterranean Shipping Co* [2017] EWCA Civ 365; [2017] 2 Lloyd's Rep 186 [41].
[561] ibid [31].
[562] ibid [17].

Excise,[563] said that it is the practical ability to prevent delivery that actually matters in the context of delivery under the original bill of lading terms. Consequently, in the ordinary course of events, where a shipowner discharges goods into a storage facility the goods remain undelivered so long as any order given by the shipowner to the facility remains revocable.[564] Accordingly, in echoing the first instance judgment, the judge held that delivery of a PIN code cannot constitute delivery under the bill of lading.

iii. Relevance of attornment

It was ultimately accepted in *Glencore v MSC* that delivery of the goods can be achieved by delivery of a symbol, such as a PIN code, so long as the contract permits.[565] In the absence of such an express provision, simply delivering a particular symbol cannot amount to delivery – a term normally taken to mean actual delivery, requiring the carrier to divest itself of all powers to control any physical dealing in the goods. In this instance, it is probably worth considering if there is any other legal mechanism to effect delivery, apart from through contract mechanisms.

Significantly, the element of attornment has been considered several times by the Court of Appeal. The court noted, in particular, that there was never an attornment by MSC to Glencore along with the issue of the release note. Later in the judgment it referred to *Barclays Bank Ltd v Commissioners of Customs and Excise*[566] when it came to consider MSC's submission in respect of the revocability of the PIN code, a case concerning the question of whether pBLs remained documents of title enabling pledge to be made if the contract of carriage has not been completed, emphasising that delivery had not been effected because the goods were in the possession of a custodian held to the order of the carrier and no attornment on the part of the custodian was ever made. Most tellingly, in *The Jag Ravi*[567] referred in the Court of Appeal judgment, Tomlinson LJ, while recognising that 'Delivery does not necessarily involve that the shipowners must themselves physically hand over the cargo to the receivers',[568] opined that:

[563] [1963] 1 Lloyd's Rep 81 89 (col 1).
[564] See *Great Eastern Shipping Co Ltd v Far East Chartering Ltd (The Jag Ravi)* [2012] 1 Lloyd's Rep 637, where the court rejected the proposition that the discharge of the cargo and the issue of a delivery order in the form of a request to the yard to deliver, constituted delivery within the meaning of the letter of indemnity.
[565] And it does not matter the delivery of the code may in practice be able to deprive the recipient of the actual goods after the code has been provided, or does so, the remedy in the latter case being in conversion: *Glencore International AG v MSC Mediterranean Shipping Co* [2017] EWCA Civ 365; [2017] 2 Lloyd's Rep 186 [41].
[566] [1963] 1 Lloyd's Rep 81.
[567] *Great Eastern Shipping Co Ltd v Far East Chartering Ltd (The Jag Ravi)* [2012] 1 Lloyd's Rep 637.
[568] ibid [45].

> Whether in any given case a shipowner will in fact succeed in revoking an authority given in that way will no doubt depend upon the law governing the relationship between the shipowners and the person to whom the delivery order is addressed, *and may be affected by the question whether the addressee of the delivery order has subsequently attorned to the consignees named in the bill of lading*.[569]

These observations thus leave a door open for the proposition that, where release notes and PIN codes are used as an alternative to conventional pBLs and the contract of carriage remains silent, if there is an carrier's acknowledgment that the goods are now held to the order of the transferee, providing a sufficient degree of control over the cargo to the consignee, to the extent that it effectively divests or relinquishes the power to compel any dealing in or with the cargo which can prevent the carrier from obtaining possession,[570] then it is fair to say that actual delivery under the circumstances should be deemed to have occurred.

(c) *Lessons for modern technology adopters*

i. Trading PIN codes as a primitive eBL system

It is true that the pBL in *Glencore v MSC* had never been negotiated; but presumably, the code could be communicated (e.g., via email) to the next cargo purchaser for further resale, and ultimately to the end receiver to obtain delivery at the discharging port, where the parties have agreed to do so.[571] In this way, the PIN codes trading may hypothetically be considered as a rudimentary eBL scheme.[572]

At first sight, it is tempting to think that delivery of PIN codes would fulfil a similar function to that of a pBL, since they are all means of gaining access to the goods. The problem with the hypothesis, however, is that the different set of attributes embodied in these paper substitutes, be it digital codes or eBLs, inadvertently demonstrate the incompatibility between the mechanisms by which intangible electronic documents operate and the way in which physical pBLs work in the traditional sense as common law documents of title: it cannot be possessed or delivered like its paper counterpart in the same manner.[573] The efficacy of

[569] ibid (emphasis added).
[570] ibid.
[571] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 351, fn 80.
[572] cf SeaDocs: section 2.3.1(1).
[573] The English law does not currently recognise any equivalent to physical possession for intangible things: See e.g. *OBG Ltd v Allan* [2007] UKHL 21, [2008] 1 AC 1; *Your Response Ltd v Datateam Business Media Ltd* [2014] EWCA Civ 281, [2015] QB 41. See also the discussion in Law Commission, *Digital Assets: Electronic*

delivery of the pBL, to borrow the felicitous turn of phrase by Sir Frederick Pollock, gives the transferee of the document 'a power over the goods which he had not before, and at the same time is an emphatic declaration (which being by manual act, instead of words, may be called symbolic) that the transferor intends no longer to meddle with the goods'.[574] Transfer of a pBL will no doubt give the transferee exclusive control of the document by virtue of its physical form of existence: once it is gone, it is gone forever; the transfer not only gives the transferee possession of the document but also permanently deprives the transferor of that possession, thereby offering good security in the hands of its holder.[575] This peculiarity also ensures that there can only be one holder at a time, making it much easier for the carrier to identify the person to whom he should deliver the goods.

By contrast, traded PIN codes do not invest its holder with exclusive control. The digital information is not confined to one single place and can be copied, moved or even changed without trace; virtually each previous holder down the chain will retain a copy, and there would be no way of knowing how many copies have been produced. This makes it difficult for the transferor to justify that by sending PIN codes, he has therefore divested himself of the complete control of the goods, for the transferee's mere acquisition of the electronic document would not lead to it being lost by the transferor, who would still have knowledge of the numbers. Having knowledge of the PIN codes is therefore considered not as unique and exclusive as possession of a pBL. Nor does the possession entitles its holder to demand delivery of the goods. In this context, of particular note is the passage from Sir Christopher Clarke in the Court of Appeal judgment, where he was concerned with the question of whether the delivery of PIN codes used to release cargo at the discharging port equated to the delivery of the goods themselves, simply said: ' A number is a number'.[576]

In consequence, transferring PIN codes down the chain as a means to trade would be not only risky but also fraud prone, in that theoretically speaking anyone down the supply chain who has a copy of the eBL could get the cargo.[577] One workable solution to the difficulty could be

Trade Documents (Law Com No 254, 2021); Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022); G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 18-249.

[574] F Pollock and RS Wright, *Possession in the Common Law* (Oxford Clarendon Press 1888) 68. See also *The Erin Schulte* [2014] EWCA Civ 1382, [2016] QB 1 [28].

[575] The only qualification being pBLs issued in sets: M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-454.

[576] *Glencore International AG v MSC Mediterranean Shipping Co* [2017] EWCA Civ 365; [2017] 2 Lloyd's Rep 186 [62].

[577] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 357.

to change the PIN codes each time a transaction takes place. This might at first sight seem to be a formidable idea, but as shown in the previous chapter, blockchain technology leveraging private and public key cryptography should make it work, on the grounds that each party has its own key pair, consisting of a private key and a unique public key derived from it, whereas it is very difficult to derive the private key given only the public key.[578] As a consequence, the uniqueness of the electronic codes is guaranteed, and so a holder of the codes at the relevant time would acquire exclusive control of them.

ii. Proper contract drafting

Considering all the benefits that going paperless can offer to their business, the practice of using electronic release system is becoming increasingly prevalent among shipping lines to facilitate cargo delivery. The eventual outcome of *Glencore v MSC* has shown us the tension between long-established albeit outdated legal doctrine and disruptive technology that is informing and developing the practice of shipping business. It is conceivable that some potential or early adopter may cast doubt on the adoption of modern technology, such as the adoption of eBLs currently under discussion, at the present stage and continue to stick to conventional paperwork.

Nonetheless, this should not defeat the huge benefits of using modern technology in lieu of paper.[579] For this to be done successfully, as Sir Christopher Clarke said in his judgment, 'it requires, in my view, either appropriate contractual provision or statutory imposition'.[580] It is contended that the same is also true for the eBL usage. It should be recalled that the UK government has the power to make statutory regulations for the use of information technology in international trade under s.1(5) of COGSA 1992, but to date nothing has happened.[581] This makes having express terms to deal with new technology employed in the course of the delivery performance all the more important. In light of the conservative approach adopted by the court in *Glencore v MSC* when applying established analyses in modern contexts, the author suggests that it would be advisable for contracting parties contemplating the use of eBLs to include wording in their agreement making it clear that they

[578] See the relevant discussion in section 3.2.
[579] Noted by the Court of Appeal in *Glencore International AG v MSC Mediterranean Shipping Co* [2017] EWCA Civ 365; [2017] 2 Lloyd's Rep 186 [60].
[580] ibid [60].
[581] See sections 1.1, 3.4.3(2) and 4.3.1. However, the Law Commission's recent proposal will potentially change this situation. It is worth noting that exclusive control is included as one of the criteria set out therein: see in particular section 6.2.2.

agree that delivery is to be perfected electronically, instead of against presentation of a physical document; once the prescribed conditions have been fulfilled, the carrier should thereby be discharged from his ordinary obligation to physically hand over the goods to the consignee.

However, such clauses conceivably might be subjected to rigorous scrutiny of the English courts, since there is still doubt on whether the electronic alternative adopted provides sufficient, or at least the same level of assurance to the consignee as possession of a traditional pBL would have given them.[582] It follows that something more is likely to be needed beyond mere reference to an eBL, if it were to emulate the function of a pBL the transfer of which passes power to control the goods. A workable solution therefore would be for there to be an attornment furnished by the carrier, as just have been suggested above for the use of the electronic release system.

In fact, the attornment mechanism has already been adopted by two of the main eBL service providers Bolero and essDOCS to transfer constructive possession of the goods evidenced by an eBL contractually. T&C 8.4 of DSUA states that:

> Constructive Possession: Where a User becomes the Holder of a Negotiable Electronic Record as a result of a Transfer to that User of the Right of Control over such Negotiable Electronic Record:
> 8.4.1 Pursuant to the agency granted by T&C 8.8 (Limited Agency), essDOCS on behalf of the Carrier shall, by sending notice (the "Attornment") via the ESS-Databridge™ or otherwise to the new Holder and in copy to the previous Holder, immediately acknowledge that the Carrier holds the goods described in the Negotiable Electronic Record for the new Holder and that the new Holder has the rights referred to in T&C 8.3 (Rights under an Electronic Record or Ship's Delivery Order);
> 8.4.2 Upon such Transfer and Attornment the new Holder, provided that he shall not have become the transferee of the Negotiable Electronic Record in the circumstances described in T&C 6.4 above (Mistaken Delivery Procedure), and provided that the goods to which the Negotiable Electronic Record relates remain in the possession of the Carrier and/or the Carrier's Delegate(s) at the time of the Transfer, shall acquire constructive possession of the goods described in the Negotiable Electronic Record.[583]

It is not hard to apprehend that these closed eBL systems opt to perform the transfer of constructive possession of the shipped goods by involving an element of agency in the

[582] Clyde & Co, 'The Legal Status of Electronic Bills of Lading: A Report for the ICC Banking Commission' (2018) 16 <https://cdn.iccwbo.org/content/uploads/sites/3/2018/10/the-legal-status-of-e-bills-of-lading-oct2018.pdf> accessed 31 July 2022.
[583] Provision to the identical effect can be found in the Bolero Rulebook, Rules 3.4.1(2) and 3.4.2. s 4.5.2.1 of the Bolero Operating Procedures also stipulates that upon the transfer of the BBL an Attornment Notice is sent to the new holder informing his possessory rights.

process.[584] This may be the most convenient way to achieve the desired legal outcome. Since each participant is interconnected via the same system in which each transfer of the eBL takes place, the transmission of the eBL in the chain of sales can automatically trigger an acknowledgement issued by the system on behalf of the carrier under the agency granted by the overarching contractual regime underpinning the system, i.e., that from now on the carrier holds the goods as bailee under the new holder's order and that the new holder subsequently acquires constructive possession of the goods under the eBL. In this way the right to possession of the goods is to be recognized and given effect to[585] in the system, contractually binding upon the users thereof. Note, however, that the right of possession should not be confused with the document of title function, which is only recognized as such where there is an established mercantile usage or under statute,[586] neither of which (at least presently) applies in the case of eBLs. In other words, the document of title remains a difficult concept in the electronic context.

However, the agency principle would not work in a truly open system. Parties are expected to deal with each other independently, there being no underlying contractual relationship inter se. In fact, there is actually no need for the disposition of additional legal tools, in consideration of the advancement of disruptive technologies like blockchain and smart contracts, which are naturally suited to the automatic execution of agreements without the involvement of any intermediary.

5.1.3 The consequential presentation rule

(1) Simple presentation rule and its legal ramifications

A key part of the carriage of goods by sea is delivery. When the ship has arrived at the destination, the carrier must deliver the goods to the rightful person in fulfilment of his obligation under the contract of carriage. At this point, if there are multiple parties requesting delivery of the goods at the same time, the question arises as to who is actually entitled to the

[584] Respectively the Bolero Rulebook, Rule 3.4.2(a) and DSUA 2021.1, T&C 8.8.1.
[585] Bolero keeps a record of the holdership through its Title Registry. The essDOCS uses the notion of the Right of control to achieve the transfer of constructive possession; the set-up of the system ensures that there can only be one user (that being the holder) with the right to control the eBL at any given time.
[586] See M Bridge, Personal Property Law (4th edn, Clarendon Law Series 2015) para 5-010. In *Dixon v Bovill* (1856) 3 Macq HL 1 16, Lord Cranworth LC said: 'Independently of the law merchant and of positive statute the law does not enable any man by a written engagement to give a floating right of action at the suit of any one into whose hands the writing may come, and who may thus acquire a right of action better than the right of him under whom he derives title.'

goods, of which the carrier has little or no knowledge.[587] To inoculate against this potential risky and intractable dilemma, the English law implies[588] into a negotiable pBL that upon its issuance the carrier is obliged,[589] and even entitled, to deliver up the goods only against presentation of an original pBL.[590] This is commonly known as the presentation rule.[591]

In the first place, if the carrier does not deliver, or wrongfully delivers to someone without surrender of a pBL,[592] he is in principle liable both in contract and conversion to the holder.[593] The carrier will also be held liable if he delivers against a forged bill even without negligence, in which case he sincerely believes that the document is genuine and that there is no way of knowing it is forged.[594] In this regard, the stringent presentation rule, by placing restrictions on the delivery performance of the carrier, to some degree minimises the risk of misdelivery to somebody who is not entitled to, and who is possibly insolvent, thereby protecting the interests of not only the seller but those of the buyer as well.

In the second place, whilst the legal outcome of releasing cargo without presentation of an original pBL might seem harsh on the carrier, he actually benefits from it too, since the common law nevertheless accords him the necessary protection against suit, provided that he acts in compliance with the presentation rule. Once the carrier delivers to the first presenter of a bill, he will be discharged from further obligations under the contract of carriage, rendering the other originals in the set void;[595] he is also justified in refusing to make delivery except one is produced, subject to any contractual provision to the contrary. The carrier in this way

[587] D Semark, *P&I Clubs: Law and Practice* (4th edn, Informa Law from Routledge 2010) para 10.99.
[588] Imposed by the common law in the absence of an express term of the contract: *The Sormovskiy 3068* [1994] 2 Lloyd's Rep 266 274.
[589] Exceptions to the "simple rule" allowing for delivery without a pBL were judicially recognized in *The Sormovskiy 3068* [1994] 2 Lloyd's Rep 266 274-75, however they have since then been doubted by later cases eg *East West Corp v DKBS 1912* [2002] EWHC 83 (Comm) (Thomas J); *Motis Exports v Dampskibsselskabet AF 1912* [1999] 1 Lloyd's Rep 837 (Rix J). See also R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 5.8, endorsing Rix J's view in *Motis Exports*.
[590] Cases on this point of law are legion: see eg *Sze Hai Tong Ltd v Rambler Cycle Co* [1959] AC 576; *The Sormovskiy 3068* [1994] 2 Lloyd's Rep 266. See also the authorities cited in G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) fn 744.
[591] *The Sormosvskiy 3068* [1994] 2 Lloyd's Rep 266 274.
[592] The carrier will be in breach of contract even if the person to whom he delivered is the true owner, notwithstanding that no damages would be recoverable in the circumstances: *The Houda* [1994] 2 Lloyd's Rep 541 552 (col 2). See also *Glyn Mills Currie & Co v East and West India Dock Co* (1882) 7 App Cas 591 610.
[593] See the cases cited in G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) fn 745. Liability may also arise in bailment, albeit uncommon: *East West Corp v DKBS AF 1912 A/S* [2003] QB 1509. Without attornment the bailment actions are only available to the original shipper.
[594] *Motis Exports Ltd v Dampskibsselskabet AF 1912* [2000] 1 Lloyd's Rep 21. For a detailed critique of the decision see P Todd, 'Delivery against Forged Bills of Lading' [1999] LMCLQ 449.
[595] *Glyn Mills Currie & Co v East and West India Dock Co* (1882) 7 App Cas 591 598-600. See also *The Rafaela S* [2005] UKHL 11 6; [2002] EWCA Civ 556; [2003] 2 Lloyd's Rep 113 145.

needs not to concern himself with the question as to whether the person claiming delivery is the true owner; all that is required is that he delivers against presentation of an original pBL, and he will be immune from actions should he so deliver, assuming no notice of a conflicting title.[596]

(2) Creating defences to conversion actions for electronic documentation

It then becomes clear that to satisfactorily emulate the full feature of a pBL, it is necessary for an eBL to provide the same protection outlined above to its users as its paper cousin does. Simple and clear-cut as the presentation rule is, however, it will have no application to non-pBL documents. This is because the rule stems from the negotiable nature of the pBL;[597] in other words, it is an incidental corollary of the legal status given to the pBL as a common law document of title, vesting constructive possession of the goods under it in its holder, without the need for any attornment furnished by the carrier as bailee; the holder is therefore entitled to regain physical possession by demanding delivery of the goods at the port of discharge.[598] Therefore, if the trade document is not a document of title, there is no question of the application of the rule of presentation, nor the legal consequences that follow, i.e., it is the carrier's obligation and right to deliver the goods against a pBL. The important point, in the present context, is that, where constructive possession of the goods under them passes to the holder of an eBL by virtue of an attornment furnished by the carrier, and that holder subsequently demands delivery by presentation of the eBL, the carrier so delivering would be stripped away from the same protection they would have been afforded when using a pBL. In recognition of this, the thesis will next explore possible means of re-establishing the protection for carriers who delivers against an eBL.

(a) By contract

Protections for carriers could readily be provided via contractual arrangements. In this respect, private eBL solutions represented by Bolero are ideally suited to this approach by

[596] See *Glyn Mills Currie & Co v East and West India Dock Co* (1882) 7 App Cas 591 601-02, 610-11, where the House disapproved the reasoning in *Fearon v Bowers* (1753) 1 H Bl 364 that a carrier presented with two correctly indorsed parts of a bill of lading is entitled to choose to which one of the holders he delivers, and he will not incur any responsibility by so doing. cf *The Tigress* (1863) BR & L 37.
[597] *The Rafaela S* [2002] EWCA Civ 556 [96]-[97]. See also C Debattista, *Bills of Lading in Export Trade* (Tottel 2009) para 2.16.
[598] TK Sing, 'Of Straight and Switch Bills of Lading' [1996] LMCLQ 416, 417. M Bridge (ed), *Benjamin's Sale of Goods* (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-090; English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 4.12.

reason of its pre-established contractual framework, in which the system makes sure that every party is always in a contractual relationship with each other: concisely, parties to the contract of carriage evidenced by the eBL could decide how delivery will take place, and that he will be in breach of the contract if he refuses to deliver in that manner or otherwise delivers to someone else but the person identified under the contract, for which he will also have no contractual justification. In the same vein, corresponding common law defences for carriers could also be recreated by way of exception clauses, for example, the carrier will be free from liability once he has delivered to the person identified in the eBL.[599] As long as there is a contract between the parties, a claimant is barred from pursuing the tortious claim exclusively with a view to avoiding the contractual exemption and limitations on the carrier's liability.[600]

The Achilles heel for the contractual avenue, however, is that any contractual clause, no matter how well drafted, is only as good as the people signing it, and so will not be available outside the contractual nexus. The further question, therefore, is how could a carrier frustrate such an action by the owner, who is at no point in the contractual scheme, if he delivers to the holder of an eBL rather than a pBL?

(b) By consent

Against this background, reference can perhaps be made to the judgment in *Glyn Mills Currie & Co v East and West India Dock Co*,[601] a case concerning the use of pBLs but could nevertheless be argued that its reasoning will be applicable in a paperless environment. The carrier there faced an action in conversion by a bank, the holder of one of the three originals, having delivered the goods to the holder of another original pBL. There would have been no contract between the appellant and the carrier.[602] In spite of this, the bank was held to be bound by the clause in the pBL allowing the carrier to deliver to the first presenter of an original pBL. Although it is hard to see how the appellant's tort action could be affected by a clause, the judgment might be otherwise explicable with reference to the doctrine of *volenti*

[599] Whereas with a real common law document of title, those terms will apply automatically without the need for further explicit provision: *The Sormovskiy 3068* [1994] 2 Lloyd's Rep 266 274.
[600] The principle was enunciated by Lord Goff of Chievely in *Henderson v Merrett Syndicates Ltd* [1995] 2 AC 145 191, approving the statement of Oliver J in *Midland Bank Trust Co Ltd v Hett, Stubbs & Kemp* [1979] Ch 384 522.
[601] (1882) 7 App Cas 591.
[602] Because the appellant is a bank, whose holding of the pBL as pledge did not bring him into contractual relations with the carrier: *Sewell v Burdick* (1884) 10 App Cas 74. The case was not decided until 2 years later, so this may not have been appreciated when *Glyn Mills* was decided. The bank would be a party to the pBL contract under COGSA 1992 today, however.

non fit injuria.[603] Their Lordships observed that the pBL was marked "first" and distinctly contained "… one of which bills being accomplished, the others shall stand void".[604] The bank, therefore, must have had noticed that there were two other parts of the document; and by receiving the pBL, it had effectively consented to the stipulations under the pBL.[605] If that was the juristic basis of the case, it does not turn on the nature of the document used,[606] and so could possibly be used to protect a carrier who delivers in pursuance of the terms under an eBL contract.

The applicability of the *volenti* justification does however depend on the claimant being the holder of the eBL himself, who is perceived to have knowledge of or access to the terms thereunder. However, there might well be occasions where the claimant, the owner of the subject cargo is not the holder of an eBL. Where this is the case, the owner would still have a conversion action against the carrier. It subsequently follows that both defences discussed above (contract and consent) are invalid for a stranger who owns property but has no eBL at all.

(c) By legislation

One straightforward answer is to resort to legislative intervention, that being to divest the old tort from the law of carriage outright. However, it is pertinent against this background to appreciate that although the Law Commission in its 1991 report (which later led to the enactment of COGSA 1992) accepted that it is desirable for claims against sea carriers to be contractual rather than tortious,[607] as well as acknowledging the danger of double claims,[608] they nevertheless saw no need to explicitly exclude rights to sue in tort.[609] Indeed, abolishing tort could produce the anomaly that where goods had been stolen prior to shipment, but the victim is deprived of its standing to sue.

[603] A defence of consent: to a willing person, injury is not done.
[604] *Glyn Mills Currie & Co v East and West India Dock Co* (1882) 7 App Cas 591 596, 606, and 612.
[605] See M Bools, *The Bill of Lading: Document of Title to Goods an Anglo-American Comparison* (LLP Ltd 1997) 166.
[606] See P Todd, *Bills of Lading and Bankers' Documentary Credits* (4th edn, Informa Law 2007) para 7.92.
[607] Emphasis was placed on the difficulty of pinpointing the exact time of the establishment of ownership, and the possibility of the buyer to evade the provisions of the carriage contract by suing in tort solely intentionally: English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 2.14. Note that bailment actions are not considered at all in the report.
[608] ibid para 2.45.
[609] See also J Beatson and JJ Cooper, 'Rights of suit in respect of carriage of goods by [1991] LMCLQ 196, 198.

(d) No tort committed

An alternative ground[610] of the Court of Appeal decision in *Glyn Mills*, is that the conversion is a wrongful act, whereas by disposing of the goods in pursuance of one's existing contract without notice of a competing claim, the carrier has done nothing wrongful, hence has committed no tort. On upholding this, Lord Blackburn on appeal quoted the general jurisprudence rule enunciated in *De Nicholls v Saunders*,[611] that 'if a person enters into a contract, and without notice of any assignment fulfils it to the person with whom he made the contract, he is discharged from his obligation'. It has been suggested that if this is the correct interpretation of *Glyn Mills*, it will apply only to documents of title.[612] However, in his very reasoning Lord Blackburn also relied on *Townsend v Inglis Holt*[613] and *Knowles v Horsfall*,[614] neither of the documents concerned in these two cases were documents of title (a delivery order and a book of the warehouse keeper respectively), thereby opening the door for the extension of the *Glyn Mill* application to electronic documentation.

As established above, having an overarching network of contracts between users of an eBL would effectively protect a carrier from actions instigated by prospective cargo interests within the single contractual "pool", just as it is the case with a pBL scenario. However, there would be no proper way to restrain cargo interests outside the "pool" from suing the carrier, in particular in conversion, and it is now clear that legislating away tort actions would be difficult. The decision in *Glyn Mills* provides us with two further solutions. In principle, a conversion action can be lost by consent or on the grounds of wrongfulness that no tortious act has been committed. Considering that the former channel does turn on certain *de facto* conditions being met, the latter is therefore to be preferred.

5.2 Prospect of the eBL qualifying as a common law document of title

The foregoing analysis has demonstrated the issues that are likely to be encountered by eBLs in their course to achieve the legal and functional equivalent of pBLs, among which the pBL's possessory function and the recreation of the carrier's protections in the electronic environment appear to be of major concerns. Seeing the potential obstacles and uncertainties that might militate eBLs against providing the legal and functional equivalence of its paper

[610] (1880) 6 QBD 475, 491, relied on by M Bools, *The Bill of Lading: Document of Title to Goods an Anglo-American Comparison* (LLP Ltd 1997) 166.
[611] Law Rep 5 C P 594.
[612] P Todd, *Maritime Fraud & Piracy* (2nd edn, Informa Law 2010) para 5.012.
[613] N P 278.
[614] 5 B & Ald 139.

counterpart, it is also beneficial to deliberate on this intriguing question: is there a possibility of establishing eBLs as a new species of document of title in the common law, at all?

5.2.1 A broader interpretation of the custom of merchants for pBLs

Four possible angles for development are worth investigating. To begin with, given the fact that the pBL is accorded the legal status as a common law document of title by virtue of the custom found in *Lickbarrow v Mason*, it might be easiest to apply the off-the-shelf custom of merchants, *mutatis mutandis*, to the paperless setting.

Straightforward as this solution sounds, there are several difficulties with it. The first is that the application of the custom entrenched in *Lickbarrow v Mason* is limited to the traditional pBL and there is no evincing of the Court's intention to extend its scope to other documentation. Therefore, the *Lickbarrow* reasoning does not leave much room for a broader consideration of custom relating to eBLs.

5.2.2 Establishing a new custom of merchants

It follows that existing custom of merchants cannot be adapted to apply in an eBL context. What about creating a new custom instead? Admittedly, the fact that the pBL is the only document of title judicially recognized at common law does not rule out the possibility of other documents being proven to be documents of title; it simply means that by far no other document has yet been recognized as such. However, establishing a brand-new commercial custom 'from scratch' appears to be a formidable challenge.[615] In its strict sense, custom means something that is 'reasonable, certain, consistent with the contract, universally acquiesced in, and not contrary to law'.[616] The requirement raises not a question of law but a question of fact:[617] there must be proof in the first place that the custom is universally acquiesced and reasonably followed in a particular locality which, although contrary to the general law of the realm, is in truth believed to be a part of the common law within that place to which it extends.[618]

---

[615] M Bridge and others, *The Law of Personal Property* (2nd edn, Sweet & Maxwell 2017) para 5-036.
[616] See *The Sormovskiy 3068* [1994] 2 Lloyd's Rep 266 275, referring to AA Mocatta and others, *Scrutton on Charterparties* (19th edn, Sweet & Maxwell 1984) 14-16. See also D Foxton and others, *Scrutton on Charterparties* (24th edn, Sweet & Maxwell 2021) para 2-072.
[617] *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep 439 444.
[618] *Halsbury's Law of England*, Vol 32 (2019), Custom and usage, paras 1 and 50; *Lockwood v Wood* (1844) 6 QB 50 64. For a more detailed discussion see M Goldby, 'Enforceability of "Spontaneous Law" in England: Some evidence from recent Shipping Cases', in L Mistelis and M Goldby (eds), The Role of Arbitration in Shipping Law (OUP 2016) Heading C.

(1) Custom vs practice

It is important in this context to distinguish custom from a mere market practice, which however repeated will not have the force of a law in the commercial community concerned. In order to amount to a custom that the court will give effect to, the said practice has to be 'a settled and established practice of the port'.[619] This being said, the borderline between the two definitions is not always easy to draw. In *The Sormovskiy 3068*,[620] goods were delivered by the defendant carrier to a local authority pursuant to the practice in a Russian port without seeking presentation of the pBL. The court ultimately found the carrier liable for misdelivery, because a mere practice of the port of discharge to deliver without production of an original pBL does not meet the threshold of a custom in the strict sense. Nevertheless, come what may, this being necessarily a fact-bound inquiry, and so the answer to the question of whether a particular practice is a custom or a loose practice could be a matter of judgment. A shipped pBL is able to sidestep this thanks to a fruitful source of celebrated authorities[621] and statutes[622] in which it has been unanimously accepted as a document of title at common law, without further need for proof of custom or other evidence in individual cases. However, the same could not be said to apply to an eBL, for there is no supporting legislation to that effect.

(2) The document should be final not preliminary

It also appears that, in order to become a document of title by custom, the said document must be the final document against which delivery shall be made.[623] An example to illustrate the point is found in *Nippon Yusen Kaisha v Ramjiban Serowgee*.[624] There, the mate's receipt being preliminary to the preparation of the pBLs was held not to be conclusive enough to be a document of title to the goods shipped. In the more recent case *Glencore v MSC*, the Court of Appeal declared that where the parties contemplate that a later document, such as a bill of lading or delivery order, will be transferred to the cargo receiver, providing PIN codes to allow access to goods is not a delivery of the goods per se. This could be a potential impediment that derails the eBL from the pathway to a successfully established common law document of title. A similar situation to the cases described above could arise where an eBL

[619] *Postlethwaite v Freeland* (1880) 5 App Cas 599 616.
[620] [1994] 2 Lloyd's Rep 266.
[621] For instance, *Lickbarrow v Mason* (1787) 2 TR 63; *Sanders v Maclean* (1883) 11 QBD 327; *Official Assignee of Madras v Mercantile Bank of India Ltd* [1935] AC 53 PC.
[622] See the Preamble to the 1855 Act; see also the Factors Act 1889. It is arguable that eBLs are covered under the 1889 Act, s 1(4): see below section 5.3.1.
[623] P Todd, 'Bills of Lading as Documents of Title' [2005] JBL 762, 778.
[624] [1938] AC 429.

is issued first, but it is intended that it is to be given up in exchange for a later pBL.[625] The court in this situation might be inclined to hold the eBL as merely preliminary or temporary and therefore cannot be deemed as a document of title.[626] A practical reason for so holding could be that the treatment of the eBL as a document of title would occasion the undesirable outcome of there being two documents of title in circulation at the same time in relation to the same goods.[627]

Therefore, factoring in the risk of uncertainty adverted to above, although an eBL could in theory be regarded as a document of title by proof of custom, it is by no means an easy task.[628]

5.2.3 Becoming a document of title in accordance with *The Rafaela S* rationale

A third avenue to obtain the status of a document of title at common law can be found in the judicial discussion in *The Rafaela S.*[629] In order to enunciate the claim made above, it is necessary to go over certain facts of the case.

The paper straight bill of lading concerned there was not an ordinary one, in that it contained a so-called attestation clause which provided, among other things, that

> 'In witness whereof the number of Original Bills of Lading stated above [viz three] all of this tenor and date, has been signed, one of which being accomplished, the others to stand void. *One of the Bills of Lading must be surrendered duly endorsed in exchange for the goods or delivery order*.'[630]

The point at issue there was whether the claim brought by the cargo owner should be limited by the HVR given the force of law under the Carriage of Goods by Sea Act 1971.[631] This ultimately turned on the question of whether the straight bill of lading in question constituted

[625] Presumably this might be to cater for the requirements of the local custom authority at the discharging port.
[626] cf *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep. 439, where the court was prepared to accept that a mate's receipt could be a document of title, had it not been expressly stated to be non-negotiable, because it was in reality the last document issued to take delivery of the goods, and so was not intended to operate as only a preliminary document.
[627] ibid 444.
[628] Examples of failed attempts to establish a document other than a shipped bill of lading as a document of title: *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep 439 (mate's receipt); *Diamond Alkali Export Corp v Fl Bourgeois* [1921] 3 KB 443 (received bill of lading). See also P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 352; M Goldby, 'The CMI Rules for Electronic Bills of Lading Reaccessed in the Light of Current Practices' [2008] LMCLQ 56 66.
[629] *JI MacWilliam Co Inc* v *Mediterranean Shipping Co SA (The Rafaela S)* [2005] UKHL 11; [2005] 2 AC 423; [2005] 1 Lloyd's Rep 347.
[630] ibid 32.
[631] Carriage of Goods by Sea Act 1971, s 1(4).

a 'bill of lading or any similar document of title'[632] for the purposes of the Rules. The House of Lords unanimously ruled that it did and therefore the HVR apply to it.

While the decision was limited to the applicability of an international convention to the paper straight bill of lading in question, there are various dicta in the speeches of their lordships which could arguably open the way for eBLs to be deemed a document of title at common law. Although it was unnecessary to decide in that case following the conclusion in the Court of Appeal that the straight bill of lading which contained an express provision requiring surrender should be viewed as a document of title within the meaning of the HVR,[633] Rix LJ went further to state that a straight bill of lading would in principle be a document of title even in the absence of such express provision.[634]

The policy reason furnished by Rix LJ to justify this proposition is that the rule of production in the case of a negotiable bill of lading is equally necessary for the protection of not only the shipper but also the carrier using a straight bill of lading. This view was adopted by Lords Bingham of Cornhill: 'But like Rix LJ in para [145] of his judgment, at p 752, I would, if it were necessary to do so, hold that production of the bill is a necessary precondition of requiring delivery even where there is no express provision to that effect.'[635] Lord Steyn did not expressly give his consent to Rix LJ's sentiment, but nevertheless remarked that: 'In my view the decision of the Court of Appeal of Singapore in *Voss v APL Co Pte Ltd* … that presentation of a straight bill of lading is a requirement for the delivery of the cargo is right.'[636]

It is not at all times clear in what context the phrase 'document of title' was utilized in their Lordship's speeches.[637] Regardless, it should be noted that the justification is not necessarily restricted to a straight bill of lading under the HVR, but rather extend beyond the international convention to straight bills of lading at large, so that it can be said to cover all documents of this type in the common law sense.[638] This could be seen as an indication, to say the least, that a document can still be a document of title under common law without

[632] HVR, art I(b).
[633] [2004] QB 702 [143].
[634] [2003] EWCA Civ 556; [2004] QB 702; [2003] 2 Lloyd's Rep 113 [145].
[635] [2005] UKHL 11 [20] and [24].
[636] [2005] UKHL 11 [45], [46] and [51]. See also *Peer Voss v APL Co Pte Ltd* [2002] 2 Lloyd's Rep 707 Singapore Court of Appeal.
[637] Either in its domestic common law sense or in its statutory or international convention sense.
[638] GH Treitel, 'The Legal Status of Straight Bills of Lading' (2003) LQR 608, 620.

proof of mercantile custom; in other words, the common law test is not as strict as what it has been commonly perceived.[639] If this analysis is right, then the category of such documents would be widened, and would probably be wide enough to include eBLs as a new species of document of title at common law.[640]

On the other hand, it is doubtful whether these dicta form part of the ratio of the decision. Critically, the question before the House was not so much that whether a straight bill of lading is a document of title at common law but rather that whether the document comes within Art. I(b) of the HVR.[641] Moreover, the prevailing view among legal scholars is that it cannot be deduced that a straight bill is a document of title under common law merely because it must be produced to obtain delivery, for 'while the existence of the requirement is no doubt a *necessary*, it does not follow that it is also a *sufficient*, condition of a document's falling within that class.'[642]

In the alternative, it might be argued that, even if the eBL could not be classified as a document of title at common law, it would at least constitute 'a bill of lading or any similar document of title' under the HVR, as long as it addresses itself as a bill of lading[643] and

---

[639] A likely inference that can be drawn from an integral read of [2003] EWCA Civ 556; [2004] QB 702; [2003] 2 Lloyd's Rep 113, [129], [130], [133] and [145].

[640] Note the remarks in R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 6.11:

> While the House of Lords in *The Rafaela S* did not consider whether the transfer of a straight bill of lading was capable of giving the transferee symbolic possession of the goods (the touchstone of a document of title at common law), it is strongly arguable that the effect of the decision is that it is: if the carrier is only entitled to deliver the goods to the presenter of the straight bill, then it would seem that the three factors identified in paragraph 6.6 above would be satisfied by the transfer of a straight bill of lading: its transfer would evidence the carrier's intention not to interfere with the presenter's ability to obtain custody of the goods; it would evidence the transferee's intention no longer to exercise control over the goods; and it would evidence the transferor's intention to exercise such control, to the exclusion of others.

It seems that this argument would also apply to eBLs, in which case the paper substitute would satisfy the three key attributes of a pBL, come what may.

[641] [2005] UKHL 11 [22].

[642] M Bridge (ed), *Benjamin's Sale of* Goods (1st supp, 11th edn, Sweet & Maxwell 2021) para 18-195 (emphasis added). See also GH Treitel, 'The Legal Status of Straight Bills of Lading' LQR 608, (2003) 621; P Todd, 'Bills of Lading as Documents of Title' [2005] JBL 762; S Girvin, 'Bills of Lading and Straight Bills of Lading: Principles and Practice' (2006) JBL 86, 112; Č Pejović, *Transport Documents in Carriage of Goods by Sea* (Informa Law 2020) 122. The Law Commission and the Scottish Law Commission did not consider a straight bill of lading to be a document of title at common law either: English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) paras 5.6-5.10. cf Todd's argument that the straight bill of lading is treated by mercantile custom as being a document of title: P Todd, 'Case Comment: Bills of Lading as Documents of Title' [2005] JBL 762, 778.

[643] *The Rafaela S* [2005] 2 AC 423 [5] (Lord Bingham): 'Where, however, the court is considering a bona fide mercantile document, issued in the ordinary course of trade, it will ordinarily be slow to reject the description which the document bears, particularly where the document has been issued by the party seeking to reject the description.' It might be said that what commercial party call a document will be given great weight by the court.

resembles the form of a standard bill of lading.[644] For the eBL to avail itself of this claim, it is best to make explicit incorporation provision incorporating the Rules into the eBL. It is worth noting that many private schemes have included specific provisions in their multi-party agreements to make their eBLs subject to the HVR by means of a clause paramount.[645]

5.2.4 Becoming a new type of document of title by dint of carriage contract terms

The foregoing discussion, however, does not rule out the final possibility of creating new documents of title by contract. The theory is that a document can be accorded the status of a document of title by virtue of its own wording or provisions. For instance, parties could state explicitly in their carriage contract that the eBL is "negotiable" or "transferable", and that it is "to order";[646] or perhaps better still, they could specify on the document that it is a "document of title".

This radical train of thought is not new, but remains contentious as there are arguments both ways. For one thing, it has long been disapproved in *The Future Express*[647] that

> A bill of lading is not a document of title merely because of its terms. If a document could become a document of title merely by virtue of its terms, it is hard to see why a custom as to the transferability of bills of lading had to be proved in *Lickbarrow v Mason* .... A document can only, it seems, achieve the status of a document of title to goods by mercantile custom or by statute.[648]

Likewise, the authors of *Carver* are not in favour of the idea of self-styled documents of title either, reasoning, in addition to the objection set out in *The Future Express*, that permitting the parties to create documents of title by their will would hamper the rights of a *bona fide* third party.[649]

---

[644] ibid [58] (Lord Rodger): 'While appearances cannot, of course, be determinative, everything about this form suggests that the parties issuing or receiving it, whether or not the words "or order" were added, would regard the document as a bill of lading.' It has been suggested that the law commission's opinion in 2001 that eBLs are not within the ambit of the Hague-Visby Rules should be read in conjunction with *The Rafaela S*: M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.15, fn 38 and the associated text.

[645] See the Bolero Rulebook, Rule 3.2(4); DSUA 2021.1, T&C 7.4. The effect of a paramount clause like this has been doubted in A Møllmann, *Delivery of Goods under Bills of Lading* (Routledge 2018) 170. cf M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.17.

[646] Relevant wording can be found in various parts of Bolero Rulebook and DSUA. DSUA calls its electronic documents as 'electronic records', which can be made "negotiable" or "non-negotiable"; a Bolero Bill of Lading can be "transferable" or "non-transferable". The "to-order" feature is also provided in both systems.

[647] [1992] 2 Lloyd's Rep 79.

[648] ibid 95.

[649] G Treitel and FMB Reynolds, *Carver on Bills of Lading* (4th edn, London: Sweet & Maxwell 2017) para 6-005.

For another, Bools in his monograph on bills of lading, attacked both grounds mentioned above.[650] Firstly, he argued that the decision in *Lickbarrow v Mason* was not about the transferability of a bill of lading but about whether the transfer of the document raised a presumption of an intention to pass the property in the goods because of the existence of custom of merchants. As for the policy grounds in relation to the protection of third parties, Bools contended that they did not stand up, since the same is true in the case of an attornment by a warehouseman, in which circumstance a third party will not necessarily find out except for the attornee.

The author would like to suggest that there seems to be nothing impermissible about allowing parties to create their own lawful document of title to transfer constructive possession of the goods, particularly in the light of the significant regard the House had in *The Rafaela S* to the intention of the parties and the description of the document. It would therefore be fair to suggest that it is at least likely for the English court to uphold the sanctity of party autonomy and treat an eBL as a common law document of title.

5.3 The statutory definition

5.3.1 "Document of title" under the Factors Act 1889

Having considered the document-of-title function at common law, the thesis shall now turn to look at its legal standing under the English statutes and the issues it aims to solve. The statutory category of document of title is prescribed by s. 1(4) of the Factors Act 1889 (FA 1889).[651] This provision covers not only documents other than bills of lading, which are not traditionally common law documents of title,[652] but also includes

> any other document used in the ordinary course of business as proof of the possession or control of goods, or authorising or purporting to authorise, either by endorsement or by delivery, the possessor of the document to transfer or receive the goods thereby represented.

As a result, a document will be captured by this section if it is used 'in the ordinary course of business' for the purposes specified in the subsection. It can accordingly be envisaged that

[650] Though he did not name the provenance of the objections: MD Bools, *The Bill of Lading: Document of Title to Goods an Anglo-American Comparison* (LLP Ltd 1997) 186.
[651] Which has the same meaning under SGA 1979, s 62(1).
[652] In parenthesis, although from the wording it does not follow that a bill of lading must, therefore, be a document of title, it unwittingly reinforces the common law view that an essential attribute of the bill of lading is its status as a document of title: R Aikens and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020) para 2.104.

even if an eBL were not to be deemed as a 'bill of lading' in the first part of the section, the widespread of its use for those purposes would, at least in the future, facilitate a finding that they amount to other documents of title described in the second part.[653]

Three points worth making in this context, then: first, at common law there is an important distinction between a bill of lading and those other documents which by the statutory definition are documents of title. While transfer of a bill of lading at common law can transfer constructive possession, transfer of a statutory document of title does not, unless there is an attornment by the bailee to the new holder of the document. As will be shown later in the chapter, this additional requirement in principle ought to pose no difficulty for electronic communication such as eBLs, if it were to be recognized as a document of title under FA 1889.[654]

Secondly, a bill of lading as a document of title in the common law sense is not capable of transferring a better title to the goods than the transferor has; the only exception being the shipper's right of stoppage in transit, which occurs when a lawful transferee of a bill of lading makes a further transfer to a *bona fide* transferee, the latter in this instance will acquire a title that is free from the original shipper's right to stop the goods in transit.[655] This rule is not at all satisfactory, leading to the statutory exception to the rule *nemo dat quod non habet*, which is intended to ameliorate the common law regime.[656] The legal implication for an eBL to be a "document of title" within the definitions of FA 1889 would be that the transferor of the eBL might be able to transfer a better title to the transferee, even though he was not the owner. However, there are uncertainties inherent in the wording of the relevant provisions that might render it inapplicable to electronic documentation. This respect will be examined further below.[657]

Last but not the least, there is one important caveat to the statutory definition of document of title, which is that it may not apply beyond the statute concerned. Consequently, had it been the case that an eBL is considered as a bill of lading, or a document of title, under FA 1889,

[653] See Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions - Advice from the Law Commission* (2001), the basis for their statement were based on other grounds: paras 5.7-5.8; D Faber, 'Electronic Bills of Lading' [1996] LMCLQ 232, 240.
[654] See the discussion below: section 5.3.3 (1).
[655] *Lickbarrow v Mason* (1787) 2 TR 63; *Pease v Gloahec (The Marie Joseph)* (1866) LR 1 PC 219; *The Argentina* (1867) KR 1 Ad & E 370.
[656] FA 1889, ss 8-9 and SGA 1979, ss 24-25 in relation to seller and buyer in possession after sale.
[657] See section 5.3.2.

the statute needs not extend beyond the scope of that statute to the definition of a document of title at common law; the latter should remain unfettered, depending on there being a real custom of merchants in relation to the use of the electronic documents.

The following sections considers the legal consequences of an eBL being a document of title in the statutory sense.

5.3.2 Applicability of the *nemo dat* exceptions

The exceptions to the *nemo dat* rule are contained in s. 8 and 9 of FA 1889, which refer to transfers of documents of title made by sellers remaining in possession and buyers obtaining possession with the seller's consent. Ss. 24 and 25(1) of the Sale of Goods Act 1979 (SGA 1979) reproduces the rule with only minimal changes:

> 24. Where a person having sold goods continues or is in possession of the goods, or of the documents of title to the goods, the delivery or transfer by that person, or by a mercantile agent acting for him, of the goods or documents of title under any sale, pledge, or other disposition thereof, to any person receiving the same in good faith and without notice of the previous sale, has the same effect as if the person making the delivery or transfer were expressly authorised by the owner of the goods to make the same.
> 25(1) Where a person having bought or agreed to buy goods obtains, with the consent of the seller, possession of the goods or the documents of title to the goods, the delivery or transfer by that person, or by a mercantile agent acting for him, of the goods or documents of title, under any sale, pledge, or other disposition thereof, to any person receiving the same in good faith and without notice of any lien or other right of the original seller in respect of the goods, has the same effect as if the person making the delivery or transfer were a mercantile agent in possession of the goods or documents of title with the consent of the owner.[658]

On a literal reading of the provisions, both the acts of "possession", "delivery or transfer" of the document of title as therein defined are required to trigger the application of the legislation. This in fact presents difficulty for eBLs: by s. 61 of SGA 1979 "delivery" means voluntary transfer of possession from one person to another; "possession" is not defined in the Act but by s. 1(2) of FA 1889: 'A person shall be deemed to be in possession of goods or of the documents of title to goods, where the goods or documents are in his actual custody or are held by the other person subject to his control or for him or on his behalf'. Since the statutes predated the emergence of electronic communication, it cannot be assumed that the drafter of the two statutes had foreseen the prospect of an eBL being developed, the

[658] SGA 1979, s 24 and 25(1).

expressions are therefore better to be construed as tailored to documents with physical presence.[659]

In view of this, new concepts of "possession" and "delivery or transfer" would have to be devised to accommodate the used of intangible digital documents.[660] A number of ways have therefore been put forward to achieve this. One is, of course, through legislation, albeit conceivably any national legislative amendment will not happen any time soon.[661] Another option, proposed in *Benjamin's*, is that s. 25 of SGA 1979 should be construed to apply not only in cases where a buyer transferred the same document as that of which he was in possession with the consent of the seller, relying on the principle laid down in *D F Mount Ltd v Jay & Jay (Provisions) Co Ltd*.[662] It suggests that by an analogical application of the decision an eBL recipient would be able to obtain a better title than the transmitter, even though the latter did not lose "possession" of the electronic document as a result of the transmission.

However, it seems hard to reconcile the proposition with the reasoning in *D F Mount Ltd v Jay & Jay (Provisions) Co Ltd*, as what actually happened in that case was that a fresh delivery order was issued every time the transmission took place, whereas this needs not be the case especially with a closed eBL system, where the idea is that the eBL will be issued only once upon its creation. Finally, there is also the view that granted that the words "delivery" and "possession" are not defined under the statutes themselves, it is open to the court to add the electronic aspect to the existing definition of document of title under the statutes through a deliberate judicial interpretation.[663] However, based on what the thesis has just observed, the premise of this understanding is not accurate.

5.3.3 Pledge of goods under the statutes

(1) Significance of the role of pledge

At common law a pledge could not be created except by a delivery of possession of the thing pledged, either actually or constructively. Where actual delivery is unattainable, for example the goods are in the custody of a third party, who holds for the bailor so that in law his

[659] On the difficulty of interpreting of these words in cases where eBLs are used see *Benjamin's*, para 18-250.
[660] Č Pejović, *Transport Documents in Carriage of Goods by Sea* (Informa Law 2020) 221.
[661] For a discussion on the current legislative activities see section 6.2.
[662] [1960] 1 QB 159.
[663] M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.43.

possession is that of the bailor, the pledge in such cases can be perfected by a change of possession and constructive delivery, requiring the third party to attorn to the pledgee and acknowledge that he thereupon holds for him. By virtue of this process the goods in the hands of the third party comes into possession of the pledgee constructively.[664] The pBL however, makes an exception to this rule, again because its possession attribute confers on its holder the necessary degree of control or constructive possession,[665] sufficient to act as a form of security in the hands of a creditor by simply transferring the possession of the document to the creditor, in return for a documentary credit. The role of pledge is so important that later statutory rules came into force to further refine the relevant law on the subject.

The practical importance of the pledge function is that in this way the pBL acts as a method of finance by the buyer in the context of international sale of goods. In particular, if the financier is a commercial bank, the tender of the pBL triggers its duty to pay the price on presentation of the pBL required by the letter of credit contract (which usually incorporates the UCP) concluded on the basis of the underlying sales contract. Furthermore, by acquiring the special property in the goods accrued from the pledge, the creditor (usually a trade finance bank) can protect himself in the event of the buyer's default of payment, as he will be able to exercise the right of sale on the pledged goods so as to reimburse himself out of the proceeds;[666] and in the event of the buyer's insolvency, as he will be able to assert rights against the liquidator, such as the right to take delivery of the relevant goods in preference to the latter.[667] It is logical that the eBL should also maintain this function, providing security for all parties who trade goods under it.[668] The subject matter of this section is therefore to evaluate the extent to which the statutory rules on the topic of pledge are applicable in the paperless situation.

---

[664] *Official Assignee of Madras v Mercantile Bank of India Ltd* [1935] AC 53 58-9; *Kum v Wah Tat Bank* [1971] 1 Lloyd's Rep 439, 442.
[665] See for example *Barclays Bank Ltd v Commissioners of Customs and Excise* [1963] 1 Lloyd's Rep 81; *Alicia Hosiery Ltd v Brown, Shipley & Co Ltd* [1969] 2 Lloyd's Rep 179 187, in which both courts equated constructive possession with the control of the goods.
[666] *Sewell v Burdick* (1884) 10 App Cas 74 82; *Ex parte Hubbard* (1886) 17 QBD 690 698 and 701; *In re Morritt, ex parte Official Receiver* (1886) 18 QBD 222 232; *Deverges v Sandeman Clark & Co* [1902] 1 Ch 579 593; *Rosenberg v International Banking Corporation* (1923) 14 Ll LR 344 347; *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep 439 447.
[667] N Palmer and E McKendrick (eds), *Interests in Goods* (2nd edn, Informa Law from Routledge 1998) 553; RM Goode, *Proprietary Rights and insolvency in Sales Transactions* (2nd edn, Sweet & Maxwell 1989) 2-3.
[668] Ideally though, current sale contracts should be amended to allow for the use of eBLs rather than paper documents, and letter of credits should too opt for tender of eBLs, allowed under the e-UCP.

(2) Pledges by mercantile agents

Pledging goods to be achieved by a pledge of a document of title to goods is now given statutory effect by s. 3 of FA 1889. The operation of this section is however qualified by s. 2:

> (1) Where a mercantile agent is, with the consent of the owner, in possession of goods or of the documents of title to goods, any sale, pledge, or other disposition of the goods, made by him when acting in the ordinary course of business of a mercantile agent, shall, subject to the provisions of this Act, be as valid as if he were expressly authorised by the owner of the goods to make the same; provided that the person taking under the disposition acts in good faith, and has not at the time of the disposition notice that the person making the disposition has not authority to make the same,
> (2) Where a mercantile agent has, with the consent of the owner, been in possession of goods or of the documents of title to goods, any sale, pledge, or other disposition, which would have been valid if the consent had continued, shall be valid notwithstanding the determination of the consent: provided that the person taking under the disposition has not at the time thereof notice that the consent has been determined.[669]

This in effect gives a mercantile agent a greater power than the principal to make an effective pledge using one of the documents of title,[670] as the provision of s. 3 will apply to those pledges effected by mercantile agents only which is not to be treated as an enactment relating to all pledges of documents of title.[671] Noteworthily, Lord Wright has therefore observed that:

> Thus the curious and anomalous position was established that a mercantile agent, acting it may be in fraud of the true owner, can do that which the real owner cannot do, that is, obtain a loan on the security of a pledge of the goods by a pledge of the documents, without the further process being necessary of giving notice of the pledge to the warehouseman or other custodier and obtaining the latter's attornment to the change of possession.[672]

Current private eBL system providers like Bolero and essDOCS would come within sections 2 and 3 under FA 1889, both operating to act as agent for the carrier in performing the transfer of eBLs.[673] One legal consequence that may result from the operation of an eBL, if it were to be categorized as a document of title for the purposes of the statutes (and assuming that the issues of "possession" and "delivery" or "transfer" could be resolved at all), is that those eBL operators, in their capacity as agents of the carrier, may, to the detriment of their principals, pledge the goods by simply transferring the eBL, while the carrier cannot achieve the same purpose without an attornment. In this context, it is ideal that the underpinning

[669] FA 1889, s 2.
[670] *Inglis v Robertson* [1898] AC 616; *Official Assignee of Madras v Mercantile Bank of India* [1935] AC 53.
[671] *Inglis v Robertson* [1898] AC 616 630. Whereas in the case of a conventional bill of lading, a pledge of the goods is effected by indorsement or transfer of the bill of lading, without needing FA 1889, s 3.
[672] *Official Assignee of Madras v Mercantile Bank of India* [1935] AC 53 60.
[673] See respectively the Bolero Rulebook, Rule 3.4.2 and DSUA 2021.1, T&C 8.8.

private legal frameworks include appropriate contractual provisions to inoculate against this type of fraud.[674]

(3) Pledge of unascertained goods in bulk

As previously stated, transfer of possession, be it actual or constructive, is essential to effect a pledge.[675] Actual possession is achieved through physical delivery to the pledgee; insofar as constructive possession is concerned, the requirement can be met by the delivery of a pBL, or, in the alternative, by the holder of the bill instructing the person in actual possession to hold the goods for or to the order of the pledgee. Granted, there is no question of pledging specific or identified goods by transferring the constructive possession of them, but problems could occur with goods forming part of a larger bulk, such as oil or grain which remains unascertained until being separated out upon discharge.[676]

In this connection, it is remarkable to notice s. 25 (1) of SGA 1979 which provides that:

> Where a person having bought or agreed to buy goods obtains, with the consent of the seller, possession of the goods or the documents of title to the goods, the delivery or transfer by that person, or by a mercantile agent acting for him, of the goods or documents of title, under any sale, pledge, or other disposition thereof, to any person receiving the same in good faith and without notice of any lien or other right of the original seller in respect of the goods, has the same effect as if the person making the delivery or transfer were a mercantile agent in possession of the goods or documents of title with the consent of the owner.[677]

What could perhaps be reasoned from the subsection is that a pledge of an undivided share of the bulk may be permissible. The definition of "goods" as further defined under s. 61(1) of the Act includes an undivided share in goods.[678] Therefore, it would seem to be immaterial that the goods are still unascertained, provided that the buyer obtains a document of title. This relaxed statutory construction is not without judicial support. In *Hayman v M'Lintock*,[679] Lord M'Laren was apparently of the viewpoint that the pledge of a bill of lading in relation to an undifferentiated part of a bulk of flour is a good pledge:

> It is perfectly true that a delivery order is worthless as passing specific property until the goods have been ascertained, but that is exactly the distinction between the effect of a

[674] Unfortunately, none of Bolero and essDOCS' multi-party contracts provide for relevant provision dealing with this kind of issue.
[675] See section 5.3.3(1). See too *Official Assignee of Madras v Mercantile Bank of India* [1935] AC 53 60; *Dublin City Distillery Ltd v Doherty* [1914] AC 823, 842; *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep 439, PC.
[676] *Peter Cremer v Brinkers Groudstoffen NV* [1980] 2 Lloyd's Rep 605 608.
[677] SGA 1979, s 25(1).
[678] SGA 1995, c 28, s 2(c) states that: 'In section 61(1) of the 1979 Act, at the end of the definition of "goods" there shall be added the words "and includes an undivided share in goods".
[679] 1907 SC 936.

> delivery order for goods on shore and a bill of lading … We know that bills of lading are granted for portions of cargo in bulk which cannot, of course, be ascertained; and where bills of lading are granted in these circumstances they must operate as a transfer of an unascertained quantity of goods on board the ship until delivery is made in terms of the obligation.[680]

If this is the correct understanding of the dictum,[681] then it is submitted by the author that any pBL substitute would have to make sure it enables goods in bulk to be pledged as security by constructive delivery any more than by actual delivery. Considering that the English law to date only recognizes pBLs as effective documents of title, the transfer of which operates as a pledge of goods without physically handing the goods that are still at sea,[682] in what follows, the discussion will centre on the possibility of creating a pledge of part of a bulk under an eBL by way of attornment.

The finding set out in the previous paragraph begs the question as to whether the English law admit of a transfer of constructive possession by attornment in respect of an undivided share of a bulk that is not covered by a document of title. Legal opinions are divided on this point. On the one hand, cases such as *Maynegrain Property Ltd v Compafina Bank*[683] and *Re London Wine Co (Shippers) Ltd*[684] have denied this, on the grounds that it is uncertain as to which particular part of the bulk the alleged attornment relates. On the other hand, later textbook writers have thought not, contending that since it is possible to have shared constructive possession in a single asset such as a horse, it must therefore be possible to have shared constructive possession of goods in bulk by attornment.[685]

In fact, the 1995 reform of SGA 1979 have improved the prospects of acknowledging attornment as an effective approach to transfer constructive possession even of part of a bulk. The introduction of ss. 20A and 20B in SGA 1979 has the effect of allowing a prepaying buyer of an undivided share of the bulk to become a tenant in common of the bulk together

---

[680] ibid 952.
[681] It has otherwise been submitted that it is impossible to reconcile Lord M'Laren's remarks with s 16 of SGA 1979 had he meant that the transfer of a bill of lading in respect of goods in bulk had the effect of passing property in those goods, and they are best explained by reference to the context of a contract of pledge: *Benjamin's*, para 18-339.
[682] Therefore ss 24 and 25 of SGA 1979 relating to a seller or a buyer in possession of a document of title and cases such as *Hayman v M'Lintock* referring explicitly to the use of bills of lading as documents of title will not apply automatically to instruments other than conventional pBLs.
[683] [1982] 2 NSWLR 141 (reversed on different grounds by the Privy Council (1984) ALJR 389.
[684] [1986] PCC 121.
[685] M Bridge and others, *The Law of Personal Property* (2nd edn, Sweet & Maxwell 2017) para 15-025, citing H Beale and others, *The Law of Security and Title-Based Financing* (2nd edn, OUP 2012) para 5.48; E McKendrick, *Goode on Commercial Law* (5th edn, Penguin 2016) para 8.70.

with the sellers and any other buyers. It can therefore be argued, that why should the pre-paid buyer not be able to pledge his share, now that he has acquired a proprietary interest in it? There seems also to be no logical reason for not giving effect to a pledge of such an interest.[686] It has therefore been suggested that the occurrence of the 1995 reform could be indicating a judicial shift towards a legitimate pledge of goods in bulk by means of an attornment.[687] Noteworthy, this assertion has recently been endorsed by the English High Court in *Devani v Republic of Kenya*,[688] where the court clearly recognized the effect of a pledge of an undivided share in the bulk perfected in the form of an attornment to a third party by the bailee.

The current climate in the courts appears to be favourable for giving an affirmative answer to the question posed above. The author concludes it is therefore technically possible for an eBL to provide security in relation to goods forming part of a bulk by having the carrier attorning to its new holder.[689]

5.4 Conclusion

At this juncture, the arguments in this chapter can be grouped into the following points:

In order to be deemed as an electronic equivalent of a pBL, it is vital for the eBL to display all the attributes that the conventional paper document exhibits, both in the direction of the contract of carriage as well as from that of the sales contract.

It has been pointed out that the decisive feature of the common law concept of the pBL is the transferability of the constructive possession of the goods, which was created by the time-honoured custom of merchants, and therefore it is vital to inherit this trait. One possible way of doing it at present is via explicit contractual provisions, necessarily involving an attornment from the carrier. Recreating the carrier defences against non-contractual actions, in particular those in conversion, is more problematic. As far as this is concerned, contractual defences would certainly work, but only within a closed contractual network. Howbeit,

---

[686] H Beale and others, *The Law of Security and Title-Based Financing* (2nd edn, OUP 2012) paras 5.49-5.50; and L Gullifer, 'Constructive Possession after the Sale of Goods (Amendment) Act 1995' [1999] LMCLQ 93, 102-04.
[687] H Beale and others, *The Law of Security and Title-Based Financing* (2nd edn, OUP 2012) para 5.49.
[688] [2015] EWHC 3535 (Admin) [22], [57].
[689] However, there may be a risk that such an arrangement would be deemed as a charge which needs to be registered in order to be opposable to the liquidator or trustee of the pledgor should the latter go bankrupt: M Bridge and others, *The Law of Personal Property* (2nd edn, Sweet & Maxwell 2017) paras 15-025-15-026. cf H Beale and others, *The Law of Security and Title-Based Financing* (2nd edn, OUP 2012) para 5.51.

calling an eBL a document of title in the absence of a mercantile custom would still be inaccurate. In view of this, the thesis has also explored four options for qualifying as a common law document of title within the current English legal framework. It would appear, that it is remotely arguable, that the eBL could be a document of title, either because "production" of the document is required for delivery, or because the document itself says so. Even so, it is evident from the above analysis that the solutions considered in this chapter are unsatisfactory and far from certain. Bearing this in mind, legislative invention or corresponding common law recognition would solve most of the problems discussed here in one fell swoop, and in that sense would be a better approach to the matter at hand.

Turning to the statutory meaning of the document of title. In a nutshell, it is the author's opinion that an eBL could be a document of title under FA 1889. This point is however subject to the proviso that the statutory definition does not apply beyond the particular piece of legislation. It is questionable that the statutory codifications under FA 1889 and SGA 1979 to protect good faith purchasers, viz. the *nemo dat* exceptions, would apply to eBLs, in consideration of the likelihood of terminological inconsistency when they are employed in a paperless context.

A final observation is dedicated to the pledge of goods covered by an eBL under the statutes. It is submitted that the practice adopted in present closed eBL schemes operating on the principle of agency would render a pledge created in an electronic system fall into the scope of s. 3 of FA 1889, which might lead to the anomaly that in the creation of a pledge, the system provider acting as agent for the carrier could do away with an attornment, whereas its principal could not do so; in addition, pledging part of a bulk under an eBL would be possible, so this could be considered an improvement on the rules governing the paper world.

Chapter 6 Legislative intervention on eBLs to achieve functional and legal equivalence to traditional pBLs

The previous chapters have identified and scrutinized the alternative legal solutions that have the potential to achieve functional and legal equivalence to the traditional pBL by emulating the three typical characteristics of the paper-based instrument. Although the author has managed to deal with many of the difficult issues that might arise in the implementation of these solutions, mostly through private contracts, problems of inadequacies and legal ambiguities inevitably abound. This can be explained in part by the fact that, while there are a plethora of cases on the use of pBLs, there is no case law on the subject of eBLs, nor on the extent to which established legal principles are to be applied in a paperless context.

It is plain that if the law stays as it is now, greater clarity will only become possible with the passage of time and with the emergence of a body of case law in this area when disputes over eBLs finally come under the English courts' spotlight. However, on the flip side, the shipping industry cannot afford the cost and risk of waiting 'till kingdom come', knowing that 'markets are migrating from geographic space to cyberspace'[690] as the digital revolution is in full swing.

In light of this, a number of international legislative bodies have taken the lead and started to grapple with the undesirable situations and hurdles faced by eBLs by making rules and standards, with a view to maximizing legal certainty. Meanwhile, a few national states have also made several attempts at the legislative level in the hope of laying a solid juristic ground for the promotion of eBLs.

It is essential that they are given due consideration, as there are important ideas, and also ideas that have not been adopted (often for good reasons), that are relevant to the development of the law in the field of eBLs. In the following paragraphs, therefore, the thesis will concentrate on some of the key endeavours and efforts made at the international and national levels to adjust and strengthen the legal regime for eBLs, and appraise the extent to which they have answered the research question raised, namely to give the digital equivalents the full function of pBLs.

[690] SJ Kobrin, 'Economic Governance in an Electronically Networked Global Economy' in RB Hall and TJ Biersteker (eds), *The Emergence of Private Authority in Global Governance* (Cambridge University Press 2002).

The chapter notes that, while it is important to acknowledge the extensive efforts of international organizations, in particular the International Maritime Committee (CMI) and the United Nations Commission on International Trade Law (UNCITRAL), in further developing the legal regulation of eBLs, the solutions put forward by them have unfortunately not yet been widely adopted in practice, for reasons that are elaborated in the following paragraphs. However, the recent ratification of the Model Law on Electronic Transferable Records (MLETR) and the legislative movement in Singapore and the UK have once again thrust eBLs into the centre stage of international trade, representing a positive step in the right direction towards a more comprehensive acceptance of the use of eBLs in the conservative shipping industry, which should be examined under the spotlight.

6.1 Internationally

6.1.1 CMI Rules

The first regulating attempt was the Rules for Electronic Bills of Lading (CMI Rules) adopted by the Comité Maritime International in 1990.[691] The CMI Rules have no mandatory application; they are a voluntary set of contractual clauses which will only be effective upon being incorporated into a contract of carriage.[692] The rules envisage an open system that could be used universally without the need to become a member: there, the electronic message constitutes the receipt for goods and evidence of the carriage contract.[693] Where the CMI framework differs from the orthodox legal architecture for pBLs, is that title to the goods, or the 'Right of Control and Transfer'[694] as the CMI puts it, is transferred by issuing the Private Key,[695] a non-transferrable encrypted security codes issued by the carrier to the current eBL holder each time a change in holdership takes place, replacing the previous one issued to the immediately preceding holder.

It is to be regretted that the CMI Rules turned out to be ill-received by the industry, due to the following reasons:[696] firstly, from a legal point of view, the Rules do not make express

[691] CMI, 'Rules for Electronic Bills of Lading' (*comitemaritime.org*, 1990) <https://comitemaritime.org/work/rules-for-electronic-billing-of-lading/> accessed 6 August 2022.
[692] See CMI Rules, Rule 1.
[693] CMI Rules, Rule 4(b)(i)-(iii).
[694] Rule 7 (d) of the CMI Rules states: 'The transfer of the Right of Control and Transfer in the manner described above shall have the same effects as the transfer of such rights under a paper bill of lading.'
[695] CMI Rules Rule 8.
[696] More detailed discussion on this topic see P Todd, 'Dematerialisation of Shipping Documents' in C Reed, I Walden and L Edgar (eds), *Cross-Border Electronic Banking: Challenges and Opportunities*, (2nd edn, Informa

provision for the transfer of rights and liabilities under the contract of carriage along with the transmission of the CMI-compliant electronic message.[697] This might lead to the difficult situation where the ultimate eBL holder could not sue the carrier for non-delivery and thus breaching his promise under the contract of carriage, the contract always being between the original shipper and the carrier. Secondly, the Rules place an excessive burden on the carrier as it is responsible for running the CMI rules itself and for issuing, sending, cancelling, re-issuing and re-sending the private keys; a completely different world from the paper world where all the carrier needs to do is ensure that they are delivered to the lawful pBL holder at destination. Furthermore, The CMI rules do not spell out the carriers' liability for improper handling and safekeeping of private keys. It would be perverse to hold the carriers liable for the failure of the electronic system, as this would clearly fall outside their responsibilities under the contract of carriage.

As a matter of fact, the finding set out in the previous paragraph begs the question as to whether it is appropriate to entrust such an extensive power to the carriers. This leads us to the third point, which is fraud. Put differently, can the carrier be a trustworthy and impartial private registrar at all times? After all, they are a party to the contract of carriage, and they may have an interest in tampering with the private key for their own benefit.

It is not surprising that the CMI rules have failed to gain traction across the industry. However, the Rules do demonstrate the practical possibility for the creation of an electronic equivalent to the pBL in a contractual setting, opening the doors for various eBL technology systems such as Bolero[698] to develop.

For all that, it is important to bear in mind that contractual arrangements only provide a temporary solution in practice, and it would be better to formulate a statutory legal framework to provide the much-needed legal certainty for the promotion of electronic transport documents. Fully aware of this, the United Nations Commission on International

---

Law from Routledge 2000), 78–84; E Laryea, *Paperless Trade: Opportunities, Challenges and Solutions* (Kluwer Law International 2003) 80-83; M Goldby, The CMI Rules for Electronic Bills of Lading Reaccessed in the Light of Current Practices, [2008] LMCLQ 56; L Zhao, 'The Right of Control in Carriage of Goods by Sea' [2014] LMCLQ 394, 399-401; M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) [6.66]–[6.74].

[697] Instead, it is merely envisaged that the terms of the contract would be readily available to the parties thereunder: Rule 5(b) of the CMI Rules.

[698] Bolero further developed by the CMI Rules by combining them with its central registry acting as a third party to electronically replicate the negotiable pBL: see http://www.bolero.net/wp-content/uploads/2020/04/Bolero-Insights-Electronic-Bills-of-Lading-Overview-NW.pdf.

Trade Law (UNCITRAL) has undertaken a number of projects seeking to reach consensus on acknowledging the capacity of electronic trade documents to exhibit the fundamental characteristics of their paper-based equivalents and to give such documents the same legal status as the latter in the international arena. Hence, these endeavours will be the focus of the remainder of this section.

6.1.2 Past works done by UNCITRAL

(1) The Hamburg Rules

The United Nations Commission on International Trade Law (UNCITRAL) has been a long-time and avid champion of electronic commerce and digitization of trade documents.[699] As early as 1978, UNCITRAL recognized the need for international standards to improve the legal treatment of electronic communications used in commercial practice. The first legislative attempt of its kind was made in the maritime sector with the inclusion of a provision in the Hamburg Rules:[700]

> The signature on the bill of lading may be in handwriting, printed in facsimile, perforated, stamped, in symbols, or made by any other mechanical or electronic means, if not inconsistent with the law of the country where the bill of lading is issued.[701]

By stipulating that the signature on a bill of lading may be made electronically, the Convention may be interpreted as implying the possible use of eBLs, if they are not already included within its ambit,[702] and has laid the foundation of the principle of media neutrality.[703]

(2) MLEC

Since the 1980s, UNCITRAL has been actively involved in the preparation of uniform model legislation and conventions specifically addressing the use of electronic communications in the field of electronic commerce law. The first product of their work was the Model Law on

---

[699] Establishment of the United Nations Commission on International Trade Law ('UNCITRAL'), UNGA Res 2205 (XXI) (17 December 1966).
[700] United Nations Convention on the Carriage of Goods by Sea, Mar 31, 1978, 1695 UNTS 3 (Hamburg Rules).
[701] The Hamburg Rules, art 14 (3).
[702] See the Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records, para 5. Unfortunately, the Rules have not received widespread recognition.
[703] 'Media Neutrality' indicates that the media on which the information is affixed should not be a factor in determining the legal effect of the information. The principle was subsequently inherited by the UNCITRAL Model Law on Electronic Commerce: see Guide to Enactment of the UNCITRAL Model Law on Electronic Commerce, paras 6 and 24, and also section 6.1.2(2). It is now encompassed by the principle of technological neutrality: see para 48 of the United Nations Convention on the Use of Electronic Communications in International Contracts 2005.

Electronic Commerce (MLEC), accompanied by a Guide to Enactment in 1996.[704] The main purpose of the instrument, as purported by the Guide, was to

> offer national legislators a set of internationally acceptable rules as to how a number of such legal obstacles may be removed, and how a more secure legal environment may be created for what has become known as "electronic commerce". The principles expressed in the Model Law are also intended to be of use to individual users of electronic commerce in the drafting of some of the contractual solutions that might be needed to overcome the legal obstacles to the increased use of electronic commerce.

The MLEC consists of two parts. The first part focuses on electronic commerce in general, not least on overcoming impediments to the fulfilment of mandatory formality requirements by electronic means, on granting admissibility and evidential value to electronic communications, and on issues relating to the communication of data messages. Part two sets out the rules of action relating to the contract of carriage of goods and transport documents, enabling documents such as negotiable pBLs embodying an obligation to deliver the goods to be dematerialized.[705]

In addressing the aspects mentioned above, it is noticeable that the MLEC has for the first time introduced the 'functional equivalent' approach and, in this vein, introduces for the first time a number of other fundamental concepts, namely: non-discrimination, functional equivalence and the concept of "uniqueness" or "singularity". These notions have been embraced and embedded in the subsequent works of UNCITRAL (to which the thesis will come later) and hence merit further discussion.

(a) Legal requirements in general

The primary issue faced by the electronic trade documents is to ensure that paper-based and electronic information are treated equally in the eyes of the law. To this end, the MLEC introduces the principle of non-discrimination under Art. 5: 'Information shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of a data message.'[706] The principle is designed to ensure that the nature of the medium through which certain information is presented or retained will not be used as the only reason for which that information to be denied legal effectiveness, validity or enforceability.[707]

[704] UNCITRAL Model Law on Electronic Commerce (1996) with additional article 5 bis as adopted in 1998. The full texts can be found at https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_commerce.
[705] See MLEC Guide to Enactment, para 110.
[706] MLEC, art 5.
[707] See MLEC Guide to Enactment, para 46.

Art. 9 continues the emphasis on non-discrimination and makes the principle expressly applicable to admissibility of evidence of an electronic nature. When it comes to ascertain the evidential weight of a data message, references are made to a range of relevant factors, such as 'the reliability of the manner in which the data message was generated, stored or communicated, to the reliability of the manner in which the integrity of the information was maintained, to the manner in which its originator was identified'.[708] However, the MLEC does not provide further guidance as to the level of reliability required; such vagueness may, as suggested by the author, result in more uncertainty rather than clarity in judicial practice.

Although the principle of non-discrimination can also be found in Articles 11 and 12,[709] these provisions are so general that some of them may be invalid due to non-compliance with certain formal requirements of national laws. The real concern, therefore, is that the data information contained in an eBL issued within the framework of the MLEC will in any case enjoy the same level of legal recognition as though the same information had been retained in paper form.[710]

The conceptual difficulty posed to the electronic equivalent is to define the requirements for the paper-based notions viz. writing, signature and original. They are dealt with by the MLEC under articles 6, 7 and 8 respectively. The details of these complex provisions are beyond the scope of this thesis. It is sufficient for present purposes to note two points. The first point is that, in encompassing computer-based techniques, the MLEC in this circumstance has adopted the functional equivalence approach. In essence, the doctrine is intended to pin down the purpose and functions of traditional paper documents rather than to define an electronic alternative for any particular type of paper document,[711] with a view to determine how those purposes and functions could be accomplished in an electronic context. As such, the legal requirements and legal concepts and methods prescribing the use of paper documents would not have to be completely removed or interfered with.[712] The second point is that in assessing whether a data message constitutes a signature or an original for the purposes of the MLEC,

[708] MLEC, art 9(2).
[709] Which are geared to the conclusion of contracts and also the performance of the obligations therein.
[710] UNCITRAL, *Legal issues relating to the use of electronic transferable records* (UNCITRAL Working Paper, No A/CN9/WGIV/WP115, 2011) fn 19, available at https://documents-dds-ny.un.org/doc/UNDOC/LTD/V11/855/64/PDF/V1185564.pdf?OpenElement.
[711] See MLEC Guide to Enactment, para 16.
[712] See MLEC Guide to Enactment, para 15. See also Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions - Advice from the Law Commission* (2001) para 2.4.

reference is made to guarantees of reliability and integrity, although the criteria for assessing them lack specificity and are therefore of limited guidance.[713]

(b) Specific requirements for functional equivalence

Continuing taking the functional-equivalent approach, articles 16 and 17 of the MLEC aim at establishing the functional equivalents of paper-based transferable documents used relating to the carriage of goods. Art. 16 provides a non-exhaustive list of actions to which the MLEC is applicable, including but not limited to 'issuing a receipt for goods'[714] and 'acquiring or transferring rights and obligations under the contract'.[715] Articles 17(1) and (2) go on to give the same legal effect to those actions carried out through information technology as those carried out using paper documents; this is so even if the action is in the form of an obligation, or if the law purely provides for the consequences of failing to carry out the action in writing or using paper documents.[716] The conjoint effect of the two paragraphs is said to replace both the requirement for a written contract of carriage, and the requirements for indorsement and transfer of possession of a bill of lading.[717] Paragraph (3) proceeds as follows:

> If a right is to be granted to, or an obligation is to be acquired by, one person and no other person, and if the law requires that, in order to effect this, the right or obligation must be conveyed to that person by the transfer, or use of, a paper document, that requirement is met if the right or obligation is conveyed by using one or more data messages, provided that a reliable method is used to render such data message or messages unique.[718]

This enables rights or obligations to be conveyed by electronic methods in lieu of using a traditional paper document, the prerequisite being that a reliable method is used to ensure that the electronic information is unique. Art. 17(4) provides that the standard of reliability required shall be assessed in the light of the purpose for which the right or obligation was conveyed and in the light of all the circumstances, including any relevant agreement. As noted earlier, this effectively allows for a variety of possible interpretations, which may lead to inconsistent standards being adopted by national courts. Nonetheless, it is apparent that here the MLEC attempts to support the reproduction of the two basic functions of the pBL, i.e., the receipt of cargo function and the contractual function.

---

[713] See articles 7 and 8. It is submitted that the standards set out in art 8(3) are rather perplexing. cf the Model Law on Electronic Transferable Records, further discussed in section 6.1.2(4).
[714] MLEC, art 16(f).
[715] MLEC, art 16(g).
[716] MLEC, art 17(2).
[717] See MLEC Guide to Enactment, para 113.
[718] MLEC, art 17(3).

The requirement of uniqueness, also referred to as the "guarantee of singularity" under the Guide,[719] is strengthened by Art. 17(5), which states that any actions effected by a paper document that are meant to dispose of the rights in goods, or acquire or transfer the rights or obligations under the contract will be nugatory if such rights or obligations have already been carried out via electronic means, unless the parties decide to discontinue the use of the electronic message and use a paper document instead. This stipulation aims to prevent the co-existence of paper and electronic media, thereby eliminating the possibility of the same rights being embodied in data messages and in a paper document at any given time. In this vein, the requirement of singularity is ulteriorly related to the electronic replication of the third function of the pBL as a negotiable document of title, the possession of which is taken to have possessory rights of the goods, and these rights can be transferred again to another person by transferring the paper itself; hence the need to make the medium unique and not subject to reproduction.

It should be added that the scope of the 'guarantee of singularity' is actually more extensive than that of the paper regime, in that the data message under the MLEC would be one of a kind, whereas in the current practice it is not uncommon for pBLs to be issued in sets. A pBL in a set of three (or occasionally more) will only become unique when it is presented by the holder exercising his right of delivery, upon which point the rest will *ipso facto* become void. So viewed, it is therefore submitted by the author that the emphasis in guaranteeing uniqueness should not be laid on the data itself but on the rights embodied in it.

Recognizing the intrinsic disparity in nature between a data message and a paper document, the MLEC has adopted a flexible standard, and does not attempt to create a functional equivalent of every conceivable function of the paper-based requirement; it being broadly drafted, so that only basic issues are addressed without touching on specific intractable problems. Accordingly, despite its substantial acceptance by some states,[720] the model law has been criticized for not being comprehensive, leaving many questions unanswered.[721] A safe conclusion can be drawn from the above analysis is that, as far as the carriage of goods by sea is concerned, although Articles 16 and 17 of the MLEC have in mind the fulfilment of

[719] See MLEC Guide to Enactment, para 115. More on this point see M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) para 6.79-6.85.
[720] Legislation based on or influenced by the MLEC has been adopted in 79 States and a total of 159 jurisdictions: https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_commerce/status.
[721] N Gaskell, 'Bills of Lading in an Electronic Age' [2010] 2 LMCLQ 233, 269.

the three essential functions of the pBL, the solution it offers is unclear and not entirely intuitive.

(3) The Rotterdam Rules

The UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea 2008 (the Rotterdam Rules) builds on the foundations laid by the CMI scheme and the MLEC, with further additions and improvements. Designed as a complex universal regime to support the operation of contracts of maritime carriage involving multiple modes of transport, the Rotterdam Rules provide for traditional pBLs and other transport documents too, which, does not appear material to the subject matter of this thesis. Given that the Rotterdam Rules are the first international maritime convention to systematically provide for the use of electronic means as a substitute or alternative to paper documents,[722] it is more appropriate to deconstruct the framework of the Rotterdam Rules through the lens of how electronic means replicate the three functions of the traditional pBL.[723]

(a) Introduction of new definitions

Before we touch on the essentials of the Rotterdam Rules, it is important to notice that unlike those instruments previously developed by UNCITRAL, which used concepts and terms known to transport law practitioners and users of transport documents, the Convention has chosen to tread a slightly different path by replacing established labels with entirely new terminology of its own definition. The notion of 'electronic transport record' thus appeared for the first time in the works of UNCITRAL:

[722] For a brief introduction on the background of the Rotterdam Rules, see A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 445-448. For a full account on this point, see MF Sturley, 'Transport Law for the Twenty-first Century; An Introduction to the Preparation, Philosophy, and Potential Impact of the Rotterdam Rules' (2008) 14 JIML 461.

[723] For a full account on the Rotterdam Rules, see for example Y Baatz and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019); F Berlingieri, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014) ch 3. For a historic aspect of the Rules, see for example MF Sturley, 'Can Commercial Law Accommodate New Technologies in International Shipping?' in B Soyer and A Tettenborn (eds), *New Technologies, Artificial Intelligence and Shipping law in the 21st Century* (Informa 2019) para 3.1.

> "Electronic transport record" means information in one or more messages issued by electronic communication under a contract of carriage by a carrier, including information logically associated with the electronic transport record by attachments or otherwise linked to the electronic transport record contemporaneously with or subsequent to its issue by the carrier, so as to become part of the electronic transport record, that:
> (a) Evidences the carrier's or a performing party's receipt of goods under a contract of carriage; and
> (b) Evidences or contains a contract of carriage.[724]

By eschewing the use of 'electronic bill of lading' and adopting a neutral but general terminology, technology neutrality is thereby achieved.[725] It is telling that the definition only refers to the first two functions of the pBL discussed in the previous part, and does not mention the most important role of the pBL working as a document of title to the goods. It has been suggested that the reason for the omission is that the Rotterdam Rules are intended to deal with the contractual relationship under the contract of carriage, i.e., the relations between the carrier and the shipper or subsequent document holder. They do not deal at all with the consequences associated with the right of possession arising from the transfer of the document itself, which are more appropriately to be dealt with under individual national laws.[726]

In particular, an eBL is categorized as a 'negotiable electronic transport record' under Art. 1(19):

> "Negotiable electronic transport record" means an electronic transport record:
> (a) That indicates, by wording such as "to order", or "negotiable", or other appropriate wording recognized as having the same effect by the law applicable to the record, that the goods have been consigned to the order of the shipper or to the order of the consignee, and is not explicitly stated as being "non-negotiable" or "not negotiable"; and
> (b) The use of which meets the requirements of article 9, paragraph 1.[727]

Two considerations follow from this. The first is that it is somewhat baffling as to what is meant by the use of "negotiable", as no definition of the term can be found in the Rules. Under Paragraph (a), that the words "to order" and "negotiable" are listed in parallel and that the effect of the provision is that 'the goods have been consigned to the order of the shipper or to the order of the consignee', are arguably indicative of the negotiable function of the

[724] Rotterdam Rules, art 1(18).
[725] It has been critiqued that the use of vague language would pose a difficult challenge for domestic regulators and courts: F Wang, 'Blockchain Bills of Lading and Their Future Regulation' [2021] LMCLQ 504, 523.
[726] *Benjiamin's*, para 18-239; M Goldby, 'The Performance of the Bill of Lading's Functions Under UNCITRAL's draft Convention on the Carriage of Goods: Unequivocal Legal Recognition of Electronic Equivalents' (2007) JIML 160, 172.
[727] Rotterdam Rules, art 1(19).

pBL; in other words, the feature of transferability, is hereby intended.[728] Yet "negotiable" is a word admit of different meanings under different nations,[729] it is unknown whether the subject negotiable transport record would be used in the traditional English common law sense. Another consideration is whether the use of "negotiable" implies that the record is a document of title as of right. The thesis will discuss this point separately later.[730]

"Right of control" is another term worth mentioning, referring to the right under the contract of carriage to give the carrier delivery instructions in respect of the goods.[731] Strictly speaking, it is not a term coined by the Rotterdam Rules, but first by the CMI Rules;[732] however, the concept was first introduced by the Rules in international legislation. A party that is entitled to exercise the right of control is called the 'controlling party' under the Rules.[733]

On the other hand, the Rotterdam Rules still make use of notions that the industry is familiar with and receptive to, albeit giving them a new meaning thereunder. For example, "holder" of a negotiable transport record means the person to which such a record has been 'issued and transferred'. The notions of "transfer" and "issuance" are further defined respectively in the electronic context,[734] both referring to and relying on the exclusive control of the record; this can be seen as aiming to provide a guarantee of singularity.[735]

(b) Preliminary issues: form requirements, need for consent, and procedures for use

The starting point is Art. 3 of the Rotterdam Rules, under the title of 'form requirements. Following the principle of functional equivalence,[736] the provision legislates for certain

[728] If used in the English law sense, then it appears that "negotiability" in the Rotterdam Rules means the possibility of transferring control in chapter 10, in particular control over delivery: N Gaskell, 'Bills of Lading in an Electronic Age' [2010] LMCLQ 233, 279. See also section 6.1.2(3)(c) below.
[729] N Gaskell, 'Bills of Lading in an Electronic Age' [2010] LMCLQ 233, 279; A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 502; M Clarke, 'Transport Documents – Their Transferability as Documents of Title; Electronic Documents' [2002] LMCLQ 356, 362; cf M Goldby, *Electronic Documents in Maritime Trade Law and Practice* (2nd edn, OUP 2019) para 6.90.
[730] See below section 6.1.2(3)(c).
[731] The Rotterdam Rules, art 1(12). See section 6.1.2(3)(c) below.
[732] See the CMI Rules, r 7 and also the discussion above: section 6.1.1.
[733] The Rotterdam Rules, art 1(13).
[734] See the Rotterdam Rules, art 1 (21) and (22) respectively.
[735] See above section 6.1.2(2). The Rotterdam Rules do not give a precise definition of 'exclusive control', although in art 8 they equate it with the concept of "possession". See section 6.1.2(3)(c).
[736] See however P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 370, questioning the availability of determining functional equivalence without even prescribing a particular technology. See also E Mik, 'Evaluating the Impact of the UN Convention on the use of Electronic Communications in International Contracts on Domestic Contract Law: The Singapore Example' (2010) 28

communications between the parties to be in writing, and allows electronic communications to be used for the purposes listed therein, provided that there is consent between them in relation to the use of such means. These communications include, so far as is material, the carrier's representations regarding the leading marks necessary for identification of the goods, the quantity of goods and the weight of the goods as stated in the contract particulars.[737]

The Rules then contemplates the use of the 'electronic transport record'[738] under Art. 35, giving the parties autonomy – properly speaking, the shipper[739] – to decide whether to go paperless or not, subject to Art. 8(a): 'Anything that is to be in or on a transport document under this Convention may be recorded in an electronic transport record, provided the issuance and subsequent use of an electronic transport record is with the consent of the carrier and the shipper'.

It is also noteworthy that the element of consent, which appears in the text of all three articles, is considered a prerequisite for the use of electronic alternatives to paper-based documents.[740] However, the Rules do not specify how and when consent should be given,[741] the determination of which is therefore left to national laws.

Chinese (Taiwan) YB Intl L & Aff 43, 48-51; F Wang, 'Blockchain Bills of Lading and Their Future Regulation' [2021] LMCLQ 504, 523 and the footnotes.

[737] Articles 36(1)(b), (c) and (d). 'Contract particulars' is defined by art 1(23) as 'any information relating to the contract of carriage or to the goods (including terms, notations, signatures and endorsements) that is in a transport document or an electronic transport record.'

[738] See the Rotterdam Rules, art 1(19).

[739] The issuance of a transport document or an electronic transport record is at the shipper's option: see the chapeau to art 35; *Benjamin's*, para 18-465; A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 503.

[740] This is a new development of the Rotterdam Rules, for such consent is not envisaged in Chapter I of Part II of the MLEC: P Jones 'A New Transport Convention: A Framework for E-Commerce?' (2002) 9 Electronic Communication Law Review 145, 149-51, 153-55. The diversion may be due to the different purposes of the two pieces of legal work: M Goldby, 'Electronic alternatives to transport documents: a framework for future development?', in R Thomas (ed), *A New Convention of the Carriage of Goods by Sea - The Rotterdam Rules: An Analysis of The UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea* (Lawtext Publishing Ltd 2009) 226, fn 2.

[741] For instance: Should the consent be presumed unless agreed otherwise or given prior to the transmission? Whether the consent needs to be given explicitly or implicitly? Should the consent itself be given in writing or electronic form? See C Debattista, 'General Provisions' in Y Baatz and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019) para 3-02; Č Pejović, *Transport Documents in Carriage Of Goods by Sea International Law and Practice* (Informa Law from Routledge 2020) 234; A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 500.

Art. 9 provides for 'procedures for use of negotiable electronic transport record'. Curiously, although headed as such, the article only contains one substantial provision[742] on the subject matter, which sets out three areas for which procedures should be developed: the issuance and transfer of a record, the mechanisms to safeguard integrity,[743] the manner of identifying the holder as well as providing confirmation that delivery to the holder has been effected (or that the record has ceased to have effect or validity).

Art. 9(1) is thus no more than a short guidance note on negotiable electronic transport records issued under a carriage contract covered by the Rotterdam Rules; the construction of detailed standards is left to users and technology developers. Nor does it detail how or by whom these procedures are to be created,[744] but only requires that those procedures be in place, and be 'referred to in the contract particulars and be readily ascertainable'.[745] This is probably to achieve technology neutrality: in light of the rapid development of technology, it is advisable not to set specific standards to preclude any potential use of negotiable electronic transport records in the future; and in the meanwhile, to give parties autonomy and not to restrict technology developers in any possible way.[746]

(c) Document of title function under the Rotterdam Rules

Although the definition of 'electronic transport record' does not refer to the function of a document of title at common law, there are interesting terms and related provisions in the Rotterdam Rules that have been argued in some quarters[747] to be capable of conferring the full functionality of a pBL as a common law document of title to the negotiable electronic transport record, which is worth scrutinising further.

It is useful to start with Art. 8(b): 'The issuance, exclusive control, or transfer of an electronic transport record has the same effect as the issuance, possession, or transfer of a transport

[742] of the Rotterdam Rules, art 9(1). Another problem with the article is that it does not set out the specific sanctions that will be imposed if the framework is not complied with; on that score, it is somewhat vague about the minimum level of procedures that must exist: N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 275.
[743] The Rules do not define "integrity" itself, nor do they specify the level of "integrity" required thereunder.
[744] A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 502.
[745] Art. 9(2) of the Rotterdam Rules.
[746] cf P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 370.
[747] eg M Goldby, 'Electronic alternatives to transport documents: a framework for future development?', in R Thomas (ed), *A New Convention of the Carriage of Goods by Sea - The Rotterdam Rules: An Analysis of The UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea* (Lawtext Publishing Ltd 2009) 229-30.

document'.[748] The provision effectively equates possession of a paper shipping document, such as a negotiable pBL, with exclusive control of an electronic transport record; in this manner, the concept of equivalence is hereby entrenched. However, no definition of the term 'exclusive control' can be found in the Rules, nor is there any indication of how such control can be achieved exclusively with the same effect as the transmission of a paper document.[749] It follows that the resolution of this issue probably will have to await decisions by the commercial parties and the development of new business practices.

As a result, the holder of the electronic transport record will acquire the right of control under Art. 50 as a controlling party and is entitled to transfer such right in accordance with the rule contained under Art. 51(4) to another person. This right is limited to giving delivery instructions to the carrier, which necessarily includes the right to demand delivery of the goods in compliance with Art. 47.[750] Presumably, the idea is to empower electronic communications to transfer title to the goods – an attribute traditionally accorded to shipped pBLs under common law. It has therefore been suggested that by doing so, an alternative method has been created whereby constructive possession of the goods is given to a merchant or bank during the sea carriage, in which sense the negotiable electronic transport record is capable of fulfilling the function of a shipped pBL as a common law document of title.[751] Trouble is, are the above provisions sufficient to do this?

As the thesis has repeatedly demonstrated,[752] the function of the document of title entitles the pBL to transfer, having satisfied the required intention, constructive possession of the goods by virtue of the transfer of the paper transport document itself; it is this unique right to possession of the goods that drives the ability to use the pBL for letters of credit and documentary collections, as well as for claiming delivery at the discharging port against presentation. Art. 8(b), however, only seeks to create substitute for the "possession" of transport documents, not "constructive possession" of the goods represented under it.

It might then be argued that the rights and entitlements arising from possession are realized rather implicitly through the exercise of right of control, in particular the right to obtain

[748] Art. 8(b) of the Rotterdam Rules.
[749] See the relevant discussion in ch 5.
[750] Art. 50(b) of the Rotterdam Rules says that the right of control includes the right to obtain delivery of the goods at a scheduled port of call or, in respect of inland carriage, any place en route.
[751] M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) para 6.117.
[752] See ch 5.

delivery under the framework of the Rotterdam Rules.[753] However, the author considers that the provisions dealing with these rights are problematic and not easily applicable in an electronic setting; if anything, their deployment might lead to the counterproductive result of prohibiting the electronic transport record from becoming a document of title under English common law. First, problems arise when one reads the contradictory provision of Art. 47. There, pursuant to Art. 47(1)(ii), when an electronic transport record has been issued, the person claiming delivery of the goods from the carrier must demonstrate his identity as the holder in accordance with the procedures referred to in Art. 9(1). However, he may still be able to obtain delivery without such demonstration if the conditions set out in Art. 47(2) are met, that is when the negotiable electronic transport record expressly states that the goods may be delivered without the surrender of the transport document or the electronic transport record, and the goods are not deliverable for the reasons listed in paragraph (a).

There are several difficulties with the concept and semantics of Art. 47(2),[754] but it is sufficient for present purposes to note only the following: although the *raison d'être* of the rule is said to combat the undesirable but increasingly common phenomenon of cargo arriving at the port of destination without the pBL being available,[755] allowing for delivery of goods under an electronic transport record to take place without proof of identity of the person claiming delivery would actually undermine the function of the document of title.[756] Moreover, the 'no need to demonstrate' clause is likely to encounter obstacles in practice for

[753] M Goldby, 'Electronic alternatives to transport documents and the new Convention a framework for future development' (2008) 14(6) JIML 586, 589. See also M Goldby 'The Performance of the Bill of Ladings Functions under UNCITRAL's draft Convention on the Carriage of Goods: Unequivocal Legal Recognition of Electronic Equivalents' (2007) 13 Journal of International Maritime Law 160, where a previous draft of the Convention is examined in great detail.

[754] The "chapeau" to art 47(2) applies the word "surrender" equally to a paper document and an electronic record, but it is doubtful whether an electronic record is "surrendered" on delivery and there is no mention of the surrender of an electronic record elsewhere in the Convention. It has been suggested that the word ''surrender'' may be due to a drafting error: N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 281, concurred by A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 519. Other problems relating to the wording of Art. 47(2) see for example F Berlingieri, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014) ch 3, s 14.3.3. For the background to the provision see fn 296 in N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 281.

[755] F Berlingieri, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014) ch 3, s 14.3.3. Other views are expressed stating that the provisions in question are meant to combat fraud involving bills of lading as well as to address situations where the holder could not be found or the location of the holder was not known to the carrier 'which were found to be typical and to warrant a solution': UNCITRAL, *Report of the Commission's forty-first session* (Doc no A/63/17, 16 June – 3 July 2008) para 148 and 153 respectively.

[756] UNCITRAL, *Report of the Commission's forty-first session* (Doc no A/63/17, 16 June – 3 July 2008) para 146. cf M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) para 6.115, fn 254.

not reflecting the long-standing presentation rule in the paper world.[757] In fact, it is questionable whether such a provision is warranted in the case of electronic communication, since the whole point of using electronic transport records is that the holder's rights can be proved visually and remotely, without the need to present paper documents in real life.[758] Far from being favourable to the carrier, the removal of the demonstration requirement would make it impossible to determine who is the holder of the electronic record, which would instead put the carrier at risk.[759] It can scarcely be supposed that any carrier would agree to include similar provisions to this effect.[760]

The second point to be stressed here is that the rights given to the controlling party may, to a large extent, be varied, restricted or even excluded by agreement.[761] It is not hard to conceive, therefore, of situations in which a negotiable electronic transport record issued under the Rotterdam Rules might not be transferable at all; the result, however, does not seem to lie easily with the philosophy behind the document of title at common law. Another point worth making is that the replacement of the concept of possession by 'exclusive control' does not necessarily mean that the transfer of exclusive control of a negotiable electronic transport record will be considered in the eyes of the law to have the same legal effect as the transfer of constructive possession of the goods.[762] It is therefore difficult to see how these provisions provide perfectly clear rules on constructive possession without recourse to the establishment of a 'document of title'.[763]

At any rate, given that the Rotterdam Rules are intended to be a complex regime governing contracts for the international carriage of goods, setting out the rights that are exercisable by

[757] N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 281. Note that the proposition was raised in the pBL scenario, but it is submitted that the same is true of the eBL.
[758] N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 281.
[759] It has been suggested that
> the assumption of art 47(2) is that it is intended to give a carrier some additional choices about delivery where there are system failures of some kind, for example: non-appearance of the paper bill; or some failure in the electronic system so that the electronic ''holder'' can demonstrate who it is; or where the carrier cannot make effective contact with the holder to get delivery instructions.

See N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 281-82.
[760] N Gaskell, 'Bills of lading in an electronic age' [2010] LMCLQ 233, 28. cf M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) para 6.115.
[761] Rotterdam Rules, art 56.
[762] Č Pejović, *Transport Documents in Carriage Of Goods by Sea International Law and Practice* (Informa Law from Routledge 2020) 218.
[763] cf M Goldby, 'The Performance of the Bill of Lading's Functions Under UNCITRAL's draft Convention on the Carriage of Goods: Unequivocal Legal Recognition of Electronic Equivalents' (2007) JIML 160, 175.

the parties thereunder, the mechanism of 'exclusive control' will apply only for the purposes of the Convention, and will thus be ineffective when taken out of the context of that scheme.

(d) Receipt function under the Rotterdam Rules

It will be recalled that under the definition of 'electronic transport record',[764] reference was made explicitly to the ability to evidence the carrier's receipt of goods under a contract of carriage; this is ensured by the implementation of articles 36 to 41, which provide, among other things, for the information – in the words of the Rules, the contract particulars[765] – to be contained in an electronic transport record (Art. 36), the carrier's signature on that record (Art. 38), the circumstances under which the carrier may qualify the information relating to the goods in the record (Art. 40) and the evidentiary effect of such information in the record (Art. 41). While a detailed analysis of these provisions goes beyond the scope of this thesis, reference should be made to at least some of them.

Art. 41 is important in that it prescribes the evidential value of the information that appears on an electronic transport record:

> Except to the extent that the contract particulars have been qualified in the circumstances and in the manner set out in article 40:
> (a) A transport document or an electronic transport record is prima facie evidence of the carrier's receipt of the goods as stated in the contract particulars;
> (b) Proof to the contrary by the carrier in respect of any contract particulars shall not be admissible, when such contract particulars are included in
> (i) A negotiable transport document or a negotiable electronic transport record that is transferred to a third party acting in good faith; or
> …
> (c) Proof to the contrary by the carrier shall not be admissible against a consignee that in good faith has acted in reliance on any of the following contract particulars included in a non-negotiable transport document or a non-negotiable electronic transport record:…

In general, Paragraph (a) states that the information in an electronic transport record, except when qualified under article 40, is *prima facie* evidence of the carrier's receipt of the goods. In this regard it is in line with the rule under HVR and COGSA 1992.[766] Paragraph (b) adds that such information shall constitute conclusive evidence, when the record is transferred to a *bona fide* third party. This is similar to the language of Art. III(4) of the HVR, but with a broader application, in that the contract particulars under Art. 36 are required to "include" a

[764] The Rotterdam Rules, art 1(19).
[765] The Rotterdam Rules, art 1(23) defines 'contract particulars' as 'any information relating to the contract of carriage or to the goods (including terms, notations, signatures and endorsements) that is in a transport document or an electronic transport record'.
[766] HVR, art III(4) and COGSA 1992, s 4.

wide range of information exceeding that listed in Art. III(3) of the HVR,[767] and the type of documents applicable is extended from pBLs only to other cargo documents, including electronic transport records.[768] It should be noted that as with the HVR, the wording of Art. 41(b) does not make it clear that against whom 'proof to the contrary by the carrier in respect of any contract particulars shall not be admissible'. It may be inferred that, since the article is silent on this point, then it is likely that the provision is intended to benefit parties beyond consignees, such as shippers, who may have suffered loss due to the incorrect information in the electronic transport record.[769] This explanation is supported by a juxtaposition of Paragraph (b) with the immediately succeeding Paragraph (c), where an explicit reference is made to the "consignee" in order to qualify the remit of the latter provision. Nevertheless, this is presumably going to be an open-ended discussion.[770]

The key question before us, however, is this: can Art. 41(b) of the Rotterdam Rules solve the *Grant v Norway*[771] problem discussed in the previous part?[772] The answer turns on how the term "carrier" is defined thereunder. This takes us to Art. 1(b), which is almost identical in tone to Art. I(a) of the HVR: '"Carrier" means a person that enters into a contract of carriage with a shipper'.[773] However, as has already been pointed out, there is established case law suggesting that no contract of carriage comes into existence where no goods have been shipped.[774] Moreover, it should be recalled here that the electronic transport record under the framework of the Rotterdam Rules means 'information…issued by electronic communications under a contract of carriage…',[775] thus the significance of a subsisting contract of carriage is once again highlighted: if there is no such *de facto* contract, the information concerned will not be deemed an electronic transport record under the Convention. It follows that the issuance of an electronic transport record under Art. 41(b) of the Rotterdam Rules in respect of goods not shipped would give rise to difficulties similar to those arising under Art. III(4) of the HVR.

[767] See the discussions in *Benjamin's*, para 18-134.
[768] A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 507.
[769] cf ch 3 where the problem is dealt with in depth.
[770] *Benjamin's*, para 18-133.
[771] (1851) 10 CB 665, 138 ER 263.
[772] See ch 3.
[773] The HVR, art I(a).
[774] See ch 3.
[775] The Rotterdam Rules, art 1(18).

Art. 38(2) provides for an equivalent mechanism to replace the handwritten signature furnished by the carrier on a traditional pBL endorsement by means of an electronic signature. No exact definition has been given to the electronic signature under the Rotterdam Rules, but such signature should 'identify the signatory in relation to the electronic transport record and indicate the carrier's authorization of the electronic transport record'.[776] It is doubtful how this will be achieved given that the article does not specify the method for determining the reliability or validity of the relevant electronic signature.[777]

(e) Contractual function under the Rotterdam Rules

The Rotterdam Rules also envisage that an 'electronic transport record' falling within its ambit would be able to perform the second function of a pBL that evidences or contains a contract of carriage.[778] This is addressed in Articles 57 and 58 of Chapter 11, which is largely modelled on the approach taken by COGSA 1992 in dealing with the complex issue of the transfer of rights and liabilities, hence the formulation of its provisions is clearly influenced by the English legislation.[779] If the Rotterdam Rules have the force of law in the UK, it would be valuable to compare the two legal frameworks, in particular to discern whether there is any significant divergence between the status of an electronic transport record under the Rotterdam Rules and the status of a pBL under COGSA 1992.

Art. 57(2) provides that, when a negotiable electronic transport record is issued, its holder may transfer the 'rights incorporated in it', by transferring the record itself in accordance with the procedures referred to in Art. 9(1). On the face of it, this appears to have a similar legal effect to that produced by s. 2 of COGSA 1992, through the channel of which rights under the contract of carriage, in particular the rights of suit, are transferred to the holder by the negotiation of the pBL.

However, exactly what transferrable rights are incorporated in the negotiable electronic transport record is intriguing. From a grammatical analysis, it seems to refer to rights under

[776] The Rotterdam Rules, art 38(2).
[777] However, the 41st Session of the UNCITRAL Commission indicated support for understanding that art 38(2) did not specify the requirements for validity of the signature, which was a matter for the applicable law: see UNCITRAL, *Report of the Commission's forty-first session* (Doc no A/63/17, 16 June – 3 July 2008) UNCITRAL, *Report of the Commission's forty-first session* (Doc no A/63/17, 16 June – 3 July 2008) UNCITRAL, *Report of the Commission's forty-first session* (Doc no A/63/17, 16 June – 3 July 2008) para 24. cf MLEC, art 7; M Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019) para 6.105.
[778] The Rotterdam Rules, art 1(18)(b).
[779] R Williams, 'Transport Documentation Under the New Convention' [2008] 14 JIML 566, 581.

the contract of carriage, including the rights of suit[780] and the right to claim delivery under Art. 47,[781] and presumably also the right of control described in Art. 50.[782] One might well be minded to accept such a proposition,[783] but it has been convincingly argued that the right of control is not a right to be incorporated into the electronic transport record;[784] if that were the case, it would mean that the controlling party of a non-negotiable transport document or record would not be able to transfer the right of control due to the restriction in Art. 57;[785] whereas under Art. 50, he is entitled to do so. This would inevitably create an undesirable inconsistency between the stipulation of the two articles under the Rotterdam Rules framework. It consequently follows, if the above line of thinking is accepted, that the right of control is a standalone right created by the Rules, existing independently of the rights incorporated in a transport document or record, and that a transfer of a negotiable electronic transport record should have the effect of transferring both types of rights to the subsequent transferee.

It is also telling that the Rotterdam Rules do not specify the method by which the rights incorporated in the negotiable electronic transport record are transferred but only refer to Art. 9(1), leaving the rest to the municipal law of different countries.

---

[780] cf A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 529: 'As to rights of suit, the effect of the article is not clear but it seems unlikely that the article deals with the transfer of any rights of suit otherwise than in respect of delivery of the goods.'

[781] A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 529; F Berlingieri, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014) ch 3 s 9; Y Baatz and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019) para 57-05.

[782] The Rotterdam Rules, art 50(1) provides that the right of control may be exercised only by the controlling party and is limited to:

(a) The right to give or modify instructions in respect of the goods that do not constitute a variation of the contract of carriage;
(b) The right to obtain delivery of the goods at a scheduled port of call or, in respect of inland carriage, any place en route; and
(c) The right to replace the consignee by any other person including the controlling party.

[783] F Berlingieri, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014) ch 3, section 9; Y Baatz others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019) para 57-05; A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 529.

[784] L Zhao, 'The Right of Control in Carriage of Goods by Sea' [2014] LMCLQ 393, 397.

[785] The Rotterdam Rules, art 57 provides that:

(1) When a negotiable transport document is issued, the holder may transfer the rights incorporated in the document by transferring it to another person:
(a) Duly endorsed either to such other person or in blank, if an order document; or (b) Without endorsement, if: (i) a bearer document or a blank endorsed document; or (ii) a document made out to the order of a named person and the transfer is between the first holder and the named person.
(2) When a negotiable electronic transport record is issued, its holder may transfer the rights incorporated in it, whether it be made out to order or to the order of a named person, by transferring the electronic transport record in accordance with the procedures referred to in article 9, paragraph 1.

Although headed as 'transfer of rights', chapter 11 nonetheless regulates the aspect of liabilities under Art. 58. As we will see from the following analysis, the philosophy behind the construction of Art. 58 of the Rotterdam Rules is basically the same as that of s. 3 of COGSA 1992, being a matter of accountability: a holder should not *ipso facto* be liable under the contract of carriage; he shall only be so liable when he exercises any right under the contract that meets the requirement for responsibility to arise.[786] In a nutshell, the article seeks to answer the difficult question: in what cases will a holder of a negotiable[787] electronic transport record, who is not the shipper, be held liable under the contract of carriage? In answer to this, the article purposely distinguishes between the circumstance in which the holder does not exercise any right under the contract and the circumstance in which he does.

In the first instance, the main part of Art. 58(1) states that the holder does not assume any liability under the contract of carriage solely by reason of being a holder. It is readily apparent that this provision is intended to protect the interests of an intermediate party. However, the provision is qualified by one proviso, the effect of which is that the intermediate holder may, upon the request of the carrier, be obliged to 'provide the latter with information, instructions or documents relating to the goods',[788] failing which he may as a consequence incur liability under Art. 55. This means that an intermediary, such as a bank or middleman, who becomes the controlling party of a negotiable transport record by designation or transfer for the purpose of obtaining security rather than exercising rights in the goods, may be surprised to find himself liable for breach of his obligations as a controlling party under the Convention before he assumes any liability under the contract of carriage.[789]

In the second instance where the holder does exercise rights under the contract of carriage, he assumes any liabilities imposed on it under the contract to the extent that such liabilities are incorporated in or ascertainable from the negotiable electronic transport record under Art. 58(2). Unlike Art. 3(1) of the 1992 COGSA, which specifies the situations in which liabilities will accrue to a pBL holder, there is no indication of the extent to which the exercise of such

[786] See A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 530.
[787] Although the word "negotiable" does not appear in art 58, the implication is nonetheless clear: Y Baatz and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019) para 58-03.
[788] The Rotterdam Rules, art 55(1).
[789] It is singular enough that the controlling party's obligations under art 55 are triggered before—and even without—any general assumption of liabilities under the contract of carriage by a holder who is also a controlling party: Y Baatz and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019) para 55-03, 58-02.

rights will trigger the assumption of liabilities under the Rotterdam Rules regime; the only guidance is to be found in Art. 58, which provides negative provisions as to the circumstances under which a holder is not liable, i.e., if it agrees with the carrier to replace the negotiable transport document with a negotiable electronic transport record or vice versa, or to transfer rights under Art. 57. It seems that all the rights incorporated in the record that have been transferred to the holder in accordance with Art. 57 should be included. In this respect, a carrier is better off relying on Art. 58 of the Rotterdam Rules to pursue the holder under the terms of the carriage contract than under s. 3(1) of COGSA 1992.[790] It remains to be seen whether a request for security[791] or samples of the cargo[792] will constitute an exercise of rights for the purposes of the Rotterdam Rules.[793]

When contrasting the wording used in Articles 57 and 58, the one thing that is most acutely noticeable is that Art. 58, unlike Art. 57, speaks of the assumption of liabilities by "a holder that is not the shipper" rather than the "transfer" of such liabilities. Furthermore, there is no provision in Art. 58 equivalent to Art. 3(3) of COGSA 1992 to preserve the liabilities under the original contract of carriage. Does this imply that the holder will not be answerable for the liabilities incurred by the shipper? If so, whether the shipper's liability is retained notwithstanding any subsequent transfer of the negotiable electronic transport record?[794] In light of the extensive obligations imposed on the shipper towards the carrier under Chapter

[790] Y Baatz and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019) para 58-06; R Williams, 'Transport Documentation Under the New Convention' [2008] 14 JIML 566, 583.
[791] *Primetrade AG v Ythan Ltd (The Ythan)* [2006] 1 Lloyd's Rep 457, where the cargo interest had made a demand for security, which was held not to be one of the steps listed in COGSA 1992, s 3(1): see R Williams, 'Transport Documentation Under the New Convention' [2008] 14 JIML 566, 583.
[792] In *Borealis AB v Stargas Ltd (The Berge Sisar)* [2001] UKHL 17; [2002] 2 AC 205; [2001] 1 Lloyd's Rep 663. See also F Berlingieri, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014) ch 3, s 9. It has been held that the request for the delivery of samples of the cargo for the purpose of testing at the discharge port was not a sufficient "demand" to satisfy COGSA 1992, s 3(1): see A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 531.
[793] See the sentiment in R Williams, 'Transport Documentation Under the New Convention' [2008] 14 JIML 566, 583. It is to be regretted that the UNCITRAL discussions that led to the Rotterdam Rules did not shed light on this issue, although it was recognized by Working Group III (Transport Law) at its twentieth session in Vienna (15-25 October 2007) A/CN9/642 para 120; Working Group III (Transport Law) at its twenty-first session in Vienna (14-25 January 2008) in A/CN9/645 para 181.
[794] See the discussion in *The Berge Sisar* (2001) 1 Ll Rep 663 [23]-[26] between the effect of the words 'have transferred to him' and 'subject to the same liabilities' in the 1855 Act. See also English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991) para 3.23. It is important to note that the above cited discussions are premised on the English common law doctrine of privity of contract, and that the 1855 Act is accordingly viewed as a statutory assignment where only rights are transferred but not liabilities. They therefore have little relevance to the convention; on the other hand, the legal principle of mutuality may be equally applicable: *The Berge Sisar* (2001) 1 Ll Rep 663 [45]; A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 531.

Seven,[795] it becomes all the more important to provide clear answers to these questions.[796] It is unfortunate that the Rotterdam Rules fail to provide clarity on this crucial aspect.

The foregoing discussion shows that Chapter 11 is a fairly brief attempt to deal with the intricate problem of transfer of rights and responsibilities. The inadequate solution it offers would generate more questions than answers, and would inevitably be a source of conflicts and frictions if the Rotterdam Rules are adopted.

In summary, the Rotterdam Rules have attempted to create parallel schemes for the use of conventional paper-based transport documents as well as electronic communications, not only by carrying through the fundamental principles enshrined in the previous UNCITRAL legislation, but also by providing for provisions that had not been previously addressed. That said, it is clear from the above analysis that the Rotterdam Rules are rather obscure in their position as to whether an electronic transport record issued under the regime can embody the three essential features of the pBL under discussion.

(4) MLETR

In view of the ambiguity and flaws of the provision of the Rotterdam Rules, it stands to reason that the convention has yet to achieve widespread success, despite the recent call for its ratification.[797] Perhaps cognizant of the modest progress made by the Rules, and the potential obstacles posed by the implementation of an instrument in the nature of a binding convention or treaty,[798] UNCITRAL subsequently decided to consolidate its work in the field of electronic commerce[799] in the form of a model law,[800] so as to develop a flexible legal framework that could be adapted and adopted by various jurisdictions according to their respective circumstances.[801] Indeed, a model law would allow for some flexibility in dealing

[795] The Rotterdam Rules devote an entire chapter to the shipper's obligations to the carrier.
[796] A Diamond, 'The Rotterdam Rules' [2009] LMCLQ 445, 530.
[797] S Hetherington and T Fujita, 'Rotterdam Rules and E Commerce' (2018) 32 MRI 07 11.
[798] UNCITRAL, *Draft Model Law on Electronic Transferable Records* (UNCITRAL Working Paper, No. A/CN.9/761, 2015) para 92-93.
[799] UNCITRAL, Colloquium on Electronic Commerce (*uncitral.un.org*, 14-16 February 2011) <https://uncitral.un.org/en/colloquia/electronic_commerce/2010> accessed 31 August 2022.
[800] UNCITRAL held several sessions debating whether the work should take the form of a convention, model law or some other text and eventually settled on a model law: UNCITRAL, *Report of Working Group IV (Electronic Commerce) on the work of its fiftieth session* (UNCITRAL Working Paper, No. A/CN.9/828, 2014) para 23.
[801] UNCITRAL describes a model law as a suggested pattern for law-makers in national governments to consider adopting as part of their domestic legislation: UNCITRAL, 'Frequently Asked Questions – UNCITRAL Texts' (*uncitral.un.org*) <https://uncitral.un.org/en/about/faq/texts> accessed 31 August 2022.

with differences in substantive national laws.[802] This eventually led to the birth of the Model Law on Electronic Transferable Records (MLETR).[803] On the account that the MLETR is the most recent harmonization instrument and represents the state-of-the-art legislation produced by UNCITRAL on the topic of electronic documentation, it is beneficial to dive into the laws and concepts contained therein.

(a) What is an electronic transferable record?

As a starting point, the MLETR applies to what it calls electronic transferable records, which are considered to be the functional equivalent of transferable documents or instruments.[804] A 'transferable document or instrument' means a paper-based document or instrument that 'entitles the holder to claim the performance of the obligation indicated in the document or instrument and to transfer the right to performance of the obligation indicated in the document or instrument through the transfer of that document or instrument'.[805] Since pBLs will be included as transferable documents,[806] the digital counterparts eBLs will naturally fall under the category of electronic transferable records.[807]

It is worth stating here that the new term 'electronic transferable record' is not clearly defined, with Art. 2 simply stating that it is an electronic record that complies with the requirements of Art. 10.[808] However, when one turns to Art. 10 itself, its wording seems somewhat puzzling. Essentially, Art. 10(1)(a) provides that where the law requires[809] a

[802] UNCITRAL, *Draft Model Law on Electronic Transferable Records* (UNCITRAL Working Paper, No A/CN9/761, 2015) para 92.
[803] UNCITRAL, Model Law on Electronic Transferable Records (2017) <https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_transferable_records> accessed 27 Feb 2022. For a brief background on MLETR, see the Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 13-17. See also E Ong, 'Blockchain bills of lading and the UNCITRAL Model Law on Electronic Transferable Records' [2020] JBL 202, 208-209; A Davidson, 'Implementation and implications of the UNCITRAL Model Law on Electronic Transferable Records in Trade Finance' in C Hare and D Neo (eds), *Trade Finance: Technology, Innovation and Documentary Credits* (OUP 2021) paras 11.01-11.13.
[804] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 10.
[805] MLETR, art 2.
[806] Transferable documents, also called documents of title, include bills of lading: UNCITRAL, *Legal issues relating to the use of electronic transferable records* (UNCITRAL Working Paper, No A/CN9/WGIV/WP119, 2012) para 7; Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 38.
[807] UNCITRAL, *Legal issues relating to the use of electronic transferable records* (UNCITRAL Working Paper, No A/CN9/WGIV/WP115, 2011) para 3.
[808] This is analogue to the Rotterdam Rules, art 1(19)(b).
[809] "Requires" has been criticized for being 'linguistically awkward' by scholars, as the word does not fully articulate the understanding that the transferable document or instrument receives legal recognition and enforceability, and the law never requires a transferable record: E Ong, 'Blockchain bills of lading and the UNCITRAL Model Law on Electronic Transferable Records' [2020] JBL 202, 210; C Albrecht, 'Blockchain

transferable document or instrument, that requirement is met by an electronic record if certain conditions as spelt out in the remainder of Art. 10(1) are met. This, however, leads us to arrive at the circular conclusion that an electronic transferable record is the electronic equivalent of what would be a transferable document or instrument under the otherwise applicable domestic law.

Presumably, there is something to be said for so legislating, inasmuch as the Model Law claims that one of its general principles[810] is that it does not affect substantive law[811] and, on that basis, since negotiability relates to the fundamental rights of the holder of the instrument and is a matter of substantive law, the MLETR limits itself only to the narrow question of the transferability of the record and avoid addressing its negotiability.[812] With this being said, it seems that the MLETR cannot be truly divorced from the legal concept of negotiability, as it will not apply to documents or instruments that are non-negotiable;[813] although granted, the law of each jurisdiction will determine which documents or instruments are negotiable or not.[814]

(b) Provisions on certain general principles and functional equivalence

As with the MLEC that preceded it, it is not surprising that the overriding principles underpinning the MLETR are non-discrimination against the use of electronic communications, technological neutrality and functional equivalence.[815]

First of all, Art. 7 of the MLETR provides that 'An electronic transferable record shall not be denied legal effect, validity or enforceability on the sole ground that it is in electronic

Bills of Lading: The End of History: Overcoming Paper-Based Transport Documents in Sea Carriage through New Technologies' (2019) 43 Tul Mar LJ 251, 273. It has therefore been proposed that the appropriate word should be "permitted", and Art 10 should be interpreted this way: HD Gabriel, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261, 266, fn 23 and 274, fn 62.

[810] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 43-45.

[811] This general principle applies to each step of the life cycle of an electronic transferable record: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 22.

[812] The intention is to simply enable negotiable instruments and documents to be in electronic form; it is designed to allow parties to do electronically what could otherwise be done with paper documents and instrument: HD Gabriel, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261, 264.

[813] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 21 and 88. See also HD Gabriel, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261, 264. It follows that straight pBLs and their electronic alternatives will not be covered by the MLETR: Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 4.35.

[814] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 38.

[815] UNCITRAL, Model Law on Electronic Transferable Records (2017), 3 <https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_transferable_records> accessed 27 Feb 2022.

form',[816] echoing the principle of non-discrimination as set forth in Art. 5 of the MLEC.[817] By adopting a technology-neutral approach, the MLETR may therefore acclimatize various models whether based on registry, token, distributed ledger or other technology.[818] Similar to Art. 8 of the Rotterdam Rules, Art. 7 of the MLETR lays down the requirement of consent of the parties for the use of an electronic transferable record,[819] with the difference that it is a general one that applies to all parties involved in the life cycle of the electronic transferable record.[820]

In addition, Art. 7 further clarifies that such consent need not be explicit and may be inferred from the conduct of the parties.[821] This is said to prohibit the occurrence of any unreasonable barrier to the use of electronic means.[822] In particular, the Explanatory Note to the MLETR distinguishes between the use of registry-based systems and decentralized systems. In the former case, consent may be found in the system rules to which the user needs to sign up in order to gain access to the system; in the latter case, consent may be implicit and inferred from the exercise of control of the record or performance of the obligation contained in the record.[823] The addition of such a provision will allay the fears of some that a party may actually use an electronic transferable record and subsequently deny having consented to do so;[824] in this context, the MLETR can be seen as an optimized version of the Rotterdam Rules.

Articles 8 and 9 go on to provide for the functional equivalence of the notion of "writing" and "signature" in an electronic environment. The inclusion of these two provisions is inspired by

[816] MLETR, art 7(1).
[817] Another manifestation of non-discrimination is contained in the MLETR, art 19.
[818] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 18. The reference to "other" technology in the Explanatory Note provides for the possibility of future technology that commercial parties may develop and incorporate into their dealings: A Davidson, 'Implementation and implications of the UNCITRAL Model Law on Electronic Transferable Records in Trade Finance' in C Hare and D Neo (eds), *Trade Finance: Technology, Innovation and Documentary Credits* (OUP 2021) para 11.17. For an account of how the blockchain technology fits into the legal structure of the MLETR see for example ML Shope, 'The Bill of Lading on the Blockchain: An Analysis of its Compatibility with International Rules on Commercial Transactions' 22 MINN JL SCI & TECH 163 (2021).
[819] MLETR, art 7(2). However, this does not preclude enacting jurisdictions from mandating the use of electronic transferable records, at least with respect to some categories of users and some types of transferable documents and instruments, in light of the policy goals pursued: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 62.
[820] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 63.
[821] MLETR, art 7(3).
[822] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 64.
[823] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 65-66.
[824] HD Gabriel, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261, 270.

Articles 6 and 7 of the MLEC,[825] to the effect that electronic writing and electronic signatures should receive the same legal treatment as the conventional paper-based method. Having the general rules on functional equivalence ready in place will be extremely useful in cases where a jurisdiction wishing to adopt the MLETR without having enacted the MLEC or any other similar text.[826]

Another manifestation of the principle of functional equivalence is Art. 10. Critically, it lays down certain conditions to be met by an electronic transferable record for it to be used as the functional equivalent of a transferable document or instrument. The first condition is that the electronic record must contain the information that would be required to be contained in a transferable document or instrument.[827] The purpose is self-evident, namely to comply with the same substantive law applicable to the same type of transferable document or instrument.[828] Correlatively, while Art. 6 allows for additional information to be included in the paper equivalent, it does not strictly require that such information be inserted.[829] This is because a demand for the inclusion of such additional information would create a legal requirement that does not exist in relation to the issuance and use of transferable documents or instruments; in this respect, the approach again reflects the principle of non-discrimination.[830]

The second condition is that a reliable method[831] has to be used during the entire process in which the electronic record is deployed.[832] Such a reliable method should satisfy three

[825] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 73 and 76.
[826] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 70-71.
[827] Art 10(1)(a) of the MLETR.
[828] Art 1(2) of the MLETR says: 'Other than as provided for in this Law, nothing in this Law affects the application to an electronic transferable record of any rule of law governing a transferable document or instrument including any rule of law applicable to consumer protection'.
Hence, the same substantive law applies to a transferable document or instrument and to the electronic transferable record containing the same information as that transferable document or instrument: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 22. Since information in a transferable document or instrument is in writing, its inclusion in an electronic transferable record must comply with article 8 of the Model Law: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 89.
[829] Art 6 of the MLETR provides: 'Nothing in this Law precludes the inclusion of information in an electronic transferable record in addition to that contained in a transferable document or instrument'. For the examples of such additional information see Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 58.
[830] See the Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 56-57.
[831] Further clarified in art 12 of the MLETR. This will be explored further in the discussion that immediately follows.
[832] MLETR, art 10(1)(b).

requirements, i.e., identification, control and assurance of integrity. As with the MLEC, they are designed to achieve the functional equivalence of paper documents by reproducing in electronic form the objectives achieved by paper documents.[833] The thesis shall now consider each of them in turn.

The first requirement is that the reliable method should be able to identify that electronic record as the electronic transferable record.[834] According to the Explanatory Note, this requirement implements the "singularity" approach,[835] requiring reliable identification of the electronic transferable record that entitles its holder to request performance of the obligation indicated in it, so that multiple claims of the same obligation would be avoided.[836] It consequently follows from the formulation of the MLETR that, like the MLEC, the identification requirement appears to place emphasis on singling out the electronic record per se, rather than on the singular right to claim performance of the obligations indicated therein.[837] On a separate note, whilst this emphatic focus on the single, independent, non-reproducible form of existence of an electronic record may be useful in some futuristic systems where a record issued as such could effectively be transferred as if it were a piece of

[833] See the previous discussion on the MLEC.
[834] MLETR, art 10(1)(b)(i).
[835] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 94. This was preceded by years of consideration of the notion of "uniqueness" within UNCITRAL, whose purpose is to prevent the circulation of multiple documents or instruments relating to the same performance and thus to avoid the existence of multiple claims for performance of the same obligation: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 81. Thus, one can see that the theory behind "singularity" does not deviate from "uniqueness" at all; howbeit, the latter concept was ultimately abandoned in the MLETR text for its potential to foster litigation: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 81-82, 96-97.
[836] It is notable, however, that in order to preserve the continuation of the current pBL practice, the MLETR does not prevent the possibility of issuing multiple electronic transferable records: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 191-192. This means that, in technical terms, there could be more than one electronic transferable record relating to the performance of the same obligation in existence. In this case, it is questionable how multiple claims for the same performance could be avoided. The Explanatory Note addresses this problem by suggesting:

> Moreover, in an electronic environment, the same functions may be pursued as with the issuance of multiple original transferable documents or instruments by selectively attributing control over one electronic transferable record to multiple entities on the basis of the legal rights attributed to each entity (eg, title to property of goods or security interests). In practice, an electronic transferable records management system could, for instance, provide information on multiple claims having different objects relating to the same electronic transferable record.

Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 193.
[837] See the previous discussion on the MLEC on this issue: section 6.1.2(2). Although some delegations tried to clarify that the notion of "singularity" ought to be understood as referring to singularity of claims and not to singularity of documents, this point was eventually lost in the Explanatory Note: UNCITRAL, *Report of Working Group IV (Electronic Commerce) on the work of its fifty-fourth session* (UNCITRAL Working Paper, No A/CN9/897, 2016) paras 66-69. cf O Cachard, 'UNCITRAL Model Law on Electronic Transferable Records: The Missing Link Towards E-Shipping?' in B Soyer and A Tettenborn (eds), *Disruptive Technologies, Climate Change and Shipping* (Informa Law from Routledge 2022) s 4.2.2.

paper,[838] it may be meaningless under the operation of the prevalent registry-based systems, which do not require a discrete object that can be identified as the electronic transferable record as long as the registry is up and running.[839]

The second requirement is that the reliable method should be able to render that electronic record capable of being subject to control from its creation until it ceases to have any effect or validity.[840] This is referred to in the Explanatory Note as the "control" approach.[841] Further provision on the concept of "control" is contained in Art. 11, which establishes exclusive[842] control of an electronic transferable record as the functional equivalent of possession of a transferable document or instrument. In order to realize this aim, the article similarly requires the employment of a reliable method to establish control of that record by a person and to identify the person in control.[843] Of particular note, the term "control" is not defined in the MLETR;[844] the reason furnished by the Explanatory Note is to be in keeping with the general principle that the Model Law does not affect or limit the applicable substantive law. As such, control or exclusive control as used under the MLETR regime denotes only the fact of possession; the concept does not refer to "legitimate" control, comparable to legal possession, since this is a matter for each jurisdiction to decide.[845] In this way, the MLETR confines itself to providing a basis for the purpose of identifying those who have exclusive control over the electronic transferable record, without detailing the ensuing legal implications arising from such control. Nor does it specify in reality how the identity of the controller is to be

[838] For instance, a token-based system: see E Ong, 'Blockchain bills of lading and the UNCITRAL Model Law on Electronic Transferable Records' [2020] JBL 202, 205-207.
[839] See HD Gabriel, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261, 275. In particular, the author states at fn 68 that: 'Moreover, if the future is blockchain, as is often asserted, this should not cause additional problems. 'Blockchain', as a distributed registry, is just another type of registry. But as with current registries, blockchain does not produce a single transferable object'. On the registry-based system see also section 2.3.1.
[840] MLETR, art 10(1)(b)(ii).
[841] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 84.
[842] The qualifier "exclusive" is used to imply exclusivity in its exercise: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 111 and 119.
[843] MLETR, art 11(1).
[844] The Explanatory Note merely states that the notion of "control" contained in art 11 needs to be interpreted autonomously in light of the international character of the Model Law: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 109; see also the MLETR, art 3(1). Although note UNCITRAL, *Draft Model Law on Electronic Transferable Records* (UNCITRAL Working Paper, No A/CN9/761, 2015) para 52: 'In short, the ability to transfer the electronic transferable record and of the performance embodied therein is referred to as "control". This point is not included in the text of the Explanatory Note.
[845] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 106-107 and 111.

determined, as this will be left to domestic law.[846] On the transfer of possession, the same can be achieved under the MLETR by the transfer of control of the electronic transferable record, which has the equivalent legal effect in the paper-based world;[847] in any event, precisely how this transfer is to occur turns on the nature of the technology used and the MLETR is silent in this regard. Ultimately, the MLETR does not articulate exactly how this system of control is to operate in law and in practice.[848]

The third requirement is that the reliable method should be able to retain the integrity of that electronic record.[849] This supposedly is to ensure that the information in the electronic record has not been tampered with or unauthorizedly altered.[850] The criterion to assess integrity is set forth as follows:

> …the electronic transferable record, including any authorized change that arises from its creation until it ceases to have any effect or validity, has remained complete and unaltered apart from any change which arises in the normal course of communication, storage and display.[851]

On the face of it, this provision, which arguably builds on Art. 9(b) of the Rotterdam Rules, is seemingly much fuller. Although the Explanatory Note pronounces that the MLETR notion of the integrity is an absolute one,[852] the provision presents an ambiguous or overbroad formulation that may leave courts in the enacting jurisdiction divided or uncertain as to how

[846] The same is true for the determination of the rightful person in control: see Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 114-115. Although the Explanatory Notes do hint that the method or system employed to establish control as a whole should perform the identification with respect to all concerned parties; and that certain electronic transferable records management systems, such as those based on distributed ledgers, may identify the signatory by referring to pseudonyms rather than to real names: paras 78, 116-117. cf O Cachard, 'UNCITRAL Model Law on Electronic Transferable Records: The Missing Link Towards E-Shipping?' in B Soyer and A Tettenborn (eds), *Disruptive Technologies, Climate Change and Shipping* (Informa Law from Routledgem 2022) s 4.3.2, cautioning about the liability of the operators of the distributed ledger infrastructure.
[847] MLETR, art 11(2).
[848] Actually also though, it is questionable how Art 10, with its concept of singularity, is meant to work with the requirement of control: HD Gabriel, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261, 275.
[849] MLETR, art 10(1)(b)(iii).
[850] Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 4.40.
[851] MLETR, art 10(2).
[852] It refers to a fact, and as such, is objective, ie either an electronic transferable record retains integrity or it does not: Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 100.

the standard should be applied to individual cases.[853] It follows that the additional elucidation does not help to provide greater clarity in the assessment of integrity.

A final point concerns the use of the expression 'reliable method', which has been referred to in several key articles of the MLETR.[854] The specification is found under Art. 12. In concrete terms, the method must be 'As reliable as appropriate for the fulfilment of the function for which the method is being used, in light of all the relevant circumstances'[855] The wording bears strong resemblance to Art. 7(1)(b) of the MLEC concerning the functional equivalence of electronic signatures, which is pitched at such a high level of generality that its application has caused trouble for national courts.[856] In light of this, Art. 12 goes on to set forth a list of circumstances that may assist in determining reliability. They are: operational rules, the assurance of data integrity, the ability to prevent unauthorized access and use of the system, the security of hardware and software, the regularity and extent of audit by an independent body, the existence of a declaration by a supervisory body, an accreditation body or a voluntary scheme regarding the reliability of the method, and any applicable industry standard.[857]

Mindful, however, that this list is only illustrative and not exhaustive,[858] and so parties are free to allocate liabilities by reason of contractual agreements;[859] and that the assessment of the reliability of each indicium has to be caried out in light of the specific function pursued by the use of that method, and is therefore relative and flexible.[860] Additionally, a 'safety clause'[861] is devised at the end of Art. 12, adding some certainty to this rather open-textured

[853] Uncertainties arise as to who is to make the authorized change; and how to discern that authorized change has remained complete and unaltered apart from any change which arises in the normal course of communication, storage and display.
[854] The term is used in art 9 to permit the use of electronic signatures; in art 10 to define electronic transferable records; in art 11 to define the concept of "control"; in art 13 to deal with indication of time and place in electronic transferable records; in art 16 to allow the amendment of electronic transferable records; in art 17 to permit the replacement of a transferable document or instrument with an electronic transferable record; and lastly in art 18 to permit the replacement of an electronic transferable record with an equivalent paper-based transferable document or instrument.
[855] MLETR, art 12(a).
[856] For instance, see *Getup Ltd v Electoral Commissioner* [2010] FCA 869 [14]-[17], where the Federal Court of Australia clearly had a hard time applying the reliability test under s 10(1)(b) of the Electronic Transactions Act 1999 (Cth), which was closely based on the MLEC.
[857] MLETR, art 12(a)(i)-(vii).
[858] There are other possible elements are indicated in Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 127.
[859] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 123.
[860] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), paras 99 and 125.
[861] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 136.

approach, to the extent that if the method is proven in fact to have fulfilled the function by itself or together with further evidence, it is deemed to be reliable.[862] Such a test may be conducted retrospectively,[863] but since it refers to a fact, and as such, is objective,[864] it will not be subject to frivolous legal challenges for technical reasons.[865] It is likely that it will be the last criterion that is most frequently prayed in aid in future litigation.[866]

In summary, the MLETR offers generic enabling rules that give legal recognition to international trade documents existing in electronic form. Therefore, it can be adopted to facilitate the use of eBLs. However, the foregoing discussion shows that the MLETR on its own is not sufficient to accomplish the three cardinal functions of pBLs. The purpose of the MLETR is not so much to build on the existing legal system of paper-based transferable documents or instruments and to create a new one for their digital alternatives, but rather to subordinate the digital documents to the current regime and benefit from it, while overcoming the barriers to the use of electronic means posed by the formal requirements for the use of paper-based transferable documents or instruments.[867] So viewed, it does not aim to describe all the functions possibly related to the use of electronic documentation. Ultimately, therefore, whether an eBL qualifying as an electronic transferable record can discharge the functions possessed by a traditional pBL will be determined by national laws other than the MLETR.[868]

In any case, the MLETR is certainly a positive step in the digital transformation of global trade. It is however important to appreciate the fact that it is not law but a 'a suggested pattern for law-makers in national governments to consider adopting as part of their domestic legislation',[869] and that the substantial regulatory matters are left behind to individual

[862] MLETR, art 12(b).
[863] Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 4.44.
[864] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 99.
[865] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 136. The point on reliability in circumstances where there is no doubt that the electronic signature is that of the signatory as happened in *Getup Ltd v Electoral Commissioner* [2010] FCA 869 may not be raised under the MLETR.
[866] A Davidson, 'Implementation and implications of the UNCITRAL Model Law on Electronic Transferable Records in Trade Finance' in C Hare and D Neo (eds), *Trade Finance: Technology, Innovation and Documentary Credits* (OUP 2021) para 11.25.
[867] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 33.
[868] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 86.
[869] UNCITRAL, 'Frequently Asked Questions – UNCITRAL Texts' (*uncitral.un.org*) <https://uncitral.un.org/en/about/faq/texts> accessed 14 August 2022; Q Schiltz, 'Legal compliance of the electronic Bill of Lading' (2019) ICDTLI 439, 443 <https://www.atlantis-press.com/proceedings/icdtli-19/125918547> accessed 20 March 2022. It has realistically been suggested that it may be several years before

countries on their own. It is therefore imperative for a small number of countries to be in the vanguard of championing the use of the Model Law by taking the lead in its implementation, complemented by the requisite domestic legislative reforms, so as to make it a worthwhile endeavour. Singapore is one of these countries, having adopted the Model Law in the Electronic Transactions (Amendment) Act 2021.[870] In the UK, the Law Commission, at the behest of the UK government, has undertaken a project on electronic trade documents and has subsequently published a consultation paper and a final report with draft legislation that would implement its recommendations to allow legal recognition of trade documents in electronic form, such as bills of lading. In what follows, the thesis will look at the new legislation in Singapore and the work of the Law Commission.[871]

6.2 Nationally

6.2.1 Singapore's experience

Renowned for being a front-runner in the field of e-commerce, Singapore was the first country to adopt MLEC when it enacted the Electronic Transactions Act (ETA)[872] in 1998. Having been acutely aware of the need for new legislation to pave the way for a truly paperless trading system, Singapore passed an amendment to the ETA, the Electronic Transactions (Amendment) Act 2021 (ETA 2021), adopting, with minor modifications, the MLETR framework.[873]

---

one sees the widespread adoption of MLETR: Clyde & Co, 'The Legal Status of Electronic Bills of Lading: A Report for the ICC Banking Commission' (2018) 11 <https://cdn.iccwbo.org/content/uploads/sites/3/2018/10/the-legal-status-of-e-bills-of-lading- oct2018.pdf> accessed 9 August 2022.

[870] Other five States that have adopted legislation based on or influenced by the Model Law at the time of writing include: the Abu Dhabi Global Market, Bahrain, Belize, Kiribati and Paraguay: see UNCITRAL, 'Status: UNCITRAL Model Law on Electronic Transferable Records (2017)', https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_transferable_records/status.

[871] Another principal national initiative was the 2003 amendment to the US Uniform Commercial Code (UCC), which preceded the MLETR and is therefore not part of the enquiry for this thesis. The amended UCC recognises electronic document of title, and its approach is different from that of the MLETR: see Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) paras 4.71-4.75.

[872] Electronic Transactions Act 2010, Revised 2011 (Cap 88).

[873] In doing so, Singapore became the second trading nation to adopt the MLETR, following the 2019 adoption by Bahrain: MO Al-Suhaimi, 'Bahrain First Country to Enact MLETR' (*Asharq Al-Awsat*, 16 January 2019) <https://english.aawsat.com//home/article/1548651/bahrain-first-country-enact-mletr > accessed 31 August 2022. Apart from the adoption of the MLETR, The Government of Singapore is involved in a series of government-initiated standards and technical projects: Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) paras 4.46-4.48. In March 2020, ICC launched a Digital Standards Initiative in collaboration with the Asian Development Bank, and the Government of Singapore: see the Digital Standards Initiative, available at https://www.dsi.iccwbo.org/about-icc-digital-standards-initiative.

The main difference lies in the introduction of a rebuttable presumption for reliability that, unless evidence to the contrary is adduced, the method used by an accredited 'electronic transferable records management system'[874] to satisfy the requirements under the ETA 2021 relating to the electronic transferable record is 'as reliable as appropriate'.[875] Details of the implementation of the accreditation scheme for providers of electronic transferable records management systems are further enumerated as a separate part in the Act.[876] These additions are intended to increase legal certainty by making it possible for reliability requirement to be met *ex ante*,[877] thereby building confidence in the use of electronic transferable records and mitigating problems in interpreting the MLETR terminology.[878] However, concern was raised that a global proliferation of accreditation bodies could ultimately be detrimental to the ETA 2021 scheme, as compliance costs would inevitably increase.[879] For all that, the accreditation system is still to be rolled out, and until then, reliability will be assessed in the same way as under MLETR.[880]

That notwithstanding, as with the MLETR, the ETA 2021 gives legal effect to an electronic transferable record where a 'reliable method' is used to establish exclusive control over the record and to identify the person in control[881] by according to it the functional equivalence of possession of a transferable paper document or instrument. This is crucial given the fact that Singapore shares similar English common law roots and also that the Singapore Bills of Lading Act, which is in *pari materia* with the UK COGSA 1992,[882] provides for the passing of the rights and obligations under a pBL to be effected by the transfer of possession of the document itself. In this connection, it is instructive to note that the ETA 2021 closely followed the MLETR and does not further define "control" or "exclusive control" either; it

[874] ETA 2021, s 16A(1): '… "electronic transferable records management system" means an information system for the issuance, transfer, control, presentation and storage of electronic transferable records.'
[875] ETA 2021, s 16O.
[876] ETA 2021, Division 6.
[877] M Goldby and W Yang, 'Solving the Possession Problem: an Examination of the Law Commission's Proposal of Electronic Trade Documents' [2021] LMCLQ 605, 619.
[878] Deutsche Bank Asia, Response, https://www.imda.gov.sg/-/media/Imda/Files/Inner/PCDG/Consultations/consultation-paper/Public-Consultation-on-the-Draft-Uncitral-Model-Law-on-Electronic-Transferable-Records/Deutsche-Bank-Public-Consultation-on-Review-of-Draft.pdf?la=en.
[879] See the Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 4.59.
[880] See the Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.36.
[881] The electronic transferable record meeting the requirements has the functional equivalence of a document or instrument conferring possessory rights on the person in control: s 16I of the ETA 2021.
[882] See for example *Yue You 902* [2019] SGHC 106 [35].

follows that the new legislation has left this legal vacuum to be filled by Singapore common law.

6.2.2 Legislative activities in the UK

Given the similarities in the legal systems of Singapore and the UK, the impact of recent developments in Singapore law is likely to reverberate far beyond Singaporean waters to the UK.[883] A safe conclusion to be drawn from the observations of the 2021 ETA is that the Singapore legislation intends to extend the application of the national law on the pBL to include its electronic replacement by adopting the MLETR approach, while the current legal structure remains intact; however, if the new concepts designed by the MLETR are not defined by domestic law, the envisaged outcome will be difficult to materialize. The key to the problem, therefore, lies in making sure that the established legal system can accommodate these emerging concepts.

In the UK, power to make regulations is granted under COGSA 1992 as well as the Electronic Communications Act 2000, but for the moment the only regulation relevant to eBLs is the Electronic Signatures Regulations 2002.[884] The slow progress towards legislative change is a demonstration of the conservatism and prudence of the English legal system. In a working paper written in 2001, the Law Commission, having observed that 'Technology may in the future be capable of providing the commercial world with a true electronic equivalent of a paper bill of lading', nonetheless said that 'However there is no working equivalent now. Nor, as we understand it, is there likely to be in the near future',[885] and noted in a footnote that 'we are told that there is currently no market demand for such an equivalent'.[886] In fact, it even went so far by remarking the following:

> The absence of an electronic bill of lading, and the existence of adequate legal provision for contractual schemes, mean that there is no immediate need for domestic reform.

[883] Clyde & Co, 'The Legal Status of Electronic Bills of Lading: A Report for the ICC Banking Commission' (2018) 33 <https://cdn.iccwbo.org/content/uploads/sites/3/2018/10/the-legal-status-of-e-bills-of-lading-oct2018.pdf> accessed 9 August 2022; Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) paras 4.61-4.62.
[884] SI 2002 No 318.
[885] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions - Advice from the Law Commission* (2001) para 4.8.
[886] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions - Advice from the Law Commission* (2001) para 4.8, fn 6.

> There may be a need for reform in the longer term if an electronic bill of lading is created.[887]

Today, these perceptions are clearly outdated; The far-reaching impact of Covid-19 on the maritime industry, the rapid development of disruptive new technologies, and the legal difficulties and uncertainties of contractual schemes that the thesis observed in previous chapters, suggest that these statements are no longer a true reflection of the electronic alternatives to existing pBL or of market demand.[888] Seeing also the actions taken by other countries around the world, such as Singapore, to accelerate digitalization in the international trade space, the UK legal community feels the need to reconsider the domestic law and to catch up and leapfrog.

Consequently, two decades later, the Law Commission has once again undergone a revision of the legal status of electronic trade documents, with a view to making recommendations for a reform that would give legal recognition to trade documents in electronic form. Following an earlier round of consultation with various stakeholders, the Law Commission published its final report in March 2022, with draft legislation on electronic trade documents which would implement its recommendations and allow for legal recognition of trade documents in electronic form, amongst which are eBLs. The draft Bill was then included in the Parliamentary agenda in the Queen's Speech in May.[889]

(1) Case for reform and guiding principles

The main task of the Law Commission is to ensure that electronic trade documents, as digitized versions of traditional instruments, can perform the same legal functions and receive the same legal treatment as conventional paper documents.[890] With this in mind, the Law Commission has identified the so called 'possession problem',[891] which it considers to be an obstacle to the widespread use of electronic documents in trade. The relevance of this problem, as stated by the Law Commission, is that many trade documents that are crucial in international trade (such as pBLs) can only achieve their desired legal effects if they can be

[887] Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions - Advice from the Law Commission* (2001) para 4.10.
[888] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.20.
[889] See 'The Queen's Speech 2022' (*assets.publishing.service.gov.uk*, 10 May 2022) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1074113/Lobby_Pack_10_May_2022.pdf> accessed 2 August 2022. Anecdotally, it is hoped that the Bill will come into force before year end or early 2023.
[890] See eg Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 1.29.
[891] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.7.

possessed.[892] However, as a matter of English law, there is an unspoken assumption that possession is associated only with tangible objects;[893] this legal stance has been officially confirmed in the recent cases of *OBG v Allan*[894] and *Your Response v Datateam*.[895] Therefore, an electronic trade document (such as an eBL) cannot be possessed because of its intangible properties,[896] and therefore cannot presently function in the same way as their paper counterparts.[897]

The focal point of the Law Commission's project is thus to tackle the possession issue. In view of this, three general principles have been adopted to guide the proposed reforms: the least interventionist approach, technological neutrality and international compatibility.[898] While the latter two principles reflect the considerations of the MLETR,[899] the first one is a new path blazed by the Law Commission. The centrality of this principle is the application of possessory concepts to electronic trade documents.[900] The theory is that the reform, if implemented, will enable the existing laws and practices governing the tangible world to apply directly to electronic trade documents in an intangible environment, dispensing with the need for separate regimes with equivalent effects.[901]

(2) Gateway to possession

Essentially, the solution proposed by the Law Commission is to allow electronic trade documents, like eBLs, to be recognized in law as physically possessable, provided that they meet certain 'gateway criteria'[902] set out in the draft Bill – we will go through each criterion individually in the ensuing section. But before the thesis delves into the intricacies, it is first helpful to set the scene by referring to the scope of the Law Commission's recommendations.

---

[892] See Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 2.6-2.7.
[893] See further detail in Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 5.3-5.9.
[894] [2007] UKHL 21, [2008] 1 AC 1.
[895] [2014] EWCA Civ 281, [2015] QB 41.
[896] See the discussion on these two cases in Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 5.13-5.21.
[897] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.7.
[898] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.58.
[899] See Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 2.99-2.112
[900] See Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.60.
[901] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 2.72 and 2.77.
[902] See generally Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) ch 6.

Thus, cl. 1 (1) of the draft Bill provides for the definition of a 'paper trade document' as a document in paper form, the possession of which is required as a matter of law or commercial practice for a person to claim performance of the relevant obligation. Subparagraph (2) contains an "umbrella" provision that provides a specific but nevertheless non-exhaustive list of documents as examples of paper trade documents adverted to above, including but not limited to pBLs.[903] It is interesting to note that, contrary to the ETA 2021,[904] there is no specific definition of 'bill of lading' for the purposes of the draft Bill.[905]

In general, the Law Commission put forward seven criteria that a trade document in electronic form must satisfy in order to constitute an 'electronic trade document' for the purposes of the draft Bill. The important part starts with subparagraph (3), where it lays down the first criterion:

> Where information in electronic form is information that, if contained in a document in paper form, would lead to the document being a paper trade document, that information, together with any other information with which it is logically associated that is also in electronic form, constitutes a "qualifying electronic document" for the purposes of this Act.[906]

The Law Commission further noted in its report that this requirement entails that electronic documents falling within its remit must contain the same information as paper documents, and in this respect, it is therefore consistent with the approach taken in Art. 10 of the MLETR.[907] In all fairness, this lengthy provision is not easy to follow at first sight. In particular, though, what is meant by 'logically associated' is unclear from the wording itself,

---

[903] Noteworthy, straight bills of lading are included in the proposed law reform. The Law Commission says:
> In particular, straight bills of lading, warehouse receipts and ship's delivery orders are not documents of title at common law, but possession is an important part of how they function. It is our intention (subject to certain specific exceptions) that any document to which possession is relevant for a person to claim performance of an obligation should be caught, regardless of its precise legal or commercial nature. Accordingly, we recommend that the reforms and Bill should cover all documents, possession of which is relevant as a matter of law, custom and/or practice, to the determination of rights and entitlements.

See Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 4.38. This approach differs from the MLETR's position: see Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 4.35.

[904] The relevant provision is the ETA 2021, s 16A(1): '… "bill of lading" includes a bill of lading within the meaning of the Carriage of Goods by Sea Act, the Bills of Lading Act, or under any other rule of law, or the law of a country or territory outside Singapore'.

[905] The Law Commission says terms as such should instead be interpreted with reference to the underlying legislation and case law applicable to the particular trade document in question, and so it is unnecessary or undesirable to include a provision similar to that of s 16A(1) of the ETA 2021 in the draft Bill: Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021) para 8.115.

[906] The draft Bill, cl 1(3).

[907] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.6.

to which the Bill fails to provide further explanation. The author submits that the result might be a potential source of litigation if this provision is adopted.[908]

Cl. 2 forms the backbone of the draft Bill, defining in detail the qualifying electronic trade document that is covered by the Bill. It begins, in a tone similar to the MLETR, by requiring that in order to become such a document, a reliable[909] system must be used to ensure that the document meet certain criteria set thereunder.[910] The Law Commission suggests that by making the reliability criterion an explicit statutory requirement, commercial parties would be more likely to build trust in electronic transaction systems, which would further encourage the adoption of electronic documents in trade practices;[911] it further advocates that such a provision would reduce uncertainty during the transition period in which the common law catches up with electronic trade documents.[912]

Furthermore, almost as a replica of section 12(b) of the MLETR, section 2(4) of the draft Bill includes a non-exhaustive list of factors that a court may take into account when assessing the reliability of a particular system. However, the "umbrella" provision is not included in the Bill. On this point, the Law Commission reasoned that including such a provision might yield the unintended consequence that as long as it could be demonstrated that the system fulfilled the relevant function, it was immaterial whether the system itself was reliable or not.[913] The Bill also diverges from the MLETR, as well as the ETA 2021, by omitting the requirement for an accreditation process, with a view to injecting more dynamism into the industry.[914] One might be minded to accept such propositions, but ultimately the question would depend on the competence of the courts: how are judges prepared to assess the standard of reliability in the absence of a clear definition of the concept of reliability and with only an indicative list of considerations? Would the fact that an eBL system was approved or not approved by the

[908] Although the Law Commission explains in its report that where information is "logically associated" it means it is electronically connected, linked or otherwise cross-referenced, from the point of view of judicial practice, it is doubtful whether this clarification could throw any light on the matter: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.25.
[909] The Law Commission noted in the report that the word "reliable" is used to refer to an electronic system that meets certain criteria in terms of the way it operates: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.32.
[910] The draft Bill, cl 2(1). We will discuss these standards in the following paragraphs, for the present, we are concerned only with the reliability requirement for the electronic system that generates the document.
[911] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.43.
[912] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.45.
[913] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.53.
[914] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.47.

International Group of P&I Clubs be critical to their determination of the reliability of the system? Or would they rely on technical expert witnesses in the alternative?[915]

The remaining criteria are reflected in the requirements for an electronic trade document in a reliable system,[916] which are designed to ensure that the document contains certain features designed to replicate the salient features of paper trade documents, namely the ability to prevent double spending[917] and the divestibility[918] of the documents.[919] The third criterion deals with the integrity of an electronic document, which requires that the document retains its integrity and is not subject to unauthorised interference or alteration.[920] While acknowledging that such a requirement does not exist for pBLs, the Law Commission finally remarked that this could be due to historical reasons,[921] and make similar considerations to the previous reliability requirement as to how an explicit integrity requirement would be valuable in channelling trust in promoting the use of electronic documents and combating the risk of cybercrime and related scams.[922]

The next criterion is fundamental to the Law Commission's recommendations, which is that for a trade document to qualify as an electronic trade document under the draft Bill, the document in question should be capable of exclusive control.[923] The Law Commission suggested that control, as one of the two elements[924] required for a person to be in possession at common law, is used here only in a factual sense and should be distinguished from a legal right;[925] this factual assessment approach is analogous to that of the MLETR, as the Explanatory Note says that control is intended to operate as a functional equivalent to the fact

---

[915] See C Debattista, 'The Electronic Trade Document Bill' (*Views from the Bridge at 36 Stone*, June 2022) <https://media.licdn.com/dms/document/C561FAQE5aMuYuFrGTQ/feedshare-document-pdf-analyzed/0/1654683173594?e=1684368000&v=beta&t=klcw0g_xru7NsJSZfTVD_D5nszvQtXQjspZs02CBn6> accessed 9 May 2023.
[916] The draft Bill, cl 2(1)-(3).
[917] For an explanation of the phrase "double spending" see: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 1.31.
[918] The requirement of divestibility is explained in Ch 6 of the Law Commission's report: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) from para 6.111.
[919] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 1.30-1.32, 2.108 and 6.50.
[920] The draft Bill, cl 2(1)(b). See also Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.54 and 6.61.
[921] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.58 and 6.60.
[922] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.60.
[923] Relevant provisions are cls 2(1)(c) and 2(2). Although exclusivity is not expressly referred to in the draft Bill, it is rather explicitly required in the report: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.79 and 6.94-6.110.
[924] The other being intention. We will discuss this point in detail in the following section 6.2.2(3).
[925] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.80.

of possession.[926] However, unlike the Model Law, which does not give practical meaning to the notion of control in an electronic context, the Bill describes a person's exercise of control as the use, transfer or otherwise disposal of a document.[927] The proposition has provoked sophisticated reflection on the notion of control. Initially, during the consultation phase, there was some confusion about the word "use" and criticism that it introduced a level of discretion and equivocation into the legislation as a consequence.[928] In response to this, the Law Commission inserts into the draft Bill a stand-alone paragraph, expressly stating that merely reading or viewing an electronic document, without more, is not sufficient to amount to "use" of the document.[929]

The control is to be exclusive, meaning that it is not possible for more than one person to exercise control at any one time.[930] This is said primarily to prevent the problem of double spending that is endemic to electronic transmissions.[931] However, exclusivity does not imply that control cannot be consensually shared or "joint";[932] in fact, existing English law already recognizes in a number of cases where more than one person has control.[933] The Law Commission explains that exclusivity, as opposed to singularity, describes the nature of the relationship between persons and a thing, rather than its extent.[934] In that sense, the administrator or operator of a reliable electronic trading system may also constitute control for the purposes of the definition of "possession" in the draft Bill.[935] Nonetheless, according to the Law Commission, the requirement that no more than one person can exercise control over a document in electronic form at the same time (unless they are acting jointly) should guard against the simultaneous transfer, use or disposal of an electronic document by its user and the system operator.[936]

---

[926] Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records (2017), para 107. See also paras 13(b), 108, and 119.
[927] cl 2(2)(a) of the draft Bill.
[928] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.76-6.77.
[929] cl 2(2)(a) of the draft Bill. Some examples of "use" are given by the Law Commission, such as pledging, requesting a change of medium, requesting an amendment of the document, adding an indorsement or an acceptance to the document, and presenting or surrendering the document: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.84-6.85 and 6.89.
[930] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.103.
[931] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.104.
[932] This is stipulated in cl 2(2)(b) of the draft Bill. See too Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 5.34 and 6.98-6.100.
[933] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 7.73 and 7.76.
[934] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 5.34.
[935] Assuming they meet the other criteria and provided that it prevents double-spending: see
[936] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.110.

Other criteria deployed to prevent double spending of an electronic trade document are divestibility[937] and identification of the document.[938] The former criterion means that the transfer of an electronic document must include the full transfer[939] of both the document and the ability to control it,[940] so that 'after the document is transferred, any person who before the transfer was able to exercise control of the document is no longer able to do so (except to the extent that a person is able to exercise control by virtue of being a transferee).'[941] This will to a large extent rely on the technical design of the electronic trade document in question.[942] The Law Commission further notes that the inclusion of the divestibility requirement is even more crucial where multiple parties share control of an electronic document, as it is important in such cases to provide safeguards against the undesirable result that the system deprives the transferor of control but not of the ability of other persons who share the ability to exercise control with the transferor.[943]

The latter criterion requires that a trade document in electronic form is identifiable so that it can be distinguished from any copies.[944] This is captured in cl. 2(1)(a) of the Bill, which corresponds to Art. 10(1)(b)(i) of MLETR. The need for such a provision lies in the fact that it is common for commercial parties to keep a copy of trade documents for administrative purposes. In order to maintain this practice in a paperless environment, it is therefore important to make sure that retaining a copy of an electronic document after transfer or disposal would not prevent the divestibility requirement from being satisfied, and would not constitute retention of control of the document itself.[945] Cl. 2(1)(a) therefore provides a means of identifying "the document" as the original from its electronic copies, thereby ensuring that double spending does not occur.[946]

Lastly, the Law Commission suggests the inclusion of an additional criterion, namely that in order to qualify as an electronic trade document for the purposes of the draft Bill, the document in question must be capable of being uniquely associated with the person or

[937] cl 2(1)(e) of the draft Bill.
[938] cl 2(1)(a) of the draft Bill.
[939] It is to be noted that the word "transfer" in this context is being used in a factual and not a legal sense: Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.127.
[940] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.111.
[941] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.125.
[942] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.113.
[943] An account of how divestibility is achieved in practice is contained in Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.123 and 6.128-6.138.
[944] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.151.
[945] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.150.
[946] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.151.

persons who are able to exercise control of it.[947] The requirement is intended to give proper effect to the policy on control;[948] however, this does not mean that the electronic system in question should be able to prove who is able to exercise control, but rather that it should allow a person to prove their ability to exercise control on the system if asked to do so,[949] regardless of any person is in fact exercising such control.[950]

As can be seen, the seven criteria adverted to above are set to closely mimic the practical attribute of actual possession of a physical entity in an electronic environment, that is uniqueness, which can be used to prove entitlement. However, it should be added that for an eBL solution that ticks all the boxes set out in the Bill, this is by no means a guarantee that nothing will go wrong during its usage, for there is no such thing as a perfect system. It consequently follows that there is still the potential for controversial incidents such as wrongful delivery which was at issue in *Glencore v MSC*.[951] A related question to be raised in this context is thus whether the misdelivery claim itself would render the eBL system unreliable and thus disqualify the eBL from being the subject of regulation under the draft legislation; under the circumstance, it would appear that the case will fall back into the realm of English common law.

(3) Legal consequences and the philosophy behind the recommended legislation

The Bill therefore provides that, an electronic trade document, upon satisfying the seven 'gateway criteria' set out in the draft Bill, should be capable of being possessed physically as a matter of English law.[952] The legal consequences of possessing an electronic document as such are enunciated in clauses 3(2) and (3), being that it should be treated as having an equivalent effect as the paper trade document, and that anything done to a paper trade document should have the same effect as if done to an electronic trade document.[953] For the

[947] cl 2(1)(d) of the draft Bill. See also Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.154-6.158.
[948] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.155.
[949] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.156.
[950] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.154.
[951] *Glencore International AG v MSC Mediterranean Shipping Co Inc* [2015] EWHC 1989 (Comm), [2015] 2 Lloyd's Rep 508, affirmed [2017] EWCA Civ 365; [2017] 2 CLC 1.
[952] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 1.32, 2.78 and 7.3. The relevant provision is cl 3(1) of the draft Bill.
[953] In fact, there seems to be an unnecessary repetition between subclauses (1), (2) and (3). On this, Debattista comments as follows:

> …it is not entirely clear why section 3(2), remarkable for its simplicity, needed to be repeated in section 3(1) and 3(3). If an e-Bill "has the same effect" as a paper bill (section 3(2)), why does it then need to be stated that a person may "possess, indorse and part with" an e-bill (section 3(1))? Or that "anything done

purposes of this thesis, the literal meaning of the provision is that an eBL covered by the suggested legislation will be able to perform the three fundamental functions in the same way as a pBL.

The analysis presented earlier shows that while the eBL in general has little problem in performing the receipt function,[954] it has difficulty in performing the remainder of the two functions. As far as the contractual function is concerned, it is notable that s. 6(2) of the draft Bill deliberately omitted subsections (5) and (6) of the COGSA 1992 regime. Presumably also though, the Law Commission has envisaged the automatic extension of the existing legal framework governing the paper world. In the author's view, such efficacy should not be assumed automatically. The Bill defines documents coming within its scope, but does not prescribe if the qualifying electronic documents therein comes within the definition of any of the documents under COGSA 1992. It is therefore technically debatable whether COGSA 1992 is applicable. If this view is taken, then it could at least be argued that the Bill has inadvertently created two separate legal regimes, i.e., 'COGSA 1992 for paper bills, and the Electronic Trade Documents "Act" for e-Bills'.[955] Moreover, the omission of subsections (5) and (6) from COGSA 1992 may also leave undesirable scope for the application of the 1999 Act to eBLs.[956]

Notwithstanding the foregoing, since the Law Commission's intention is to treat electronic documents the same as their paper equivalents, it would be an odd interpretation if cl. 3 were to be construed as having effect only within the parameters of the statute. It can be further inferred from this that the Bill will in any case, in reality, extend COGSA 1992 to qualifying

---

in relation to" an e-bill "has the same effect" as it would in a paper bill (section 3(3))? Do these two sub-sections simply repeat what is already said in section 3(2)? And if not, what do they add, and to what effect?

C Debattista, 'The Electronic Trade Document Bill' (*Views from the Bridge at 36 Stone*, June 2022) <https://media.licdn.com/dms/document/C561FAQE5aMuYuFrGTQ/feedshare-document-pdf-analyzed/0/1654683173594?e=1684368000&v=beta&t=klcw0g_xru7NsJSZfTVD_D5nszvQtXQjspZs02CBn6> accessed 9 May 2023.

[954] See generally ch 3.

[955] C Debattista, 'The Electronic Trade Document Bill' (*Views from the Bridge at 36 Stone*, June 2022) <https://media.licdn.com/dms/document/C561FAQE5aMuYuFrGTQ/feedshare-document-pdf-analyzed/0/1654683173594?e=1684368000&v=beta&t=klcw0g_xru7NsJSZfTVD_D5nszvQtXQjspZs02CBn6> accessed 9 May 2023.

[956] See section 4.3.2.

electronic documents under it, a rather convoluted, circuitous application process of the 1992 regime.[957]

What of the third function of the pBL, the document of title? The central tenet of the Law Commission's position is that the proposed reform will give a qualifying eBL the legal status of documents of title under English law to the extent that a range of commercially useful legal concepts, such as constructive possession and the resulting presentation rules, will apply to an eBL covered under the draft Bill in the same way as they currently do to its paper cousin.[958] For a better comprehension of this proposition, it is necessary to examine the rationale behind the Law Commission's draft legislation, in order to assess if the approach of achieving the desired objective (i.e., to ensure that an eBL is treated in law as the functional and legal equivalent of a pBL) by meeting the "gateway" criteria and extending possession to electronic trade documents is legally sustainable.

The standpoint stated above throws up a number of interesting analytical points. To begin with, the Law Commission has repeatedly[959] highlighted that it only deals with the 'core case' of possession, also known as actual or *de facto* possession, which refers to a factual relationship between a person and an object;[960] in other words, possession within the scope of the Bill is purely a matter of fact rather than a question of legal right. Although the Law Commission did not specify in the Bill what constitutes possession of an electronic trade document, it nevertheless borrows indicia from the common law concept of possession, i.e., factual control and an intention to exercise such control, and intends to extrapolate them to electronic trade documents.[961] It follows that, for the most part, system operators or employees of shipping companies handling electronic trade documents for the benefit of their companies are unlikely to be considered to be in possession of those documents themselves due to the lack of the requisite intention.[962]

[957] It has further been advanced that a simpler way to do it is to make provision in a regulation for COGSA 1992 to apply to eBLs in accordance with subsections 1(5) and (6) of COGSA 1992: ibid.
[958] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 5.60. On constructive possession see the discussion in section 5.1.2.
[959] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 3.56, 4.34, 5.28-5.30, 7.34, 7.39, 7.102.
[960] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 5.28.
[961] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) ch 7.
[962] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 7.33 and 7.66.

Considering that intention is rarely a prominent issue in determining possession,[963] and also that it depends on the nature of the relevant subject matter to a lesser extent,[964] the determination of intention is in most cases unlikely to cause significant problems for electronic documents.[965] The element of factual control is therefore at the core of the Law Commission's approach in establishment of possession. Although not expressly mentioned, the Law Commission submits that this control implies exclusivity.[966] The Law Commission undertakes a thorough examination of the development of case law in respect of the notion of control, and observes that what constitutes sufficient control over a particular asset will depend on the type of asset, which is a common law assessment made by the courts with the assistance of existing case law.[967] Drawing on the common law assessments of control or possession,[968] the Law Commission goes even further and advocates that control within the meaning of the Bill should be defined as the ability to 'use, transfer or otherwise dispose of the document'.[969]

Yet paradoxically, the Law Commission argues that its suggested approach is to adopt a concept of control for the purposes of the gateway criteria which is more closely aligned with the factual concept of control that forms part of the common law concept of possession.[970] If this is the intention of this criterion, it seems that there is no good reason to complicate matters by defining control, bearing in mind that control is relative and fact-specific that has not been given a clear meaning in existing case law and is kept flexible in this vein. The author therefore considers that it is not necessary or appropriate for legislators to take on the role of predicting what control might look like in the electronic sphere; this is a matter best dealt with on a case-by-case basis, as with the development of the law relating to tangible objects, where an understanding of what constitutes sufficient control has evolved over decades of judicial activities.

More questionable is the underlying doctrinal proposition of the Law Commission that documents used in trade whose functionality (including possessory interests and remedies)

[963] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 7.32.
[964] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 5.48.
[965] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 7.64.
[966] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.79 and 6.94-6.110.
[967] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) ch 5.
[968] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.63.
[969] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 6.63-6.93.
[970] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 6.82.

depends, as a matter of law or commercial practice, on their being "possessed";[971] by allowing for the possession of trade documents in electronic form, therefore, electronic documents should have the same functionality as their paper counterparts.[972] The courts, on the other hand, is expected to apply the existing common law rules and principles of possession, *mutatis mutandis*, to electronic trade documents, and to accord old-fashioned terminology with a new meaning in a digital context.[973] Using possession as an operative concept would allow the digital subject matter – as noted by the Law Commission in its latest report – to directly 'plug in'[974] to the established legal regime and therefore to achieve legal equivalence with pBLs.

Concerning the pBL alone, this line of reasoning is, with respect, fallacious. It must be remembered that a pBL serves three functions, which are: a receipt for the goods taken by the carrier, evidence of the contract of carriage of goods by sea, and a document of title to the goods under the pBL recognizable by both common law and statute. Admittedly, possession is very relevant in the fulfilment of the last two functions in law as well as in commercial practice. For one thing, the need to be able to possess the pBL is an indispensable precondition in triggering the application of COGSA 1992 through which rights and obligations under the pBL are channelled to a third party; by virtue of being possessable, the document falls within the scope of statutory definitions of 'document of title to goods'[975] and can function as a document of title for the purposes of those regulations. For another, possession acts as an enabling tool in the ways in which a pBL can be used in security arrangements such as a pledge and be protected by the property torts such as conversion.[976]

Having said that, it should nonetheless be acknowledged that allowing eBLs that meet certain requirements to be possessed is not the end of the matter. Possessability by no means denotes that the paper replacements will accordingly have all the possessory treatments and remedies as pBLs; this association is not necessarily causal. The reason that pBLs may be bailed or converted, or be the subject of a possessory security, is that they are regarded by English common law as documents of title to the goods they represent, capable of conferring

[971] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.3.
[972] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.57.
[973] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 2.90-2.96.
[974] Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) para 2.90.
[975] Factors Act 1889, s 1 and Sale of Goods Act 1979, s 61.
[976] These aspects are discussed in chapters 3, 4 and 5.

constructive possession on the person possessing the instrument, a useful legal right on which possessory security interests and attendant legal remedies are to be founded.[977]

The author therefore submits that the Law Commission has not given sufficient weight to the special legal status of the pBL as a common law document of title. It is true that possession provides a means of passing on certain rights and entitlements to the possessor, but even then what is decisive is that the document in possession in itself has legal significance. In this connection, if the common law does not accept the electronic equivalent of the pBL as a document of title, the fact that it can be possessed will not give its possessor the necessary possessory rights (in legal terms, constructive possession) to lay claim that is enforceable against the world, since the electronic document embodies no such substantial rights *ab initio*. The problem that emerges from the Law Commission's recommendations is therefore obvious: they gravitate towards the factual concept of possession rather than the question of the legal rights associated with it. In contrast, the foregoing discussion shows that possession of a pBL does not, of itself, automatically give its holder the rights underlying the document; what in fact matters is the legal aspect of possession, which can only be fully obtained through recognition at common law.

To recap the points included in the Law Commission's draft Bill, then: the intended outcome of implementing the suggested law reform is that a possessable eBL will be sufficiently unique to prove entitlement to the goods in the same way as a pBL, thereby ensuring functional equivalence; on this basis, it will be deemed equivalent to a pBL in all respects within its scope; more precisely, it will be able to perform all the legal functions of a pBL and will be subject to the same set of rules as a paper equivalent for which possession is the trigger.[978] It is, of course, undeniable that the Law Commission's recommendation to establish legal recognition of eBLs should be welcomed, given that in commodity trading, the majority of bills of lading operate under English law, and so the draft Bill, when it comes into force, will breathe life into and greatly advance the digitisation of trade.[979]

[977] See in particular ch 5 above.
[978] By extension, COGSA 1992 will apply to eBL to enable rights and obligations to be transferred to third parties, meaning that additional legal device is no longer needed; SGA 1979 and FA 1889 may also be applicable, albeit solely within the parameters of the statutes.
[979] It should be noted, however, that for transactions occurring outside the territorial scope of the Bill, an eBL subject to English law will fall outside the scope of the Bill.

With that said, the author would like to caution that the underlying reasoning supporting the provisions of the Bill flies in the face of the basic principles of common law on documents of title and is therefore inadequate and legally unsound. It is therefore conceivable that the courts may encounter difficulties in interpreting and applying the provisions of the legislation, and may, even come to the opposite conclusion that negates the intended legal outcome envisaged by the Law Commission.[980] The author therefore submits that a better view of cl. 3 of the draft Bill is to treat it as a statutory fiction, with the eventual legal consequence of placing the eBL on an equal legal footing as its paper equivalent, come what may.

6.3 Conclusion

In this chapter, the author has sought to examine the leading legal attempts at the international and national levels. The first attempt was the CMI Rules, which work by way of contractual incorporation, but it was ultimately not adopted by commercial parties. It nevertheless shows the potential of developing a pBL substitute via contractual means, which presumably has inspired later eBL contractual solutions. The failure of the CMI's project prompted the launch of new legislative experiments in the form of soft law under the auspices of the UNCITRAL. The Hamburg Rules is the first international convention that recognize the use of digital tools and has set the stage for the development of media neutrality. This is followed by the MLEC, which is the first model law that is credited with first establishing the functional equivalent approach and other basic notions underpinning UNCITRAL's subsequent legislative works in electronic commerce law. A safe conclusion that can be drawn at this stage is that the two legal attempts were drafted in a very general manner, with no specific provisions that allow for a detailed discussion of replication of the legal functions of pBLs.

At long last, a truly comprehensive and systematic legal regime is provided by the Rotterdam Rules, which retain familiar legal concepts while also inventing new terms to regulate the use of electronic lending, such as exclusive control, a concept which, although not expressly defined, is given the same treatment as physical possession. However, it is important to recall that transfer of exclusive control by no means equates to the transfer of constructive possession; in particular, certain provisions may be difficult to operate and even run counter to the rules and legal characteristics of document of title under common law. It accordingly

[980] cf Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022) paras 8.48-8.51.

follows that the rules under the Rotterdam Rules are not sufficient nor clear to perform the document of title function. Whilst there should be no question as to the performance of the receipt function, the liability regime for misstated information on eBLs under the convention is analogous to that of the HVR, and consequently it suffers the same plight caused by *Grant v Norway*. In terms of the contractual function, the thesis argues that the breadth of the rights transferred and the methods used are not at all clear. Considering the assumption of liabilities alone, the philosophy behind the Rotterdam Rules may be likened to COGSA 1992, but note that the Rules do not impose positive provisions on effecting the transfer of duties to the new holder in question; nor is there a provision provide for the retention of the shipper's liabilities under the original contract of carriage.

The baton of creating a rounded legal infrastructure for eBLs has now been taken by the MLETR, the latest international instrument and successor to UNVITRAL's previous legislative works. Consistent with its predecessors, the MLETR inherits the basic principles developed over time, inter alia the principle of functional equivalent, and also set out additional requirements to safeguard the realization of the principle, that being the deployment of a reliable method. The concept of control continues to play a central part in the MLETR, with its remit only confined to factual possession and the legal rights arising therefrom falling under the municipal law of different states. In other terms, it is the theory of the international legislative framework that it deals only with the functional operability of possession in an electronic context; once this has been solved, an eBL will be subject to the legal consequences of possession under any given jurisdiction.

Thus, the capability to reproduce the three legal functions of pBLs where MLETR is applied will ultimately depend on the national law involved. In this regard, two national legislative activities deserve attention. One is Singapore's ETA 2021, which has in effect adopted MLETR with slight amendments. The short takeaway is that exactly how the international rules will implement ultimately turns on the domestic law of Singapore. The second one is the UK law reform proposed by the Law Commission. The aim of the proposed law reform is to ensure that electronic trade documents, as digitized versions of traditional instruments, can perform the same legal functions and receive the same legal treatment as conventional paper documents. To this end, the Law Commission has identified the so called "possession problem", which it considers to be an obstacle to the widespread use of electronic documents in trade, that being: under current English law, electronic trade documents cannot be

physically possessed, as a result of which they cannot function in the same way as their paper counterparts.

The solution provided by the Law Commission, therefore, is to set up a statutory framework that would allow trade documents in electronic form that meet certain criteria to be capable of being possessed. These criteria requires that the electronic document be subject to exclusive control, and that once transferred, the previous holder should lose the ability to exercise control over the document. Upon satisfying these criteria, a qualifying electronic trade document, such as an eBL, will be regarded as legally equivalent to a pBL under the contemplated statutory framework and be able to fulfil all the legal functions of the paper-based shipping document. The problem, however, is that although this desired legal outcome would be achieved if the proposed provision is adopted, the reasoning behind the draft bill is, as the author argues, legally and logically unsound, since functional equivalence of possession does not always indicate legal equivalence of possession, the latter being supposed to be given effect by existing common law rules. The author subsequently suggests that it is probably best to read the stipulation as a legal fiction created by statute.

Chapter 7 An outlook for the future legal infrastructure for eBLs

The previous chapters have examined: the plight of the time-honoured paper-intensive bills of lading process in the face of the increased impetus on eBLs; the feasibility of eBLs to perform the receipt function, the contractual function and the document of title function; as well as the legislative attempts to achieve functional and legal equivalence between pBLs and eBLs.

The conclusions drawn from the discussion in these chapters so far can be briefly summarized as follows: the problems and drawbacks associated with the use of pBLs are becoming increasingly apparent, especially when viewed against the advantages of eBL adoption, albeit there are posterior emerging issues that merit attention; in most cases, it is possible to maintain the three cardinal features presented by pBLs in an electronic environment, and there are legal means and techniques to achieve this, howbeit none of them can be said to provide an unassailable solution to the problems identified in the course of the analysis of this thesis, for they are short of being fully backed with the rigour of English law.; existing legal efforts at the national and international level have paved the way for the widespread adoption of eBLs across the maritime ecosystem, although the achievement of this goal will ultimately be dependent on each country establishing a robust and effective regulatory framework for paperless trade.

In reviewing the past history of the bill of lading and shedding light on its current state-of-the-art, one might wonder what the future holds for this linchpin document in international trade space. While a detailed speculation on how industry practices and existing legal and regulatory frameworks might adapt to accommodate eBL transactions that dispense with orthodox paper documents at this stage of development may seem premature, building on the findings above, and as a final observation, the author will attempt to theorize about the future trends and legal environment of eBLs from a general perspective.

7.1 A hybrid of private contractual frameworks and enabling state legislations

The first speculation the author would like to make is that the trend in the legal structure governing eBLs will be a hybrid, with national legislation as the backbone, complemented by networks of existing eBL contractual regimes.

Fundamentally, there are two reasons to support the view that the introduction of enabling legislation will not render the contractual measures redundant. Firstly, there is the issue of judicial recognition of eBLs by different national courts. An eBL will only function properly if it is recognized internationally as having the same legal effect as a pBL during its lifetime. While it is encouraging that eBLs are finally being recognized in some jurisdictions, it is unlikely and unrealistic that paperless trade will completely replace the use of paper documents in imports and exports, given the different stages of development of electronic commerce between countries. After all, not all countries and traders will be "e-enabled" at the same time.[981] It is more reasonable to expect that the transformation will be a gradual evolution rather than a disruptive revolution. Where it takes time for companies to switch from paper to paperless, and time to generate trust in machines over paper, contractual mechanisms must be put in place to fill the gap to ensure a seamless transition from paper to electronic documents, and vice versa.

Secondly, even with the desired legislation in place and with eBLs having gained mainstream acceptance, it seems that parties involved in the use of eBLs might still find themselves enmeshed within networks of contracts. Below are a few considerations that show the continued relevance of existing contractual frameworks executed by the commercial eBL service providers and the users of the systems:

(1) Technical requirements. In order to safeguard trade transactions, highly secure platforms are still required to perform important tasks such as granting control of an eBL to a specific person and ensuring that only one person has exclusive control over the eBL. It seems that these functions can only be provided by an established all-singing, all-dancing eBL solution provider. Furthermore, given the state of the art in the sector, there are no clear absolutes as to whether a particular technique currently available is sufficiently credible to encourage the take-up of eBLs. These two factors will inevitably lead to the conclusions of contracts between eBL users and technology providers.[982]

[981] By way of example, enabling legislation in Singapore does not mean that an eBL subject to English law, financed by a Swiss bank and issued by a Greek ship operator, and used in a transaction from the UK to Spain, would be enforceable. In the instant case, recognition of the eBL under the ETA 2021 does not mean that it has the same legal effect under existing English law, Swiss law or Greek law.

[982] In addition, the use of certain technologies linked to reliable methods may require licensing because of the requirements of intellectual property law.

(2) Party autonomy. Even if electronic documents are widely accepted worldwide, it seems unlikely that their usage will ever become mandatory; what is likely to transpire is that traders will be given the freedom to use or accept eBLs in place of hard copies and wet ink pBLs, in which case some contractual arrangements will be required to evidence their agreement prior to conducting business.
(3) Insurance benefits. Traders may wish to contract with the eBL system and/or each other in order to take advantage of insurance provisions (for example, where the provider has taken out insurance against fraud or data breaches).
(4) Compliance with other substantive laws. For example, if personal data is to be transferred to a provider, establishing a contractual nexus may be the most expedient and commonplace approach to comply with a nation's data protection law.

As a consequence, the deployment of contractual measures will still be required where such a desire for going paperless is missing. It is safe to anticipate that over time, at least in the transition period, a mixed ecosystem of paper and digital documents will progressively be formed alongside each other.

7.2 Going beyond simple replication to optimize the present legal system

The second speculation (or rather an appeal by the author), is that the legal architecture designed for eBLs is to go further than simply replicating what is the case with pBLs in the electronic world.

It must be recognized that the current eBL contractual regimes contemplated by the commercial interests, international organizations and national governments have done nothing more than mirror the paper processes in an electronic environment, in the hope of achieving the same result of legal application; none of them have attempted to challenge or change the law in any way. The author considers that this vision is misplaced, and the outcome expected is far from ideal. While there is everything to be said to preserve the wealth of rules and principles that have developed around the world in relation to the carriage of goods under conventional pBLs, one cannot simply transpose the general principles and accepted commercial practices relating to pBLs directly into an electronic context without making the necessary adaptations.

First of all, it must be remembered that the existing regime for pBLs is not without defects, following the old approach therefore will allow for the flaws and vulnerabilities under the

paper system to subsist, one extreme being that the direct application of COGSA 1992 to eBLs risks perpetuating the concerns that the problems stemming from *Grant v Norway* may not have been fully resolved, and the unresolved legal loopholes under the COGSA 1992 regime will survive. Finally, due consideration should also be given to the prospect that emerging legal issues relating to electronic transmissions will challenge the existing paper-based legal regime; on this point, a glaring example being, the liabilities resulting from coding errors. For the reasons listed above, the thesis proposes that it would be wiser to provide a better legal framework for eBLs when the time is ripe.

Indeed, the fact that pBLs have dominated the seaborne trade for centuries and that their characteristics have served as a reference point for the development of forms of transport documents[983] does not necessarily mean that their successors should follow suit. Times are changing relentlessly, and the law should keep pace with them to stay relevant, as Lord Kerr so well expounds:

> Law, whether enacted or developed through the common law, if it is operating as it should, must be responsive to society's contemporary needs, standards and values. It is a commonplace that these are in a state of constant change. That is an essential part of the human condition and experience. As a deeper understanding of the human psyche and the enlightenment of society increase with the onward march of education, tolerance and forbearance in relation to our fellow citizens develop, the law must march step-by-step with that progress.[984]

The maritime industry is now faced with an opportunity to optimize its legal and regulatory environment. Therefore, instead of clinging to the *status quo*, the author calls for thinking outside the box and revisiting the pBL law to create an advanced legal system for the eBL.

7.3 A greater trade integration

A third speculation is that the entire trade process will move towards full integration, which is critical for the eventual achievement of functional equivalence within the international trade space.

The carriage of goods by sea is but one part of a much wider transaction, with chain sales on both sides. The benefits of eBLs would be nullified if there is still a reliance on paper-based

[983] Such as sea waybills, straight bills of lading and multimodal transport documents which involve more than one mode of carriage: J Zhang, 'Bills of Lading in Banker's Hands: does Chinese legislation offer sufficient security?' in J Hjalmarsson and J Zhang (eds), *Maritime Law in China: Emerging Issues and Future Developments* (Routledge 2016).
[984] *Elgizouli (Appellant) v Secretary of State for the Home Department (Respondent)* [2020] UKSC 10 [144].

processes, be it certification, checks, or the range of documents held in paper format. Taking the example of documentary checks: there is little point in dematerializing the pBL if commercial banks still require documents to be submitted in paper form for examination under the documentary credit;[985] it is therefore additionally necessary that the banking system will also need to be digitally automated.[986] It consequently follows that the advantages of electronic trading making use of eBL solutions will not be completely realized until the entire transaction process is integrated.

This proposition leads to us begging the question: how do we achieve this goal? The author maintains that the relevant actors in this context are national governments, international maritime organizations and commercial interests. Concerning the governments alone, they certainly have their own interests to engage with, as they are keen to promote the import and export of their countries. In concrete terms, national governments should not confine themselves to parochial considerations; rather, they can use their inherently international nature to advance the cause of electronic commerce in two ways. The first option is to recognize and implement best commercial practices via the signing of treaties or, better still, international conventions, as well as always taking digital trade into account when negotiating free trade agreements.[987] The second course is to act as a facilitator to create a legal environment conducive to the use of these electronic documents, which could be in the form of implementing government-led initiatives, such as law reform.

The next key players are international maritime organizations. In the same vein, they can function as facilitators, mainly because they have the soft power to respond to government initiatives. Alternatively, they can act on their own, since they have the advantage that they are clearly experts in the sector and present more neutral and objective images. This attribute makes them perfectly suited to act as coordinators, gathering concerns and information from disparate stakeholders within the industry. Therefore, their recommendations are often authoritative enough to reflect the international consensus. A useful by-product of their work

[985] Another suitable instance is documents prevalent for certain trades or commodities, such as dangerous goods declaration, a form for which the shipper is responsible to prepare, with his signature duly attached.
[986] P Todd, 'Electronic Bills of lading, Blockchains and Smart Contracts' [2019] 27 IJLIT 339, 361; organizations and business companies developing eBLs have started working on automated checking: see for example ICC, 'Automation of Document Examination under Documentary Credits' (*eact.eu*, 2021) <https://eact.eu/Core/Images/Documents/2021_ICC_Automation_IssueBrief.pdf> accessed 31 August 2022; essDOCS, https://www.essdocs.com/solutions/epresentation.
[987] In this respect, art 8 of the Australia-Singapore Digital Agreement is notable for its specific reference to MLEC and MLETR, which could serve as a model clause to be replicated or improved upon in future interstate free trade agreements.

is that it reduces government posturing, both on the international and national level. With this in mind, there are many forms in which such organizations can advance the causes of worldwide law reforms, such as the promotion of eBLs in the instant case: they can present the text of international conventions to governments for the latter to adopt; provide draft codes in the form of modern laws; they can issue industry guidelines and standards; as well as promote standard contracts and clauses to further facilitate the use of eBLs.

The third group of actors who can bring about change are commercial interests. They are not limited to carriers and merchants, but also cover insurance companies, P&I Clubs, banks, freight forwarders, warehousemen, customs, port authorities and all those myriad parties who are involved in international shipping transactions. These people are primarily and directly affected by the nature of the trade documents used in their transactions. If eBLs are widely accepted as a more efficient and secure way of doing business, all these groups will be exerting pressure, individually or collectively, to have electronic documentation eventually adopted. These bodies however cannot risk taking up eBLs on a general basis when there is no sounded legal framework to guarantee their efficacy; they can only do so by means of private clubs (on this matter, it is worth noting that the current eBL service providers all have their specific and complex systems of rules and their own memberships). If, however, all these groups are anxious to have legally effective eBLs, they will be able to provide the pressure and motivation to enable this to be achieved. The banking community, for example, has significant weight in the adoption of the eBL practice, in that they have the infrastructure, customers and web portals to make electronic trade documents easily obtainable by interested parties without much effort. P&I Clubs, too, have an important role to play; by endorsing certain eBL schemes in the name of the International Group of P&I Clubs, the Clubs provide valuable support to encourage their members to use the digital solutions in lieu of LOIs. The author therefore submits that governments and international maritime organizations will be the facilitators of eBL adoption, but the driving force is going to come from commercial interests.

Last but not least, it should be added that the integration will be a gradual and extensive process. The author says so because numerous parties are involved, touching on an array of facets of cross-border trade transactions, which may unfortunately delay the uptake: the technical maturity and diversity of existing platforms, the uneven pace of development in different sectors of the industry, the varying requirements of different jurisdictions (including

ports), as well as those countries yet to recognize the legal validity of electronic trade documents.

7.4 Conclusion

In closing, looking to the future, the author's vision for the eBL implementations is this: to begin with, private contractual networks will not become obsolete as the legal and regulatory framework keeps pace and adapts to the technological improvements. It is reasonable to expect that these contractual frameworks will be blending on the growing body of law and that the two will go hand in hand. Next, if the intention is to create a better legal system for eBLs, then the legal structure currently in force needs to be revisited and re-examined. We now have been given a rare opportunity to optimize the deficiencies and irrationalities of the current legal system; as the legal rules and principles applicable to pBLs are wholly unsatisfactory, a legislative upgrade is more advisable than the expedient transplantation of the current paper world model. Finally, full integration of trade transactions is required to realize the full potential of eBLs. On this point, the author considers national governments, international maritime organizations and commercial interests as key players in connecting and orchestrating the global movement to digital trade.

Chapter 8 Conclusions

This thesis examines the research question of how functional and legal equivalence can be achieved between pBLs and their digital counterparts, eBLs. In order to better address the question posed, it is divided into a subset of questions: can eBLs mimic the functions currently performed by pBLs, namely the receipt of goods function, the contractual function and the document of title function? If not, have the legislative interventions of international actors and individual countries to date provided a more effective treatment for these legal black holes?

8.1 Where we are now with pBLs in the context of the growing trend towards eBLs

In answer to these questions, Chapter Two has laid down the background for the whole thesis by carrying out a review of the legal framework for pBLs. It is clear from the overview that the problems of pBL trading have long plagued the maritime industry, and there is a need for a better alternative solution. The emergence of information technology suggests that electronic communications can be a way forward, acting as a catalyst for the digital transformation of paper-based processes. In this regard, the chapter has given an insight into the current development status of eBLs. These observations lead to the conclusion that while it is beyond doubt that there are many benefits to be gained from the dematerialization of the pBL transaction process, there are also new risks and unknown legal challenges associated with it that cannot be measured.

8.2 Provision of a functional and legal equivalent electronic version of the pBL

The way to develop eBLs is to consider the legal functions of the pBL and seek to recreate them using electronic means. Therefore, Chapter Three considers the receipt for cargo function. This long-standing function is still an important one, given that modern international trade still depends on the accuracy of the representations contained in the paper instrument. In general, it is theoretically feasible for eBLs to simulate the receipt function of pBLs they are intended to replace, however there are legal problems and challenges.

Firstly, current English law is not limited to accepting only paper documents as evidence of facts, and an eBL accompanied by the use of digital signatures, should be able to satisfy the English law requirement for authenticity of documents as evidence; admittedly, though, commercial parties can always make provisions to double-guarantee the admissibility of an eBL.

Secondly, present English rules on the evidential value of statements made in a pBL, inter alia the common law estoppel, the reasoning in *Grant v Norway*, and the subsequent statutory modifications, will also apply in a digital context; however, it must be added by way of caution that the original liability system for pBLs is not seamless, and it is conceivable that the legacy of the paper-based system will inevitably reappear in the electronic environment; in this regard, the contractual solutions as currently designed by the eBL systems on the market do not provide sufficient level of protection required to fix these gaps. Nonetheless, it is to be noted that given the limited legal effect of the doctrine of estoppel, in most cases the unresolved issue does not matter overly.

Thirdly, the adoption of innovative technologies such as blockchain and smart contracts may well result in unknown computational errors that pose a challenge to established liability regime designed for paper. In view of this, the author asserts that parties using smart contracts to transfer eBLs should make provision for the allocation of the risk of computing errors.

Chapter Four considers the contractual function. Six possible models, that being the implied contract, implementation of the Carriage of Goods by Sea Act 1992 (COGSA 1992), application of the Contract (Rights of Third Parties) Act 1999 (the 1999 Act), bailment on terms, assignment, and novation, are examined in turn, with a view to finding out a remedy for the impasse created by the application of the privity-of-contract rule under common law to carriage contracts, to enable the transfer of contractual rights and liabilities under an eBL contract.

The first model under consideration is the old common law rule of the implied contract, which in the author's view is still relevant to the issue under discussion and can in theory assist in the transfer of eBLs in an open scene. While problems in finding consideration for the subsequent holder of the eBL may be admissible of being overcome by setting up the eBL endorsement process properly, insurmountable difficulties remain in the following areas: the first is that there may be the possibility of inferring an implied contract between the carrier and the intermediary, in extreme cases where interactions can be found between them, putting the rights of both parties at risk; the second difficulty is that the vagueness of the scope of application of the principle increases uncertainty in judicial practice; finally, there is the potential for inconsistent terms between the contract of carriage and the implied contract.

Hypothetically, commercial parties can also make use of the provisions of existing statutory regimes. On this score, the thesis has considered the possibility of the application of the COGSA 1992 provisions to eBLs by reason of contract as the second model, and found that apart from the irreconcilable issues concerning the concept of possession and the limited contractual effect, a direct contractual replication of the COGSA 1992 regime in any event still leaves open the question of the extinguishment of the intermediate holder's liabilities under the contract of carriage, considering that *The Berge Sisar* was decided within a statutory context, and its reasoning may therefore not apply to contractual schemes. The thesis also considers the possibility of applying the 1999 Act to eBLs, being the third model under study. However, a closer examination of the wording of the legislation suggests that while it is technically possible to take eBL within its four corners, this will have unsatisfactory legal consequences, the most glaring defect being that the 1999 Act does not provide for the imposition liabilities.

Although the law of bailment as a fourth model cannot operate effectively in the paper-based procedures, its application can be made more or less feasible by means of electronic communications that can automate successive attornments. However, it is important to be aware of the two deficiencies of the mechanism offered by common law: in the first place, the courts have not emphasized the performance of the bailor's positive obligations under the bailment relationship; and in the second place, the possibility that the terms of the bailment differ from that of the original eBL contract cannot be eliminated.

For the successive assignments model, as with the preceding model of bailment on terms, this can be achieved using disruptive techniques, and it further appears that the writing requirement can be met equally well by electronic communication. The principle of 'subject to equities' however presents a major legal barrier that is difficult to overcome: to begin with, it will jeopardize the positions of the carrier and the eBL assignee; there is also no available statute for eBLs that can exclude or modify the application of the rule; further, there are damages issues with assignment, which will depend on the width of *The Albazero* exception, on which respect the law is uncertain. From another perspective, contracting out the principle seems difficult, which will depend on the bargaining power of the parties. More fatally, contractual liabilities can never be assigned, and there will be a risk that recourse to additional contractual operations will not achieve the intended results.

The sixth model, a chain of novations is the last possibility consider by the thesis. The novation mechanism creates a new contract to replace the old one, in which way the rights and obligations under the old contract are transferred. Therefore, it naturally befits an open network in which each party is contractually independent, but does not lend itself easily to the application of the COGSA 1992 regime or schemes modelled on it (such as Bolero). One way of resolving this dilemma can be to interpret the novation as having a partial effect, so that rights under the contract of carriage need not be transferred to the new party along with liability, and the original contract need not be extinguished as a result of novation. However, it should be borne in mind that there are ambiguities and uncertainties over judicial rulings and authority surrounding partial novation. In addition, the concept has similar loss issues to those faced by assignment. For the avoidance of any doubt, the author thereby submits that a safer approach can be to enter into two contracts to separate the original contract from the chain of novations.

The thesis therefore concludes that (assuming no changes to the existing English law are made), while there is no denying that each method has its own defects and legal uncertainties of application, assignment and novation tend to perform better than the other methods in terms of ease of application of legal principles; and on the balance of probability, a legitimate novation is marginally a more satisfactory solution to perform the contractual function of an eBL than assignment for its coverage in liabilities, and also that it handles rights and liabilities under the carriage contract more appropriately.

The document of title function is considered in Chapter Five. It goes without saying that it is important for the eBL to exhibit all the aspects of its paper fellow, both in the common law and the statutory sense. After a comprehensive review of the aspects of the pBL in the role of a document of title at common law, the author maintains that given the absence of established custom of trade, the existing common law system does not recognize the eBL as a document of title. Seeing this, the thesis goes on to consider possible routes for the eBL to replicate the functions of a document of title.

In this context, the performance of two aspects of the pBL are of particular concern: one is the ability to transfer constructive possession of the goods. The pBL is by custom of merchants the one and only exception to the rule that a change in the right to possession of goods in the keeping of a third party requires him to attorn; since there is no similar mercantile usage for the eBL, it becomes clear that attornment is required in a paperless

transaction. The relevance and utility of attornment are well illustrated by the recent *Glencore v MSC* where some electronic release system was used in lieu of traditional pBL presentation to effect delivery of the goods. The thesis also explores whether the PIN codes trading practice can be developed into an eBL system, and concludes that in order to maintain the uniqueness and exclusivity of a pBL the codes need to be changed at each transaction; in this regard, the author suggests blockchain can make this work. Moreover, this case emphasizes the importance of proper contract drafting when replacing the default paper-based transaction process; ideally, this should be used in conjunction with attornment. The other aspect of a pBL is the collateral presentation rule. The carrier has the right and obligation to deliver upon production of an original pBL, and by so delivering he is protected by law against tort claims, in particular conversion. The thesis then explores four possible ways in which eBL can reconstruct the common law defence, namely: by contract, by consent, by legislation and by reason of lack of tort committed, and concludes that the answer may be provided by the last option.

The prospect of establishing the eBL as a new document of title at common law is also considered, and four pathways are discussed to this end. The discussion that follows shows that, although the chance of a broader interpretation of a custom of merchants seems remote, and proving a new custom can be difficult, there is a case for eBL to be a document of title in accordance with *The Rafaela S* reasoning to circumvent the need for the proof of custom; alternatively, it can be argued that the eBL is a document of title for the purpose of the HVR, and for this claim to be available, the Rules must be incorporated into the eBL contract. Given the importance and priority accorded by the English courts to the sanctity of party autonomy, the last possibility proposed by the authors for the creation of a common law document of title is through contractual arrangements.

Apropos of the statutory definition of a document of title, the analysis carried out shows that it is theoretically probable that the eBL may be treated as a document of title under the statutes, viz. the Factors Act 1889 and the Sale of Goods Act 1979. This finding lead to a further consideration as to how far the statutory law will apply to eBLs and what the legal implications for eBLs will be. Principally, there are two main aspects: one is the applicability of the exceptions to the *nemo dat* rule. The trouble is that the words “possession”, “delivery or transfer” used under the relevant statutory provisions are ill-adapted to the idea of electronic documentation, and need to be given a new legal meaning. Various approaches to

solving this terminological problem are then assessed, but none of them provide a coherent and satisfactory answer to the problem at hand.

Another aspect relates to the statutory rules governing the pledge of goods using a document of title. For one thing, it seems that an eBL system operator will be captured by ss. 2 and 3 of FA 1889 under which a mercantile agent is granted the right to make a pledge over the goods consistent with the ordinary duties and authority of a factor, and such a pledge will be valid. The legal implication of an eBL is that there is a potential risk that the system operator, while acting in the normal course of business as a mercantile agent, commits fraud against the carrier by pledging the goods to a party never intended by the carrier by way of transferring the eBL, and that such an unauthorized pledge will nonetheless be binding on the carrier, while the carrier itself will not be able to achieve the same legal result without an attornment. For another, although the pledge of unascertained goods in bulk under a pBL remains legally problematic, the discussion in the thesis indicates that it is however possible to create a pledge of unascertained goods under an eBL by way of an attornment.

Viewed holistically, it is fair to conclude that although the eBL cannot be deemed as a document of title under common law due to the lack of an established trade custom, in principle it can replicate the functions of a pBL by virtue of various legal means, and there are possible routes for the eBL to become a common law document of title. This is not to deny the fact that almost all solutions are plagued by the common problem of legal uncertainty. The statutory sense of the pBL, by way of contrast, will be able to extend its spectrum to cover the eBL. However, the author holds the view that there may be circumstances, such as the pledge of an undivided share of the bulk, in which applying them will produce better results in the electronic world than in the traditional paper world.

By now, the conclusion to be drawn from Chapters Three, Four and Five is that, in theory, the eBL is able to emulate the three essential attributes of a pBL. Having said so, it should be kept in mind that none of the solutions proposed above, either by private contracts, or by virtue of common law rules and principles, can be said that they will work in absolute terms, for there are always associated deficiencies that cannot be addressed in their own right.

The fragmentation of the legal infrastructure and the inadequacy of the solutions identified in the preceding chapters justify an exploration of the main international non-statutory rules and national legislative activities designed for eBLs, with a view to examining whether they can

truly solve the enigma of recreating the functionalities of their paper-based counterparts. This has been dealt with in Chapter Six. In the case of the former type, the thesis has illustrated its shortcomings and limitations through an analysis of the CMI Rules and the international instruments and conventions developed by UNCITRAL, i.e., the Hamburg Rules, MLEC, the Rotterdam Rules, and MLETR. For one thing, the legal infrastructures put in place by these international bodies are not robust, with regulatory uncertainties abounding, and they do not maintain the three important functions of the pBL in question in their entirety. For another, it is important to acknowledge that those legislative instruments are, after all, soft law in nature. As a corollary, they are drafted to provide normative guidelines to lawmakers in national governments, and so are not automatically legally binding in domestic courts. *Ergo*, there is a need for hard law to remedy the handicaps adverted to above. Indeed, international rules formulated in an implicit and general manner normally rely heavily on the complement of the underlying substantive law to operate, the MLETR being a prime example.

Next, the chapter has drawn on two examples of national legislation that support or complement the most recent MLETR. The first that has been considered is the recent legislative reform in Singapore since the legal system there is based on English common law, and the Singapore Bills of Lading Act which is in fact UK's COGSA 1992. This has set the stage for the next consideration of the Law Commission's legislative movements in UK domestic legislation. In so doing, the thesis has assessed whether the approaches taken better situate the Model Law within individual national contexts and provide a way out of the legal difficulties the thesis has already identified. After a detailed discussion on the suggested proposals by the Law Commission and the theoretical basis underlying it, the author's provisional view is that the "gateway" criteria and the extension of possession to electronic trade documents by the draft Bill would achieve the objective behind it, that being to ensure that an eBL amenable to possession are treated in law as the true electronic equivalents of paper bills of lading, and is therefore entitled to all the legal implications of the traditional pBL. However, the author nonetheless argues that the legal reasoning furnished by the Law Commission does not well support the draft provision; a more sustainable and reasonable explanation is thus to view it as a statutory modification of the established common law rules.

8.3 The way forward

Hitherto, this thesis has been concerned with the exploration of a myriad of solutions that are either contractually rooted or implemented in the form of soft or hard law so as to achieve functional and legal equivalence of the paper documents to be replaced by eBLs. The conclusion reached at the end of the observations is that, in the absence of piecemeal legislative developments there remains much legal uncertainty surrounding the implementation of those potential resolutions. In this connection, international legislative instruments have greatly improved the development of this growing area of law, however, their effectiveness will ultimately be determined by the enabling national law.

Chapter Seven on the other hand endeavours to tackle the research question from an integrated, long-term perspective. Rather than constraining the thesis to aspects of the past and present, in this chapter the author draws on the findings of the preceding chapters and attempts to make general conjectures about possible future directions for the implementation of eBLs. It is submitted that the future legal infrastructure for eBLs will be a hybrid of private contractual schemes and enabling state legislations, the establishment of which should go beyond simple replication to optimize the present legal system devised for their paper counterparts, and last but not least, a greater trade integration (although it may be a slow process) is necessary to ensure eBLs' full potential.

All that having been said, there is no denying that eBLs are gaining momentum, taking into account of the increased legislative focus and industry support, as well as the greater commercial investment in the area concerned. This brings the thesis to its final remark: while the shift to paperless trade will not happen overnight, there is reason to believe that the day will eventually come when a proper worldwide legal infrastructure is ready in place for eBLs, at which point we will have eBLs that are at least legally and functionally equivalent to, if not better than, their paper counterparts on a global scale.

University of Southampton

Bibliography

Primary Sources

Cases

- *Aktieselskabet de Danske Sukkerfabrikker v Bajamar Compania Naviera SA (The Torenia)* [1983] 2 Lloyd's Rep 210
- *Alfred McAlpine Construction Ltd v Panatown Ltd* [2001] 1 AC 518
- *Alicia Hosiery Ltd v Brown, Shipley & Co Ltd* [1969] 2 Lloyd's Rep 179
- *Alimport v Soubert Shipping Ltd* [2000] 2 Lloyd's Rep 447
- *Allen v Coltart* (1883) 11 QBD 782
- *Argo Fund Ltd v Essar Steel Ltd* [2005] EWHC 600 (Comm), [2005] 2 Lloyd's Rep 203, affd [2006] EWCA Civ 241, [2006] 2 Lloyd's Rep 134
- *Arnold v Britton* [2015] UKSC 36
- *Avraamides v Colwill* [2006] EWCA Civ 1533
- *Barclays Bank Ltd v Commissioners of Customs and Excise* [1963] 1 Lloyd's Rep 81
- *Beswick v Beswick* [1968] AC 58
- *Bibby Factors Northwest Ltd v HFD Ltd* [2015] EWCA Civ 1908, [2016] 1 Lloyd's Rep 517
- *Borealis AB v Stargas Ltd (The Berge Sisar)* [2001] UKHL 17; [2002] 2 AC 205; [2001] 1 Lloyd's Rep 663
- *Bowes v Shand* (1877) 2 App Cas 455
- *Brandt v Liverpool Brazil & River Plate Steam Navigation Co Ltd* [1924] 1 KB 575; [1923] All ER Rep 656 (CA)
- *BV Nederlandse Industrie Van Eiprodukten v Rembrandt Entreprises Inc* [2019] EWCA Civ 596 (CA)
- *Canada Sugar* [1947] AC 46
- *Canadian Dominion Sugar Ltd v Canadian National (West Indies) Steamships Ltd* [1947] AC 46
- *Carey Group Plc v AIB (UK) Plc* [2011] EWHC 567 (Ch) [2012] Ch 304
- *Central London Property Trust Ltd v High Trees House Ltd* [1947] KB 130
- *Chartbrook Ltd v Persimmon Homes Ltd* [2009] AC 1101
- *China Shipping Development Co Ltd v State Bank of Saurashtra* [2001] 2 Lloyd's Rep 69

- *Chudley v Clydesdale Bank Plc* [2019] EWCA Civ 344, [2019] 2 All ER (Comm) 293
- *CMA CGM SA v Hyundai MIPO Dockyard CO LTD* [2008] EWHC 2791 (Comm)
- *Cock v Taylor* (1811) 13 East 399
- *Coggs v Bernard* (1703) 2 Ld Raym 909
- *Combe v Combe* [1951] 2 KB 215, CA
- *Compania Naviera Vasconzada v Churchill & Sim* [1906] 1 KB 237
- *Coventry Justices, ex parte Bullard* (1992) 95 Cr App R 175
- *Cox, Patterson & Co v Bruce & Co* (1886) 18 QBD 147
- *Crossfield & Co v Kyle Shipping Co Ltd* [1916] 2 KB 885
- *D F Mount Ltd v Jay & Jay (Provisions) Co Ltd* [1960] 1 QB 159
- *Damon Compania Naviera SA v Hapag-Lloyd International SA (The Blankenstein)* [1985] 1 WLR 435
- *Darlington Borough Council v Wiltshier Northern Ltd* [1995] 1 WLR 68
- *Davies v Collins* [1945] 1 All ER 247
- *Dawson v Great Northern & City Ry Co* [1905] 1 KB 260
- *De Nicholls v Saunders* Law Rep 5 C P 594
- *Deutsche Bank AG v Unitech Ltd* [2013] EWCA Civ 1372
- *Devani v Republic of Kenya* [2015] EWHC 3535 (Admin) [22]
- *Deverges v Sandeman Clark & Co* [1902] 1 Ch 579
- *Diamond Alkali Export Corp v Fl Bourgeois* [1921] 3 KB 443
- *Don King Productions Inc v Warren* [1998] 2 Lloyd's Rep 176
- *DRC Distribution Ltd v Ulva Ltd* [2007] EWHC 1716 (QB)
- *Dublin City Distillery Ltd v Doherty* [1914] AC 823
- *Dunlop v Lambert* (1839) 6 Cl & F 600
- *East West Corp v DKBS 1912* [2003] EWCA Civ 83, [2003] QB 15091; Lloyd's Rep 239
- *Edward Nelson & Co Ltd v Faber & Co Ltd* [1903] 2 KB 367
- *Elgizouli (Appellant) v Secretary of State for the Home Department (Respondent)* [2020] UKSC 10
- *Etablissement Esefka International Anstalt v Central Bank of Nigeria* [1979] 1 Lloyd's Rep 445
- *Evans v James Webster Bros Ltd* (1928) 34 Com Cas 172
- *Evenden v Guildford City Association Football Club Ltd* [1974] ICR 554
- *Ex parte Hubbard* (1886) 17 QBD 690

- *Fairstar Heavy Transport NV v Adkins* [2013] EWCA Civ 886; [2014] FSR 8
- *Farenco Shipping Co Ltd v Daebo Shipping Co Ltd (The Bremen Max)* [2008] EWHC 2755 (Comm)
- *Fearon v Bowers* (1753) 1 H Bl 364
- *Fisher, Renwick & Co v Calder* (1896) 1 Com Cas 456
- *FSHC Group Holdings Ltd v Glas Trust Corporation Ltd* [2019] EWCA Civ 1361
- *George Whitechurch Ltd v Cavanagh* [1902] AC 117
- *Getup Ltd v Electoral Commissioner* [2010] FCA 869
- *Giedo van der Garde BV v Force India Formula One Team Ltd (formerly Spyker F1 Team Ltd (England)* [2010] EWHC 2373 (QB)
- *Glencore International AG v MSC Mediterranean Shipping Co Inc* [2015] EWHC 1989 (Comm), [2015] 2 Lloyd's Rep 508, affirmed [2017] EWCA Civ 365; [2017] 2 CLC 1
- *Glyn Mills Currie & Co v East and West India Dock Co* (1882) 7 App Cas 591
- *Golden Ocean Group v Salgaocar Mining Industries* [2012] EWCA Civ 265, [2012] 1 WLR 3674
- *Grant v Norway* (1851) 10 CB 665, 138 ER 263
- *Great Eastern Shipping Co Ltd v Far East Chartering Ltd (The Jag Ravi)* [2012] 1 Lloyd's Rep 637
- *Hansen-Tangens (A/S) Rederi III v Total Transport Corporation (The Sagona) [1984] 1 Lloyd's Rep 194*
- *Hayman v M'Lintock* 1907 SC 936
- *Henderson v Merrett Syndicates Ltd* [1995] 2 AC 145
- *Heskell v Continental Express Ltd* [1950] 1 All ER 1033 1037; (1949-1950) 83 Ll L R 438
- *Hill v Regem* [1945] 2 KB 329
- *Hindley & Co Ltd v East Indian Produce Co Ltd* [1973] 2 Lloyd's Rep 515
- *Hogarth Shipping Co Ltd v Blyth Greene Jourdain & Co Ltd* [1917] 2 KB 534
- *Hubbersty v Ward* (1853) 8 Ex 330; 155 ER 1374
- *Ilyssia Compania Naviera SA v Ahmed Abdul Oawi Bamadoa (The Elli 2)* [1985] 1 Lloyd's Rep 107
- *In re Morritt, ex parte Official Receiver* (1886) 18 QBD 222
- *Inglis v Robertson* [1898] AC 616
- *J Aron v Comptoir Wegimont* [1921] 3 KB 435

- *J I MacWilliam Co Inc v Mediterranean Shipping Co SA* [2005] UKHL 11; [2005] 2 WLR 554; [2005] 1 Lloyd's Rep 347
- John Cartwright, *Formation and Variation of Contract* (3rd edn, Sweet & Maxwell 2021)
- *Kaukomarkkinat O/Y v Elbe Transport-Union GmbH (The Kelo)* [1985] 2 Lloyd's Rep 85
- *Kleinwort Sons & Co v Associated Automatic Machines Corp Ltd* (1935) 151 LT 1 (HL)
- *Knowles v Horsfall* 5 B & Ald 139
- *Kum v Wah Tat Bank Ltd* [1971] 1 Lloyd's Rep 439
- *Kuwait Petroleum Corp v I & D Oil Carriers Ltd (The Houda)* [1994] 2 Lloyd's Rep 541
- *Laemthong International Lines Co Ltd v Artis (The Laemthong Glory) (No 2)* [2005] EWCA Civ 519, [2005] 1 Lloyd's Rep 632
- *Leduc & Co v Ward* (1888) 20 QBD 475
- *Lickbarrow v Mason* (1794) 5 TR 683
- *Linden Gardens Trust Ltd v Lenesta Sludge Disposals Ltd* [1994] 1 AC 85
- *Linden Gardens Trust v Lenesta Sludge Disposals* (1992) 57 BLR 57
- *Lishman v Christie* (1887) 19 QBD 333
- *Lloyd v Grace, Smith & Co* [1912] AC 716
- *Lockwood v Wood* (1844) 6 QB 50
- *Lohden v Charles Calder* (1893) 14 TLR 311
- *M'Lean and Hope v Munck* (1867) 5 Macph (Ct of Sess) 893 899; affd (1871) 2 Sc & Div 128
- *Mangles v Dixon* (1852) 3 HLC 702
- *Marlton v Tectronix UK Holdings* [2003] EWHC 383 [13]
- *Maynegrain Property Ltd v Compafina Bank* [1982] 2 NSWLR 141
- *Midland Bank Trust Co Ltd v Hett, Stubbs & Kemp* [1979] Ch 384
- *Minors* [1989] 2 All ER 208
- *Mirant Asia-Pacific Construction (Hong Kong) Ltd v Ove Arup & Partners International Ltd* [2007] EWHC 918 (TCC)
- *Motis Exports v Dampskibsselskabet* [1999] 1 Lloyd's Rep 837; [2000] 1 Lloyd's Rep 211
- *Mulkerrins v Pricewaterhouse Coopers (firm)* [2003] UKHL 41, [2003] 1 WLR 1937

- *Navig8 Chemicals Pool Inc v Aeturnum Energy International Pte Ltd* [2021] EWHC 3132 (Comm)
- *New Chinese Antimony Co Ltd v Ocean SS Co Ltd* [1917] 2 KB 644
- *Newport City Council v Charles* [2008] EWCA Civ 1541; [2009] 1 WLR 1884
- *Nippon Yusen Kaisha v Ramjiban Serowgee* [1938] AC 429
- *Nokes v Doncaster Amalgamated Collieries Ltd* [1940] AC 1014 1019
- *OBG v Allan* [2007] UKHL 21, [2008] 1 AC 1
- *Offer-Hoar v Larkstore Ltd* [2006] EWCA Civ 1079, [2006] 1 WLR 2926
- *Official Assignee of Madras v Mercantile Bank of India Ltd* [1935] AC 53
- *Paterson Steamships Limited v Canadian Co-operative Wheat Producers, Limited (Quebec)* [1934] UKPC 56; (1934) 49 Ll L Rep 421
- *Pease v Gloahec (The Marie Joseph)* (1866) LR 1 PC 219
- *Pegasus v Ernst & Young* [2012] EWHC 738 (Ch)
- *Peter Cremer v Brinkers Groudstoffen NV* [1980] 2 Lloyd's Rep 605
- *Postlethwaite v Freeland* (1880) 5 App Cas 599
- *Primetrade AG v Ythan Ltd (The Ythan)* [2006] 1 Lloyd's Rep 457
- *R & W Paul Ltd v Pauline* (1920) 4 Ll L Rep 221
- *R v Coventry Magistrates Court* [2004] EWHC 905
- *R v Spiby* (1990) 91 Cr App R 186 192
- *Rainy Sky SA v Kookmin Bank* [2011] 1 WLR 2900
- *Rasbora Ltd v JCL Marine* [1977] 1 Lloyd's Rep 645
- *Rasnoimport v Guthrie & Co* [1966] 1 Lloyd's Rep 1
- *Re Agra & Masterman's Bank* (1867) LR 2 Ch 391
- *Re Blakely Ordinance Co* (1867) 3 Ch App 154 CA
- *Re London Wine Co (Shippers) Ltd* [1986] PCC 121
- *Re Milan Railways Co* (1884) 25 Ch D 587
- *Riverside Housing Association Ltd v White* [2006] HLR 282
- *Rolls Royce Power Engineering Plc v Ricardo Consulting Engineers Ltd* [2003] EWHC 2871 (TCC)
- *Rosenberg v International Banking Corporation* (1923) 14 Ll LR 344
- *Russo-Chinese Bank v Li Yan Sam* [1910] AC 174
- *Sanders v Vanzeller* (1843) 4 QBD 260
- *Scarf v Jardine* (1882) 7 App Cas 345
- *Serraino & Sons v Campbell* [1891] 1 QB 238

- *Sewell v Burdick* (1884) 10 App Cas 74
- *Silver v Ocean Steamship Co Ltd* [1930] 1 KB 416
- *Smith & Co v Bedouin Steam Navigation Co Ltd* [1896] AC 70
- *Southway Group Ltd v Wolff* (1991) 57 BLR 33 52
- *St Martins Property Corpn Ltd v Sir Robert McAlpine Ltd* [1994] 1 AC 85
- *Starlight Shipping Co v Allianz Marine and Aviation Versicherungs AG* [2014] EWHC 3068 (Comm); [2014] 2 Lloyd's Rep 579
- *Statute of Liberty* (1968) 2 All ER 195
- *Stein Forbes & Co v County Tailoring Co* (1916) 115 LT 215
- *Stindt v Roberts* (1848) 17 LJQB 166
- *Swynson Ltd v Lowick Rose LLP (In Liquidation) (formerly Hurst Morrison Thomson LLP)* [2017] UKSC 32
- *Syros Shipping Co SA v Elaghill Trading Co (The Proodos C)* [1980] 2 Lloyd's Rep 390
- *Sze Hai Tong Ltd v Rambler Cycle Co* [1959] AC 576
- *The Aktion* [1987] 1 Lloyd's Rep 283
- *The Albazero* [1977] AC 774
- *The Aliakmon* [1983] 1 Lloyd's Rep 203
- *The Aramis* [1989] 1 Lloyd's 213
- *The Argentina* (1867) KR 1 Ad & E 370
- *The Athanasia Comninos* [1990] 1 Lloyd's Rep 277
- *The Atlas* [1996] 1 Lloyd's Rep 642
- *The Boukadoura* [1989] 1 Lloyd's Rep 393
- *The Captain Gregos (No 2)* [1990] 2 Lloyd's Rep 395
- *The Charlotte* [1908] P 206
- *The David Agshamenebeli* [2003] 1 Lloyd's Rep 92
- *The Delfini* [1990] Lloyd's Rep 252
- *The Draupner* [1910] AC 450
- *The Erin Schulte* [2014] EWCA Civ 1382, [2016] QB 1
- *The Eurymedon* [1975] AC 154
- *The Future Express* [1993] 2 Lloyd's Rep 542
- *The Gabbiano* [1940] P 166
- *The Gudermes* [1993] 1 Lloyd's Rep 311
- *The Herroe and Askoe* [1986] 2 Lloyd's Rep 281

- *The Houda* [1994] 2 Lloyd's Rep 541
- *The Mahkutai* [1996] AC 650; [1996] 2 Lloyd's Rep 1 (PC)
- *The Mata K* [1998] 2 Lloyd's Rep 614
- *The Nea Tyhi* [1982] 1 Lloyd's Rep 606
- *The Pioneer Container* [1994] 2 AC 324 (PC)
- *The President of India Lines v Metcalfe Shipping Co Ltd* [1970] 1 QB 289
- *The Rafaela S* [2005] UKHL 11 6; [2002] EWCA Civ 556; [2003] 2 Lloyd's Rep 113
- *The Raven* [1980] 2 Lloyd's Rep 266
- *The River Gurara* [1998] QB 610
- *The Saudi Crown* [1986] 1 Lloyd's Rep 261
- *The Sormovskiy 3068* [1994] 2 Lloyd's Rep 266
- *The Starsin* [2000] 1 Lloyd's Rep 85
- *The Tigress* (1863) BR & L 37
- *Thin v Liverpool* (1901) 18 TLR 226
- *Thorman v Burt* (1886) 54 LT 349
- *Tolhurst v Associated Portland Cement Manufacturers (1900) Ltd* [1902] 2 KB 660
- *Townsend v Inglis Holt* N P 278
- *Trafigura Beheer BV v Mediterranean Shipping Company SA (The MSC Amsterdam)* [2007] 2 Lloyd's Rep 622
- *Trafigura v Clearlake and Clearlake v Petrobras (Miracle Hope)* [2020] EWHC 995 (Comm)
- *Transcontainer Express Ltd v Custodian Security Ltd* [1988] 1 Lloyd's Rep 128
- *Tully v Terry* (1873) LR 8 CP 679
- *United City Merchants (Investments) Ltd v Royal Bank of Canada* (1983) AC 168
- *Uxbridge Permanent Building Soc v Pickard* [1939] 2 KB 248 (CA)
- *V/O Rasnoimport v Guthrie & Co Ltd* [1966] 1 Lloyd's Rep 1
- *Volcafe Ltd & Others v Compania Sud Americana De Vapores SA* [2018] UKSC 61
- *W N White & Co Ltd v Furness Withy & Co Ltd* [1895] AC 40
- *White v Jones* [1995] 2 AC 207
- *Young v Möller* (1855) 5 El & Bl 755
- *Your Response v Datateam* [2014] EWCA Civ 281, [2015] QB 41
- *Yue You 902* [2019] SGHC 106
- *The Aegean Sea* [1998] 1 Lloyd's Rep 39
- *Dixon v Bovill* (1856) 3 Macq HL 1

International conventions

- Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea of 2008 (the Rotterdam Rules)
- International Convention for the Unification of Certain Rules Relating to Bills of Lading 1924 (Hague Rules)
- Protocol to Amend the International Convention for the Unification of Certain Rules Relating to Bills of Lading 1924 (Hague-Visby Rules)
- United Nations Convention on the Carriage of Goods by Sea 1978 (Hamburg Rules)

UN documents, official papers and policy documents

- Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records
- Guide to Enactment of the UNCITRAL Model Law on Electronic Commerce
- Model Law on Electronic Transferable Records 2017 (MLETR)
- UNCITRAL Model Law on Electronic Commerce 1996 (MLEC)
- UNCITRAL, *Draft Model Law on Electronic Transferable Records* (UNCITRAL Working Paper, No. A/CN.9/761, 2015)
- UNCITRAL, *Draft Model Law on Electronic Transferable Records* (UNCITRAL Working Paper, No A/CN9/761, 2015)
- UNCITRAL, *Electronic Data Interchange thirtieth session* (UN Doc A/CN 9/WG IV/WP 69, 31 January 1996)
- UNCITRAL, *Legal issues relating to the use of electronic transferable records* (UNCITRAL Working Paper, No A/CN9/WGIV/WP119, 2012)
- UNCITRAL, *Legal issues relating to the use of electronic transferable records* (UNCITRAL Working Paper, No A/CN9/WGIV/WP115, 2011)
- UNCITRAL, *Recommendation on the Legal Value of Computer Records* (UN Doc A/CN 9/265, 1985)
- UNCITRAL, *Report of the Commission's forty-first session* (Doc no A/63/17, 16 June – 3 July 2008)
- UNCITRAL, *Report of Working Group IV (Electronic Commerce) on the work of its fiftieth session* (UNCITRAL Working Paper, No. A/CN.9/828, 2014)
- UNCITRAL, *Report of Working Group IV (Electronic Commerce) on the work of its fifty-fourth session* (UNCITRAL Working Paper, No A/CN9/897, 2016)

- UNCITRAL, *Working Group III (Transport Law) twentieth session in Vienna* (A/CN9/642, 15-25 October 2007)
- UNCITRAL, *Working Group III (Transport Law) twenty-first session in Vienna* (A/CN9/645, 14-25 January 2008)
- United Nations – Economic and Social Council, 'Blockchain in Trade Facilitation: Sectoral challenges and examples' (ECE/TRADE/C/CEFACT/2019/9/Rev 1, 2020)
- United Nations Convention on the Use of Electronic Communications in International Contracts 2005

Statutes and statutory instruments

- Bills of Exchange Act 1882
- Bills of Lading Act 1855
- Carriage of Goods by Sea Act 1971 (COGSA 1971)
- Carriage of Goods by Sea Act 1992 (COGSA 1992)
- Civil Evidence Act 1968
- Civil Evidence Act 1995 (CEA 1995)
- Contracts (Rights of Third Parties) Act 1999 – Explanatory Notes
- Contracts (Rights of Third Parties) Act 1999 (1999 Act)
- Electronic Communications Act 2000
- Electronic Signatures Regulations 2002
- Factors Act 1889
- Law of Property Act 1925
- Sale of Goods Act 1979
- Sale of Goods Act 1995

Statutes in other jurisdictions

- Electronic Transactions (Amendment) Act 2021 (ETA 2021)
- Electronic Transactions Act 2010, Revised 2011 (Cap 88)

EU legislation and cases

- Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market ("eIDAS") OJ L257/73

Cases in other jurisdictions

- *New Zealand Shipping Co Ltd v A M Satterthwaite & Co Ltd (The Eurymedon)* [1975] AC 154 (PC)
- *Peer Voss v APL Co Pte Ltd* [2002] 2 Lloyd's Rep 707
- *Quoine Pte Ltd v B2C2 Ltd* [2020] SGCA (I) 02
- *Voss v APL Co Pte Ltd* [2002] 2 Lloyd's Rep 707 (Sing CA)
- *Waitomo Wools (NZ) Ltd v Geo H Scales Ltd* [1976] 1 NZLR 143

Miscellaneous

- Rules for Electronic Bills of Lading (CMI Rules)
- ICC International Commercial Terms (Incoterms) 2020
- European Parliamentary Research Service, *Blockchain for Supply Chains and International Trade: Report on key features, impact and policy options* (2020) ('*Blockchain for Supply Chains*')
- CargoX Blockchain Based Smart Bill of Lading Solutions Special Terms and Conditions, version 1, dated 10 February 2020
- BIMCO Electronic Bills of Lading Clause 2014
- Bolero ePresentation Co-operation Agreement (Operational Service Contract).
- Bolero, International Legal Feasibility Report (1999)
- Conlinebill
- Congenbill
- International Group Requirements for Electronic Trading System Providers, Version 5/12/2017
- Electronic Trade Documents Bill
- Bolero Operating Procedures September 1999
- Bolero Rulebook 1999
- essDOCS Exchange Ltd DSUA 2013.1
- e-BL Terms and Conditions, version 1, dated 18 May 2018
- IQAX eBL Service Terms and Conditions dated 17 February 2022
- TradeLens eBL Rulebook and Service Description dated 24 February 2021
- The Electronic Title User Agreement version 1.2
- essDOCS Exchange Ltd DSUA 2021.1
- WAVE Application and Network Bylaws, version 1, dated 20 December 2019

Secondary Sources

Books

- Aikens R and others, *Bills of Lading* (3rd edn, Informa Law from Routledge 2020)
- Baatz Y and others, *Rotterdam Rules: A Practical Annotation* (Informa Law from Routledge 2019)
- Baughen S, *Shipping Law* (7th edn, Routledge 2019)
- Beale H and others, *The Law of Security and Title-Based Financing* (2nd edn, OUP 2012)
- Bennett WP, *The History and Present Position of the Bill of Lading as a Document of Title* (Cambridge University Press 1914)
- Bensa E, The Early History of Bills of Lading (Caimo & C 1925)
- Berlingieri F, *International Maritime Conventions Volume I: The Carriage of Goods and Passengers by Sea* (Informa Law from Routledge 2014)
- Bools M, *The Bill of Lading: Document of Title to Goods an Anglo-American Comparison* (LLP Ltd 1997)
- Brazell L, *Electronic Signatures and Identities: Law and Regulation* (3rd edn, Sweet & Maxwell 2018)
- Bridge M (ed), *Benjamin's Sale of* Goods (1st supp, 11th edn, Sweet & Maxwell 2021)
- Bridge M and others, *The Law of Personal Property* (2nd edn, Sweet & Maxwell 2017)
- Brindle M and Cox R, *Law of Bank Payments* (5th edn, Sweet & Maxwell 2017)
- Cooke J, Young T and Ashcroft M, *Voyage Charter* (4th edn, Informa Law 2014)
- Curtis S, Gaunt I and Cecil W, *The Law of Shipbuilding Contracts* (Routledge 2020) 256
- Dalhuisen J, *Dalhuisen on Transnational Comparative, Commercial, Financial and Trade Law Volume 2: Contract and Movable Property Law* (Hart Publishing 2019)
- Debattista C, *Bills of Lading in Export Trade* (3rd edn, Tottel publishing 2009)
- Filippi PD and Wright A, *Blockchain and the Law: The Rule of Code* (Harvard University Press 2018)
- Foxton D and others, *Scrutton on Charterparties* (1st supp, 24th edn, Sweet & Maxwell 2021)
- Gaskell N, *Bills of Lading 2e: Law and Contracts* (Routledge 2017)

- Giermann H, *The Evidentiary Value of Bills of Lading and Estoppel* (Lit Verlag 2004)
- Goldby M, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, OUP 2019)
- Goode R, Kronke H, and McKendrick E, *Transnational Commercial Law* (2nd edn, OUP 2015)
- Goode RM, *Proprietary Rights and insolvency in Sales Transactions* (2nd edn, Sweet & Maxwell1989)
- Gullifer L, *Goode and Gullifer on Legal Problems of Credit and Security* (6th edn, Sweet & Maxwell 2017)
- Johnson KM and Garnett HC, *The Economics of Containerisation* (Routledge 1971)
- Laryea ET, *Paperless Trade: Opportunities, Challenges and Solutions* (Kluwer Law International 2003)
- Mason S Mason, *Electronic Signatures in Law* (3rd edn, Cambridge University Press 2012)
- McConville M and Chui WH, *Research Methods for Law* (Edinburgh University Press 2017)
- McKendrick E, *Goode on Commercial Law* (5th edn, Penguin 2016)
- Møllmann A, *Delivery of Goods under Bills of Lading* (Routledge 2018)
- Palmer N and McKendrick E (eds), *Interests in Goods* (2nd edn, Informa Law from Routledge 1998)
- Palmer N, *Palmer on Bailment* (3rd edn, Sweet & Maxwell 2009)
- Peel E, *Treitel's Law of Contract* (14th edn, Sweet & Maxwell 2015)
- Pejović Č, *Transport Documents in Carriage of Goods by Sea: International Law and Practice* (Informa Law from Routledge 2020)
- Pollock F and Wright RS, *Possession in the Common Law* (Oxford Clarendon Press 1888)
- Reed C, *Internet Law: Text and Materials* (2nd edn, Cambridge University Press 2004)
- Rogers A, Chuah J and Dockray M, *Cases and Materials on the Carriage of Goods by Sea* (5th edn, Routledge 2019)
- Semark D, P&I Clubs: Law and Practice (4th edn, Informa Law from Routledge 2010)
- Stevens F, *The Bill of Lading: Holder Rights and Liabilities* (1st edn, Routledge 2019)

- Todd P, *Advanced Introduction to Maritime Law* (Edward Elgar Publishing 2021)
- Todd P, *Bills of Lading and Bankers' Documentary Credits* (4th edn, Informa Law 2007)
- Todd P, *Maritime Fraud & Piracy* (2nd edn, Informa Law 2010)
- Tolhurst G, *The Assignment of Contractual Rights* (2nd edn, Hart Publishing 2016)
- Treitel GH and Reynolds FMB, *Carver on Bills of Lading* (4th edn, Sweet & Maxwell 2017)
- Twiss T, *The Black Book of the Admiralty* (London: Longman & Co 1876)
- Wang FF, *Law of Electronic Commercial Transactions: Contemporary Issues in the EU, US and China* (2nd edn, Routledge 2014)
- Yiannopoulos AN (ed), *Ocean Bills of Lading: Traditional Forms, Substitutes, and EDI Systems* (Kluwer Law International 1995)
- Bridge M, *Personal Property Law* (4th edn, Clarendon Law Series 2015)
- Walter M (ed), *Social Research Methods* (2nd edn, Oxford University Press 2010)

Contributions to edited books

- Cachard O, 'UNCITRAL Model Law on Electronic Transferable Records: The Missing Link Towards E-Shipping?' in B Soyer and A Tettenborn (eds), *Disruptive Technologies, Climate Change and Shipping* (Informa Law from Routledge 2022)
- Caplehorn R, 'The Bolero System' in C Reed, I Walden and R Edgar (eds), *Cross-border Electronic Banking: Challenges and Opportunities* (2nd edn, Informa Law from Routledge 2000)
- Davidson A, 'Implementation and implications of the UNCITRAL Model Law on Electronic Transferable Records in Trade Finance' in C Hare and D Neo (eds), *Trade Finance: Technology, Innovation and Documentary Credits* (OUP 2021)
- Delmolino K and others, 'Step by Step Towards Creating a Safe Smart Contract: Lessons and Insights from a Cryptocurrency Lab' in J Clark and others (eds), *Financial Cryptography and Data Security – International Workshops, FC 2016, BITCOIN, VOTING, and WAHC, Revised Selected Papers* (Springer 2016)
- Girvin S and Ong E, 'Electronic Bills of Lading, Blockchain and Distributed Ledger Technology (DLT)' in S Girvin and V Ulfbeck (eds), *Maritime Organisation, Management and Liability: A Legal Analysis of New Challenges in the Maritime Industry* (Hart Publishing 2020)

- Goldby M, 'Bills of Lading' in D Attard and others (eds), *The IMLI Manual on International Maritime Law Volume II Shipping Law* (Oxford 2016)
- Goldby M, 'Enforceability of "Spontaneous Law" in England: Some evidence from recent Shipping Cases', in L Mistelis and M Goldby (eds), The Role of Arbitration in Shipping Law (OUP 2016)
- Green S and Snagg F, 'Intermediated Securities and Distributed Ledger Technology' in L Gullifer and J Payne (eds), *Intermediation and Beyond* (Oxford 2019)
- Jain SN 'Doctrinal and Non-Doctrinal Legal Research' in SK Verma and A Wani (eds), *Legal Research and methodology* (2nd edn, Indian Law Institute 2010)
- Kobrin SJ, 'Economic Governance in an Electronically Networked Global Economy' in RB Hall and TJ Biersteker (eds), *The Emergence of Private Authority in Global Governance* (Cambridge University Press 2002)
- Lista A, 'Knocking on heaven's door: in search for a legal definition of the bill of lading as a document of title' in J Chuah (ed), *Research Handbook on Maritime Law and Regulation* (Edward Elgar Publishing 2019)
- Orrù E, 'The Challenges of ICTs in the Shipping Sector Among International Uniform Law, Codification and Lex Mercatoria: The Electronic Bill of Lading' in J Nawrot and Z Pepłowska-Dąbrowska (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law 2019) 134
- Roberts JL, 'Electronic Bills of Lading' in KCDM Wilde (ed), *International Transactions: Trade and Investment, Law and Finance* (Law Book Company 1993)
- Røsæg E, 'Electronic signatures in shipping practice' in B Soyer and A Tettenborn (eds), *New Technologies, Artificial Intelligence and Shipping law in the 21st Century* (Informa 2019)
- Sturley MF, 'Can Commercial Law Accommodate New Technologies in International Shipping?' in B Soyer and A Tettenborn (eds), *New Technologies, Artificial Intelligence and Shipping law in the 21st Century* (Informa 2019)
- Todd P, 'Dematerialisation of Shipping Documents' in C Reed, I Walden and L Edgar (eds), *Cross-Border Electronic Banking: Challenges and Opportunities* (2nd edn, Informa Law from Routledge 2000)
- Williams R, 'Letters of Indemnity for Delivery Without A Bill of Lading' in B Soyer and A Tettenborn (eds), *International Trade and Carriage of Goods* (Informa 2016)

- Zhang J, 'Bills of Lading in Banker's Hands: does Chinese legislation offer sufficient security?' in J Hjalmarsson and J Zhang (eds), *Maritime Law in China: Emerging Issues and Future Developments* (Routledge 2016)
- Chynoweth P, 'Legal Research' in Andrew Knight and Les Ruddock (eds), *Advanced Research Methods in the Built Environment* (Wiley-Blackwell 2008)
- Cook C and others, *Laying Down the Law: The Foundations of Legal Reasoning, Research and Writing in Australia* (4th edn, Sydney: Butterworths 1996)
- Rubin EL, 'Legal Scholarship' in Patterson D (ed), *A Companion to Philosophy of Law and Legal Theory* (Oxford: Blackwell 1996)
- Bhat PI, 'Doctrinal Legal Research as a Means of Synthesizing Facts, Thoughts, and Legal Principles' in PI Bhat (ed), *Idea and Methods of Legal Research* (OUP 2019)

Encyclopaedias

- *Halsbury's Law of England*, Vol 32 (2019)

Journal articles

- Aikens R, 'Which Way to Rome for Cargo Claims in Bailment When Goods Are Carried by Sea?' [2011] LMCLQ 482
- Alba M, 'Electronic Commerce Provisions in the UNCITRAL Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea' (2009) 44 Texas International Law Journal 387
- Albrecht C, 'Blockchain Bills of Lading: The End of History: Overcoming Paper-Based Transport Documents in Sea Carriage through New Technologies' (2019) 43 Tul Mar LJ 251
- Anderson G, 'Advancing the Digitalisation of Ports: Supporting A Moving Environment' (2018) 32 MRI 07 6
- Bacon J and others, 'Blockchain Demystified: A Technical and Legal Introduction to Distributed and Centralised Ledgers' (2018) Richmond Journal of Law & Technology 1
- Bacon J and others, 'Blockchain Demystified' (2017) Queen Mary School of Law Legal Studies Research Paper No 268/ 2017 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id1⁄43091218> accessed 19 June 2022
- Baughen S, 'Bailment's Continuing Role in Cargo Claims' [1999] LMCLQ 393

- Baughen S, '*The Gudermes*: What Future for *Brandt v Liverpool*?' 1994 JBL 62
- Baughen S, 'Title to Sue and COGSA 1992: Is There Still A Legal Black Hole for Cargo Claimants?' (2019) 25 JIML 463
- Beale H and Griffiths L, 'Electronic Commerce: Formal Requirements in Commercial Transactions' [2002] LMCLQ 467
- Beatson J and Cooper JJ, 'Rights of Suit in respect of Carriage of Goods by Sea' [1991] LMCLQ 196
- Beecher S, 'Can the Electronic Bill of Lading Go Paperless?' (2006) 40 INT'L LAW 627
- Bradgate R and White F, 'The Survival of the *Brandt v Liverpool* Contract' [1993] LMCLQ 483
- Bury DA, 'Electronic Bills of Lading: A Never-Ending Story' (2016) 41 Tul Mar LJ 197
- Caplehorn R, 'Bolero.Net – The Global Electronic Commerce Solution for International Trade' (1999) 10 JIBFL 421
- Carver TG, 'On Some Defects in the Bills of Lading Act, 1855' (1890) 6 LQR 289
- Chandler GF, 'Maritime Electronic Commerce for the Twenty-First Century' (1998) 22 TUL MAR LJ 463
- Chukwuma SC, 'Can the Functions of A Paper Bill of Lading Be Replicated by Electronic Bill of Lading?' (2013) 3:8 Public Policy and Administration Research 101
- Clarke M, 'Transport Documents – Their Transferability as Documents of Title; Electronic Documents' [2002] LMCLQ 356
- Debattista C, 'The Bill of Lading as a Receipt Missing Oil in Unknown Quantities' [1986] LMCLQ 97
- Debattista C, 'The Bill of Lading as the Contract of Carriage – A Reassessment of *Leduc v Ward*' (1982) 45 MLR 652
- Diamond A, 'The Rotterdam Rules' [2009] LMCLQ 445
- Du Toit SF, 'The Evolution of the Bill of Lading' (2005) 11 Fundamina 16
- Duncan N and Hutchinson T and, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17(1) Deakin LR 83
- Faber D, 'Electronic Bills of Lading' [1996] LMCLQ 232
- Fava J, 'Chip Off the Old Block: Acknowledging the Obstacles to Widespread Adoption of Blockchain Bills of Lading' (2021) LSE Law Review 181

- Gabriel HD, 'The UNCITRAL Model Law on Electronic Transferable Records' (2019) UnifLRev 261
- Ganne E, 'Blockchain's Practical and Legal Implications for Global Trade and Global Trade Law' in Mira Burri (ed), *Big Data and Global Trade Law* (Cambridge University Press 2021)
- Gaskell N, 'Bills of Lading in an Electronic Age' [2010] LMCLQ 233
- GH Treitel, 'The Legal Status of Straight Bills of Lading' (2003) LQR 608
- Girvin S, 'Bills of Lading and Straight Bills of Lading: Principles and Practice' (2006) JBL 86
- Gliniecki JY and Ogada CG, 'The Legal Acceptance of Electronic Documents, Writings, Signatures and Notices in International Transportation Conventions: A Challenge in the Age of Global Electronic Commerce' (1992) 13 NJILB 117
- Goforth CR, 'How Blockchain Could Increase the Need for and Availability of Contractual Ordering for Companies and Their Investors' (2019) 94(1) North Dakota Law Review 1
- Goldby M and Yang W, 'Solving the Possession Problem: an Examination of the Law Commission's Proposal of Electronic Trade Documents' [2021] LMCLQ 605
- Goldby M, 'Electronic Bills of Lading and Central Registries: What is Holding Back Progress?' (2008) 17:2 Information & Communications Technology Law 125
- Goldby M, 'The CMI Rules for Electronic Bills of Lading Reaccessed in the Light of Current Practices' [2008] LMCLQ 56
- Goldby M, 'The Performance of the Bill of Lading's Functions Under UNCITRAL's draft Convention on the Carriage of Goods: Unequivocal Legal Recognition of Electronic Equivalents' (2007) JIML 160
- Green S, 'Smart Contracts, Interpretation and Rectification' [2018] LMCLQ 234
- Gullifer L, 'Constructive Possession after the Sale of Goods (Amendment) Act 1995' [1999] LMCLQ 93
- Hamid AG, 'The Legal Implications of Electronic Bills of Lading: How Imminent is the Demise of Paper Documents?' (2004) 33 INSAF 5
- Harling R, 'eB/Ls – the Legal Perspective Legal Mechanisms of the ESS Databridge Services and Users Agreement (2011)' London Shipping Law Centre – Maritime Business Forum, PART C
- Hetherington S and Fujita T, 'Rotterdam Rules and E Commerce' (2018) 32 MRI 07 11

- Holford M, 'A Tricky Problem in Brief' (2011) 25 MRI 3 20
- Humphreys G and Higgs A, 'An Overview of the Implications of the Carriage of Goods by Sea Act 1992' (1993) JBL 61
- Jong JD, 'Can Digitised Documents Transform International Trade Flow?' (2022) 36 MRI 02 12
- Kaiser I, 'Letters of Indemnity For Delivery of Cargo Without Production of Bills of Lading – Is Blockchain The Answer?' LMAA Review 2018-2020
- Kalofolia P, 'Electronic Bills of Lading: Legal Obstacles and Solutions' (2004) 2(1) HLJ 45
- Kofopoulos K, 'Electronic Bills of Lading – Can It Happen?' (2014) 14 STL 3 1
- Kozolchyk B, 'Evolution and Present State of the Ocean Bill of lading from a Banking Law Perspective' (1992) J Mar L & Com 161
- Kozolchyk B, 'Paperless Letters of Credit and Related Documents of Title' (1992) 55(3) Law and Contemporary Problems 39
- Laryea ET, 'Bolero Electronic Trade System – An Australian Perspective' [2001] JIBL 4
- Lloyd A, 'The Bill of Lading: Do We Really Need It?' [1989] LMCLQ 47
- Love K, SeaDocs: The Lessons Learned [1992] 2 OGLTR 53
- Low KFK and Mik E, 'Pause the Blockchain Legal Revolution' (2019) 69 ICLQ 135
- Low R, 'Replacing the Paper Bill of Lading with an Electronic Bill of Lading: Problems and Possible Solutions' (2000) 5 International Trade & Business Law Annual 159
- Mallon P and Tomlinson A, 'Bolero: Electronic "Bills of Lading" and Electronic Contracts of Sale' [1998] ITLQ 257
- Marxen K, 'Electronic Bills of Lading in International Trade Transactions – Critical Remarks on Digitalisation And the Blockchain Technology' [2020] Cov LJ 25(1)
- Mason S, 'Documents Signed or Executed with Electronic Signatures in English Law' (2018) 34 CLSR 933
- McLaughlin CB, 'The Evolution of the Ocean Bill of Lading' (1926) 35 Yale Law Journal 548
- Merges RP and Reynolds GH, 'Towards A Computerized System for Negotiating Ocean Bills of Lading' (1986) J Mar L & Com 23

- Mik E, 'Evaluating the Impact of the UN Convention on the use of Electronic Communications in International Contracts on Domestic Contract Law: The Singapore Example' (2010) 28 Chinese (Taiwan) YB Intl L & Aff 43
- Ong E, 'Blockchain bills of lading and the UNCITRAL Model Law on Electronic Transferable Records' [2020] JBL 202
- Orifowomo OA and Agbana JO, 'Manual Signature and Electronic Signature: Significance of Forging a Functional Equivalence in Electronic Transactions' (2013) 10 ICCR 357
- Pejović Č, 'Legal Challenges in the Implementation of Electronic Data Interchange in Transport Documents' PPP god 59 (1997) 13
- Reed C, 'What is a Signature?' (2000) 3 JILT
- Reynolds FMB, 'The Carriage of Goods by Sea Act 1992' [1993] 436
- Reynolds FMB, 'The Significance of Tort in Claims in respect of Carriage by Sea' [1986] 1 LMCLQ 97
- Roskill A, 'Half-a-century of Commercial Law 1930-1980' (1982) 7 Holdsworth LR 1
- Sas B, 'Legal Aspects of Risk Management and Forward Oil Trading: The Forward Oil Markets and their Contracts' (1989) 7 JENRL 1
- Schiltz Q, 'Legal compliance of the electronic Bill of Lading' (2019) ICDTLI 439, 443 <https://www.atlantis-press.com/proceedings/icdtli-19/125918547> accessed 20 March 2022
- Shope ML, 'The Bill of Lading on the Blockchain: An Analysis of its Compatibility with International Rules on Commercial Transactions' 22 MINN JL SCI & TECH 163 (2021)
- Sing TK, 'Of straight and switch bills of lading' [1996] LMCLQ 416
- Starr L and Tan J, 'Electronic Bills of Lading – An Update Part II' (*ukpandi.com*, 1 April 2020) <www.ukpandi.com/news-and-resources/legal-content/legal-articles/electronic-bills-of-lading-an-update-part-ii> accessed 21 June 2022
- Starr L, 'E-bills of Lading Come of Age' (2017) 31 MRI 8 9
- Sturley MF, 'Transport Law for the Twenty-first Century; An Introduction to the Preparation, Philosophy, and Potential Impact of the Rotterdam Rules' (2008) 14 JIML 461
- Takahashi K, 'Blockchain Technology and Electronic Bills of Lading' (2016) 22 JIML 202

- Todd P, ‘Bills of Lading as Documents of Title’ [2005] JBL 762
- Todd P, ‘Case Comment: Bills of Lading as Documents of Title’ [2005] JBL 762
- Todd P, ‘Delivery against Forged Bills of Lading’ [1999] LMCLQ 449
- Todd P, ‘Electronic Bills of lading, Blockchains and Smart Contracts’ [2019] 27 IJLIT 339
- Todd P Todd, ‘Representations in bills of lading’ [2003] JBL 160
- Todd P, ‘The Bill of Lading and Delivery: the Common Law Actions’ [2006] LMCLQ 539
- Veal R and Tsimplis M, ‘The Integration Of Unmanned Ships Into The Lex Maritima’ [2017] LMCLQ 303
- Vidan G and Lehdonvirta V, ‘Mine the Gap: Bitcoin and the Maintenance of Trustlessness’ (2019) 21 New Media & Society 42
- Vlačič P and Čekrlić B, ‘The Time is Now: Widespread Adoption of the Electronic Bill of Lading’ [2020] IL Diritto Marittimo 621
- Wang F, ‘Blockchain Bills of Lading and Their Future Regulation’ [2021] LMCLQ 504
- Werbach K and Cornell N, ‘Contracts Ex Machina’ (2017) 67(2) Duke Law Journal 313
- Williams R, ‘Transport Documentation Under the New Convention’ [2008] 14 JIML 566
- Wilson JF, ‘A flexible Contract of Carriage – the Third Dimension?’ [1996] LMCLQ 187
- Winn JK, ‘Emerging Issues in Electronic Contracting, Technical Standards and Law Reform’ (2002-3) Rev dr unif 699
- Zhao L, ‘The Right of Control in Carriage of Goods by Sea’ [2014] LMCLQ 394, 399-401
- Mccrudden C, ‘Legal Research and the Social Sciences’ [2006] L Quar Rev 632
- Posner R, ‘Legal Scholarship today’ (2001) 115 Harvard Law Review 1314
- Siems M and Sithigh D, ‘Mapping legal research’ (2012) CLJ 651
- Lucy W, ‘Abstraction and the Rule of Law’ (2009) 29(3) Oxford Journal of Legal Studies 481
- Jones E, ‘Some current trends in legal research’ (1962-1963) 15 2 Journal of Legal Education 121

- Cheffins BR, 'Using Theory to Study Law: A Company Law Perspective' (1999) 58(1) CLJ 197

Online journals

- Delmedico A, 'EDI Bills of Lading: Beyond Negotiability' (2003) 1 (1) HERTFORDSHIRE LJ <https://pdfs.semanticscholar.org/7c51/648275c74bb6e3c2f8a821aa67f35762b787.pdf> accessed 20 March 2018
- Spanogle JA, 'Incoterms and UCC Article 2 – Conflicts and Confusions' 31 INT'L L 111 (1997) <https://scholar.smu.edu/til/vol31/iss1/6> accessed 26 August 2022

Command Papers and Law Commission reports

- English and Scottish Law Commissions, *Rights of Suit in Respect of Carriage of Goods by Sea* (Law Com No 196; Sc Law Com No 130, 1991)
- Law Commission, *Digital Assets: Electronic Trade Documents – A Consultation Paper* (Law Com No 254, 2021)
- Law Commission, *Digital Assets: Electronic Trade Documents* (Law Com No 254, 2021)
- Law Commission, *Electronic Commerce: Formal Requirements in Commercial Transactions – Advice from the Law Commission* (2001)
- Law Commission, *Electronic Execution of Documents* (Law Com No 386, 2019)
- Law Commission, *Electronic trade documents: Report and Bill* (Law Com No 405, 2022)
- Law Commission, *Rights to Goods in Bulk* (Working Paper No 112, 1989)
- Law Commission, *Smart legal Contracts: Advice to Government* (Law Com No 401, 2021)

Websites and blogs

- Debattista C, 'The Electronic Trade Document Bill' (*Views from the Bridge at 36 Stone*, June 2022) <https://media.licdn.com/dms/document/C561FAQE5aMuYuFrGTQ/feedshare-document-pdf-analyzed/0/1654683173594?e=1684368000&v=beta&t=klcw0g_xru7NsJSZfTVD_D5nszvQtXQjspZs02CBn6> accessed 9 May 2023

- 'The Queen's Speech 2022' (*assets.publishing.service.gov.uk*, 10 May 2022) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1074113/Lobby_Pack_10_May_2022.pdf> accessed 2 August 2022
- Altexsoft, 'Electronic Bill of Lading: How to Go Paperless with Bolero, essDOCS, e-title, and edoxOnline' (*altexsoft.com*, 18 November 2019) <https://www.altexsoft.com/blog/electronic-bill-of-lading-software/ accessed 27 August 2022
- Austin N and Douni A, 'Possession as We (Don't) Know It!' (*ReedSmith*, 14 October 2021) <https://www.shiplawlog.com/2021/10/14/possession-as-we-dont-know-it/> accessed 13 June 2022
- Birnbaum A, 'Interview with essDOCS Co-Founder Alexander Goulandris' (*Brown Brothers Harriman*, 4 May 2016) <https://www.bbh.com/en-us/insights/interview-with-essdocs-co-founder-alexander-goulandris-16002> accessed 26 April 2018
- Bolero, 'Digital Trade - ePresentation' (*bolero.net*) <https://www.bolero.net/downloads/> accessed 14 June 2022
- Bolero, 'What is an Electronic Bill of Lading?' (*bolero.net*) <www.bolero.net/what-is-an-electronic-bill-of-lading> accessed 14 June 2022
- Bolero, 'What is an Electronic Bill of Lading?' (*bolero.net*) <www.bolero.net/what-is-an-electronic-bill-of-lading> accessed 14 June 2022
- British Law Association, 'Response to Questionnaire Prepared by CMI Working Group on Issues of Transport Law' (*bmla.org.uk*, 30 September 1999) <https://www.bmla.org.uk/documents/issues_transport_law.htm > accessed 31 July 2022
- Buckley W, 'Electronic Bills of Lading Claims Guide' (*WEST*, 2021) <https://www.westpandi.com/getattachment/f4d9830d-9430-4bd6-947b-8af70e1e39ff/woe5809_mcg-pt-gbr-20-v5_4pp_web.pdf/> accessed 27 August 2022
- Buterin V, 'On Public and Private Blockchains' (*ethereum foundation blog*, 7 August 2015) <https://blog.ethereum.org/2015/08/07/on-public-and-private-blockchains/> accessed 26 August 2022
- cargox.io
- cargox.io/press-releases/full/first-ever-blockchain-based-cargox-smart-bl-has-successfully-completed-its-historic-mission/
- Carson B and others, 'Blockchain Beyond the Hype: What is the Strategic Business Value?' (*mckinsey.com*, 19 June 2018) <https://www.mckinsey.com/business-

functions/mckinsey-digital/our-insights/blockchain-beyond-the-hype-what-is-the-strategic-business-value > accessed 21 June 2022

- Clarke G, 'After Ethereum Classic Suffers 51% Hack, Experts Consider – Will Bitcoin Be Next?' (*Forbes*, 9 Jan 2019) <https://www.forbes.com/sites/ginaclarke/2019/01/09/after-ethereum-classic-suffers-51-hack- experts-consider-will-bitcoin-be-next/#5f3a9870a56b> accessed 8 November 2019
- Clyde & Co, 'The Legal Status of Electronic Bills of Lading: A Report for the ICC Banking Commission' (*ICC*, 2018) <https://cdn.iccwbo.org/content/uploads/sites/3/2018/10/the-legal-status-of-e-bills-of-lading- oct2018.pdf> accessed 1 June 2022
- CMI, 'Rules for Electronic Bills of Lading' (*comitemaritime.org*, 1990) <https://comitemaritime.org/work/rules-for-electronic-billing-of-lading/> accessed 6 August 2022
- DCSA, 'DCSA Publishes Beta Releases of Standards for the Booking Process 1.0 and the Bill of Lading 2.0' (*dcsa*, 5 April 2022) <https://dcsa.org/newsroom/resources/beta-releases-of-standards-for-the-booking-process-1-0-and-the-bill-of-lading-2-0/> accessed 17 June 2022
- DCSA, 'DCSA takes on eBL standardisation, calls for collaboration' (*dcsa.org*, 19 May 2020) <https://dcsa.org/wp-content/uploads/2020/05/20200519-DCSA-taking-on-eBL.pdf> accessed 27 August 2022
- DCSA, 'Five Predictions for the Next Five Years of Digitalisation in Container Shipping' (*dcsa*) <https://dcsa.org/newsroom/resources/five-predictions-for-the-next-five-years-of-digitalisation-in-container-shipping/> accessed 13 June 2022
- dcsa.org
- E-title, 'How Does e-title™ Work?' (*e-title.net*) <www.e-title.net/sol_work.php> accessed 17 June 2022
- E-title, 'What is e-title™?' (*e-title.net*) <www.e-title.net/sol_work.php> accessed 17 June 2022
- Faber D, 'Digital signature guidelines' (*Judicial Studies Board*, 2000) <http://www.jsboard.co.uk/publications/digisigs/index.htm> this document is no longer available online

- Fredrick Raj M, 'How AI & Automation Has Overhauled The Shipping Industry' (*analyticsindiamag.com*, Jan 2019) <https://www.analyticsindiamag.com/ai-shipping-autonomous-drive/> accessed 24 May 2019
- Ganne E, 'Can Blockchain Revolutionize International Trade?' (*WTO*, 2018) <https://www.wto.org/english/res_e/publications_e/blockchainrev18_e.htm> accessed 26 August 2022
- Hewett N, Lehmacher W and Wang Y, 'Inclusive Deployment of Blockchain for Supply Chains: Part 1 – Introduction' (*World Economic Forum*, 8 April 2019) <https://www.weforum.org/whitepapers/inclusive-deployment-of-blockchain-for-supply-chains-part-1-introduction/> accessed 26 Aug 2022
- http://www.bolero.net/wp-content/uploads/2020/04/Bolero-Insights-Electronic-Bills-of-Lading-Overview-NW.pdf.
- https://www.dsi.iccwbo.org/about-icc-digital-standards-initiative
- https://www.essdocs.com/solutions/epresentation
- https://www.imda.gov.sg/-/media/Imda/Files/Inner/PCDG/Consultations/consultation-paper/Public-Consultation-on-the-Draft-Uncitral- Model-Law-on-Electronic-Transferable-Records/Deutsche-Bank-Public-Consultation-on-Review-of- Draft.pdf?la=en
- Hunter G, 'An Open Standard for Electronic Bills of Lading Is The First Task of BIMCO's New Standards, Innovation & Research department' (*BIMCO*, 15 February 2022) <https://www.bimco.org/insights-and-information/contracts/20220215-sir-announcement> accessed 27 August 2022
- ICC, 'Automation of Document Examination under Documentary Credits' (*eact.eu*, 2021) <https://eact.eu/Core/Images/Documents/2021_ICC_Automation_IssueBrief.pdf> accessed 31 August 2022
- International Chamber of Commerce UK, 'Aligning National Laws to the UNCITRAL Model Law on Electronic Transferrable Records (MLETR): UK business case' (*africaplc.com*, May 2021) <https://africaplc.com/wp-content/uploads/2021/05/ICCUK-Coriolis-MLETR-Alignment-UK_Business_Case.pdf> accessed 27 August 2022
- International Chamber of Commerce UK, 'Creating a Modern Digital Trade Ecosystem: Cutting the Cost and Complexity of Trade – Reforming laws and harmonising legal frameworks' (*dsi.iccwbo.org*, October 2021)

<https://www.dsi.iccwbo.org/_files/ugd/0b6be5_9a983b7c954d49389dd25a54033bcf78.pdf?index=true accessed 27 August 2022

- Lessem B, 'Legal Issues and Electronic Bills of Lading' (*wavebl.com*, 20 April 2021) <wavebl.com/legal-issues-and-electronic-bills-of-lading-lading> accessed 22 June 2022
- Lim RL, 'Singapore Parliament Passes Law to Recognise Electronic Bills of Lading' (*UKP&I*, 23 Febuary 2021) <https://www.ukpandi.com/news-and-resources/articles/2021/singapore-parliament-passes-law-to-recognise-electronic-bills-of-lading/> accessed 13 June 2022
- Maanen M and Regtien I, 'E-bills of Lading' (*LEXOLOGY.com*, 20 April 2018) <https://www.lexology.com/library/detail.aspx?g=453d225f-ca8b-404f-9b39-f39f4f0a7b90> accessed 12 June 2018
- Mackenzie A, 'Switching from Paper to Electronic Bills of Lading' (*MARSH*, 2016) <https://www.marsh.com/content/dam/marsh/Documents/PDF/UK-en/Switching%20from%20Paper%20to%20Electronic%20Bills%20of%20Lading.pdf > accessed 6 June 2022
- Nakamoto S, 'Bitcoin: A Peer-to-Peer Electronic Cash System' (*bitcoin*, 2018) <https://bitcoin.org/en/bitcoin-paper> accessed 16 July 2019
- Nascimento LP, 'Blockchain in a Nutshell (Beyond Bitcoin)' (*sapbr.com*, 4 March 2018), <https://sapbr.com/2018/03/04/demystifying-blockchain-beyond-bitcoin/> accessed 21 June 2022
- Norton Rose Fulbright, 'Transport survey 2017' (*TransportsurveyNortonRoseFulbright.online*, June 2017) <https://transportsurvey.nortonrosefulbright.online/publications/shipping> accessed 12 June 2018
- Orcutt M, 'Once Hailed As Unhackable, Blockchains are Now Getting Hacked' (*MIT Technology Review,* 19 February 2019) <https://www.technologyreview.com/2019/02/19/239592/once-hailed-as-unhackable-blockchains-are-now-getting-hacked/> accessed 26 August 2022
- Patel D and Ganne E, 'Blockchain & DLT in Trade: Where Do We Stand?' (*WTO*, November 2020) <https://www.wto.org/english/res_e/booksp_e/blockchainanddlt_e.pdf> accessed 22 June 2022
- pitchbook.com/profiles/company/152061-85#overview

- Raymond A, 'Concern about Lack of Standards Highlights the Benefits of Bolero at Sibos 2018' (*Bolero*, 9 November 2018) <https://www.bolero.net/blog/concern-about-lack-of-standards-highlights-the-benefits-of-bolero-at-sibos-2018/>, accessed 26 August 2022
- Rezutka C, 'A New Dawn for the e-Bill' (*cjclaw.com*, 14 July 2021) <www.cjclaw.com/site/news/a-new-dawn-for-the-ebill#_ftnref11> accessed 13 June 2022
- Schaal C, '21st Birthday of the Electronic Bill of Lading: With Age Comes Maturity' (*INTER-LAWYER.com*, 2003) <http://www.inter-lawyer.com/lex-e-scripta/articles/electronic-bills-of-lading.htm> accessed 20 March 2018
- Starr L and Tan J, 'Legal Briefing: Electronic Bills of Lading' (*UKP&I*, May 2017) <https://www.ukpandi.com/fil eadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 16 June 2022
- Tan J and Starr L, 'Electronic Bills of Lading' (*UKP&I.com*, 3 May 2017) <https://www.ukpandi.com/fileadmin/uploads/uk-pi/Documents/2017/Legal_Briefing_e_bill_of_Lading_WEB.pdf> accessed 12 June 2018
- UK Jurisdiction Taskforce, 'Legal Statement on Cryptoassets and Smart Contracts' (*technation.io*, November 2019) <https://technation.io/lawtechukpanel/> accessed 20 July 2022
- UK P&I, 'Bolero: History of the Bolero Project and the International Group of P&I Clubs (the Group) Cover' (*UKP&I*, September 30 2010), <http://www.ukpandi.com/publications/article/bolero-history-of-the-bolero-project-and-the-intemational-group-of-p-i-clubs-the-group-cover-1162/> accessed 26 August 2022
- UNCITRAL, 'Frequently Asked Questions – UNCITRAL Texts' (*uncitral.un.org*) <https://uncitral.un.org/en/about/faq/texts> accessed 31 August 2022
- UNCITRAL, 'Status: UNCITRAL Model Law on Electronic Transferable Records (2017)' (*uncitral.un.org*) <https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_transferable_records/status> accessed 15 August 2022

- UNCITRAL, Colloquium on Electronic Commerce (*uncitral.un.org*, 14-16 February 2011) <https://uncitral.un.org/en/colloquia/electronic_commerce/2010> accessed 31 August 2022.
- Wan A and Rice D, 'Oops, I Accidentally Froze $150 Million of Ether. Or, How Smart Contracts Are Not Invulnerable' (*crowdfundinsider.com*, 9 November 2017) <https://www.crowdfundinsider.com/2017/11/124379-oops-accidentally-froze-150-million-ether-smart-contracts-not-invulnerable/> accessed 20 July 2022
- Ward C, 'Electronic bills of lading: A good idea on paper?' (*WEST*, 27 May 2021) <https://www.westpandi.com/publications/news/may-2021/electronic-bills-of-lading-a-good-idea-on-paper/> accessed 27 August 2022
- Wass S, 'essDocs to Integrate e-Bill of Lading with Voltron Blockchain Platform' (*GTR*, 5 April 2019) <https://www.gtreview.com/news/fintech/essdocs-to-integrate-e-bill-of-lading-with-voltron-blockchain-platform/> accessed 26 August 2022
- wavebl.com/about/
- wavebl.com/our-blockchain-technology/
- web.edoxonline.com
- World Economic Forum and UNECE, 'Paperless Trading: How Does It Impact the Trade System?' (*World Economic Forum*, 2 November 2017) <https://www.weforum.org/whitepapers/paperless-trading-how-does-it-impact-the-trade-system > accessed 27 August 2022
- Wragg E, 'How the Electronic Bill of Lading Became a Battleground for Trade Digitisation' (*gtreview.com*, 12 July 2021) <www.gtreview.com/magazine/volume-19-issue-3/electronic-bill-lading-became-battleground-trade-digitisation> accessed 22 June 2022
- DCSA, 'Survey: FIT Alliance reveals strong interest in eBL, pinpoints obstacles to address' (*dcsa.org*, 17 Jan 2023) <https://dcsa.org/newsroom/resources/survey-fit-alliance-reveals-strong-interest-in-ebl-pinpoints-obstacles-to-address/> accessed 11 June 2023
- www.bolero.net
- www.e-title.net/index.php
- www.e-title.net/sol_what.php
- www.essdocs.com
- www.globalshare.com.ar
- www.iqax.com/en/about/newsroom/2020/11/iqax-revolutionize-global-supply-chains/

- www.iqax.com/en/solutions/ebl/
- www.tradelens.com/post/5-key-points-about-tradelens-platform-security
- www.tradelens.com/products/tradelens-ebl

Newspaper articles

- Berkley J Berkley, 'The Promise of the Blockchain: The Trust Machine' (*economist.com*, 31 October 2015) <https://www.economist.com/leaders/2015/10/31/the-trust-machine> accessed 18 June 2022
- The Economist, 'Trade Finance Stumbles into the Digital Era' (*economist.com*, 4 July 2020) <https://www.economist.com/finance-and-economics/2020/07/04/trade-finance-stumbles-into-the-digital-era> accessed 22 June 2022