

## ***Interview with a senior manager #2***

- SPEAKER1 00:03 So, we should get a note.
- SPEAKER2 00:08 OK, yeah, that's fine.
- SPEAKER1 00:12 So, I will start so there's these four sections to the to the interview. One is background.
- SPEAKER1 00:16 There's a bit of background to, you know, what your firm does, where it is. The second part is about emerging conduct risks and their implications for sort of human accountability, for the third part, about possibilities for machine-to-machine regulation. And then the fourth part is initiatives to mitigate conduct risks and lessons learned. So typically, the interviews are pitching in it between anything between 45 minutes and an hour, typically the ones I've done so far. Yeah, OK. So, first of all, what is your investment firms, sector or subsector?
- SPEAKER2 00:59 So, my firm is working in the financial services sector offering contracts for difference for a wide variety of clients in the global business. It's not only retail and then professional clients, but also some institutional clients.
- SPEAKER1 01:19 And when you say contract for the difference is that purely CFD on securities or you are also offering foreign exchange like rolling spot type products of that.
- SPEAKER2 01:29 Currently we only offering CFD on securities.
- SPEAKER1 01:34 OK, and what is your role in in the firm?
- SPEAKER2 01:39 I'm one of the directors and the director of risk for the German subsidiary of the global firm,
- SPEAKER1 01:48 and how would you describe the firm's goals?
- SPEAKER2 01:54 I think we do have three goals. One is, um, to give the clients the best possibility to trade in financial markets, to expand the technical leadership of the company. And the third one is to increase the track on the institutional space offering.
- SPEAKER1 02:19 And to your knowledge, does your firm or your firm's clients deploy any algorithms in the trading activities that are undertaken?
- SPEAKER2 02:34 Speaking firstly of the clients, our trading platform does not currently offer an API platform for the clients. For first of all, we did take a step back. When you speak of algorithms, that's my definition of my understanding of algorithm is and that an algorithm exists once we have a trade between two counter parties and one, at least one of them is not acting in personal

bounds. Have the machine answering or sending the information for the trade.

SPEAKER1 03:12 Yeah, so to said that there's been various interpretations of benefit to both in the UK and Germany, and I mean, you might have come across, I think actually Germany was one of the first countries in the world to actually look to introduce regulation of algorithmic trading. And they had entered they had this Hochfrequenzhandelsgesetz, which they think was about 2014, 2015 and the MiFID to really build on the German idea, actually, because there was nothing there before. And ESMA before that they had some guidelines, but they weren't law, you know, sort of. Do you want to follow these or not? Maybe it's indicative of good systems of controls, but no hard and fast rules. And when misfits who came in broadly, what we're seeing is that the regulators have made a distinction between two types of algorithms. So, you have very simple execution enhancement algorithms. So, these might be built into a point and click platform. And the person who's using it simply sets the algorithm to do certain things. So, it could be two orders to a particular place. It could be to do arbitrage. It could be to put a stop loss on that. Stop loss is technically an algorithm under the under the rules, but it's very, very basic stuff like this. And then on the other end of the scale, you have the sort of Blackbox, really highly sophisticated investment decision algorithms which embed things like machine learning, but possible artificial intelligence solutions. And they are a lot more independently functioning.

SPEAKER2 05:03 Yes, exactly.

SPEAKER1 05:04 So, yeah.

SPEAKER1 05:05 So, they they're the two when I say about algorithms and it really can be from any anywhere on that scale, basic to the most sophisticated.

SPEAKER2 05:14 OK, so then I think we can for at least for us, I think we can stick to the two, the basic ones our clients are able to input stop loss limits and even guaranteed stop losses that they can use. And they also can use some expert advisors from the inmate to trade a full platform, which they can trade with us as well. And let me speak of the company itself. So, we are using that to then to ensure that we do use two algorithms. One is each on the execution of the client and algorithm for us to be using that there. And we do have some further algorithms regarding the liquidation of positions once certain thresholds are breached. Um, regarding the margin usage.

SPEAKER1 06:03 OK, so what

SPEAKER1 06:05 are the strategies that are employed? I mean, would you say they're not really strategic. It's more sort of.

SPEAKER2 06:13 Exactly, yeah. Okay. It's more, it's more tactical to serve a little their client needs and be regulatory requirements coming from the BAFIN on the ESMA.

SPEAKER1 06:26 do you have any around the algorithms

SPEAKER1 06:30 or the automatic automated functionality that you do have? Are they functions which you sort of take metadata for as an example? Are you just taking those out of the box, or do you have a sort of design and sort of calibration process? So, you have some guys that maybe look at sort of maybe specifically tailoring that to your to how your business operates.

SPEAKER2 06:58 That's really just out of the box.

SPEAKER1 07:00 Okay. Okay.

SPEAKER2 07:03 And then just maybe we've got to set the stage for that as well. Speak of activities of the company, of course, use some hedging algorithms going to the market run. Internal thresholds are reached as well. OK, and these are probably about parametrized by our quants that suits the strategic goals of the company best

SPEAKER1 07:33 And those parameterizations, those quants, do they have to go for a process to set those parameters or is it just is it sort of left to their judgment

SPEAKER2 07:44 That's I can't answer that question properly, Alex, because I just I don't know it, and I think that there's this governance around that and I tend to believe that also approval processes, but I can't confirm 100 percent.

SPEAKER1 08:05 OK, and what is your understanding of conduct? Risk?

SPEAKER2 08:15 I mean, I have personally I have difficulties in the definition of algorithms often and are taking and when you speak of that's what you were calling that basic algo. So, for me and on execution from a client, that's not an algorithm for me. The algorithm really starts when they have it is more and more sophisticated algos that have machine learning and then to be trained by themselves. Um, so the main risk for me is really coming from that, that companies have dedicated budgets and then using algorithms to increase their profit and loss. Uh, firms

SPEAKER1 09:03 in the U.K., we have this big initiative from the FCA around this idea of conduct risk as a new form of risk. So, you know, you've got a traditional market risk credit risk or these types of things. And in the last since the financial crisis, the FCA has been quite high on conduct risk. And what they are sort of getting out there is they're focusing on the behaviour of individuals and how, you know, individuals' biases. Perhaps they're the sort of emotions that are involved in trading shape, the way they do things. And recently in the UK, which you don't have in Germany, I don't believe, but in

the UK we do. They've just brought in this thing called the senior management, the certification regime. But your colleagues in London may have been talking about.

- SPEAKER2 09:59 Yeah, as I
- SPEAKER1 10:01 write this quite painful, big sort of piece of legislation. And this whole regime is trying to improve people's conduct and supervision. And again, this regime was conceived. This was just after the financial crisis. And again, the markets have moved even since then. And there is a question mark, I suppose, as to if markets are becoming more and more autonomous of individual human control. How much currency does conduct risk? Conduct risk can mean many different things. It could mean that the bad behaviour of an employee in a basic form, that maybe they have something outside work which is bad for that character or something. So, it could mean that I go onto the market, and I do some market abuse. It could mean that I don't give the client best execution or don't do some form of correct allocation of orders or something like this in Germany. Is there such a concept in the same way as there is in the UK or not? Really.
- SPEAKER2 11:21 I mean, there's of course, that best execution. Framework also exists here , and then you need to you need to treat clients in the most favourable of fair and transparent ways and of course , they are also growing concerns of market abuse and all that that may come to we called it in Germany , though , if minimum requirements and compliance requirements on them doing trading well may risk . Um. I don't know if it's if that is really something that is....
- SPEAKER1 12:12 But it's not a dedicated initiative kind of thing, it's kind of a collection of different things.
- SPEAKER2 12:16 Yeah, right. I think that that's the framework stemming from the from the Securities Trading Act and then the regulations. Well, that's not really focused on conduct risk. Having that conduct risk is another that they are that it is part of. That's different frameworks.
- SPEAKER1 12:37 What is your perception of conduct risks that may apply to the use of algorithms in your sector?
- SPEAKER2 12:48 I mean, I have difficulties to differentiate what a conduct risk is on where we conduct ends and where fraud starts in. Because for me, if I'm if I'm an individual, I maybe I have a gambling issue or I know information, let's say, from some insider knowledge. Yeah. And if I'm using that in my position, I would not call that a risk. I would rather call it intensely fraud because I'm doing and doing harm to the company, to the market by intention. Right of. For me, it's more really to get to prevention or to have some controls in

place that prevents fraud and really calling it fraud and not calling conduct risk and.

- SPEAKER1 13:56 And this morning, sorry.
- SPEAKER2 14:00 And it's just very, very quickly that for me, that that conduct risk is coming from circumventing laws or regulations, right? Or is understanding incorrect?
- SPEAKER1 14:14 No, no, I mean, there's no this is a thing about conduct risk is that in the U.K. as an example, it's a very fluid concept. And what the regulator said is it's up to the firms to define what you think is conduct risk in your phone.
- SPEAKER2 14:27 Yeah, I something....
- SPEAKER1 14:28 OK, yeah. And so, there are a lot of firms have sort of been quite confused in grappling with this and trying to work out what this actually means. Exactly. And so, you wouldn't be the only one to say, well actually, you know, where does this really where do conduct risk and fraud and or where does fraud start and conduct risk? And yeah, you know, the answer is it's probably there's probably an overlap I think is the way the regulator sees it.
- SPEAKER2 15:00 Hmm.
- SPEAKER1 15:01 And you know, what is interesting for me is that the regulator has seen conduct risk very much for human eyes and. You know, my feeling has been in certain of the research that I've been doing, especially in relation to the equities markets, for example, um, something like 93 percent of the order flow in US equities markets, I read was reportedly driven by automation of some description. And so, you know, I begin to question, well, OK, does conduct risk. As a human concept, really work. Yes. When you when you have increasingly intelligence, algorithmic behaviours, and how much can the people with the firm and the management and the individuals who may be designing the algorithms, how much can they be held responsible if they know if they've taken reasonable steps?
- SPEAKER2 16:06 Exactly. So, and really taking as granted that you have a dedicated framework in place, processes in place, that that you control your automation, you have a twostep approach on implementing them and you have a kind of back testing. So, I really, I find it really hard to claim that the conduct was from management persons or maybe even from one dedicated develop opening up the algorithm. Because if you have a proper legal framework, you have at least two persons looking on it and you have a dedicated authority that approves the launch or change of the algorithm for the conduct risk for me. And automation is very, very limited. But of course, if you have a criminal intent and you may find ways to do it, but then it's not conduct, it's more a criminal offense.

SPEAKER1 17:06 So, what I mean, because I've seen examples, for example, in the FX space and the sort of retail servicing FX space where somebody has you know, they've created an algorithm which they think is going to help them get tighter pricing or something. And this algorithm has malfunctions and has sent a lot of erroneous orders to the market. And you see in the U.K., and this is where

SPEAKER1 17:39 I think in Germany, in the UK, there's quite interesting differences because we are a common law country and Germany is a civil law country. And so, Germany has much more emphasis on harder rules is how my perception of it is.

SPEAKER1 17:54 And I think that there is value, whereas

SPEAKER1 17:57 Great Britain is more, or England at least is more evolutionary. And there's a little bit of an element of we don't have the hard rule was we have the principles. And is your behaviour really within these principles? So if you take this example of the algorithm , which now functions and sends loads of orders which are erroneous and cause a problem in the market , our regulator might come and say , well , this could be poor conduct because you didn't exercise skill , care and due diligence in how you monitored this algorithm's behaviour or something like this . It doesn't necessarily have to be that they want to do a market abuse, but then it could also be no integrity that they actually want to do what you say is like a fraud event or something.

SPEAKER1 18:46 So, I mean, in in in Germany, do you have this kind of approach or is it more sort of.

SPEAKER2 18:55 I think the more the prosecutors. One more thing. Look the company and say, I don't know, 10000 orders to the market, 200 of them erroneously sent. And these were because of, um, of incorrect frameworks. And therefore, it's a breach and therefore that there's a fine attached to the issue, to them, to the company.

SPEAKER1 19:20 OK, so it's not really a personal thing so much.

SPEAKER2 19:24 Yes, exactly. I mean, the regulators were the first go to the company and then the company itself might get some demand on damage to the client because the thought of the colleague, if he maybe did not observe internal processes, not know about.

SPEAKER1 19:46 OK, and what was your perception on I mean, you say your customers are using 24 and there's no API. I mean, what's your perception in the sense of the likely levels of sort of self-calibration in the sort of near, medium and longer term? So, you know, maybe clients or firms building algorithms in your space, which can take in a lot of data and analyse that data. It could be trading data, but could also be things like Twitter, messages from Donald

Trump or something. And then and then maybe deciding to trade differently. Or do you think. Is that being that do you see that being much of that sort or do you think it's still going to be a very human dominated sector in that in the future?

SPEAKER2 20:43 That's a very good question, I think. I truly think that it's at least a large percentage will be still human driven, but they will be, of course, a portion of the business that will develop in the space you're describing. And you take your own, let's say, your own coast, taking Twitter into account or just maybe even local development's local news that can initiate orders. However, as always, to counter parties are involved. And especially when I think of my company, we always have, um. Controls in place that that's really control or manage the decline of the flow to see if that can be true or if science is just a tool too big for the for and normal retail client, or if the amount of orders in a certain time frame and in a certain time span is too big, then I think we will at least have a look on the trading behaviour of that client. Uh.

SPEAKER1 22:05 And I mean, how do you rate the knowledge of, you know, your sort of organization fronts to back, you know, from sort of senior management, sort of maybe the sales and the support staff in terms of their knowledge of algorithms and the potential. Sort of conduct issues of fraud issues or however ethical issues they might pose, do you think that, you know, that's something which is improving or is it?

SPEAKER2 22:34 I think that that is definitely improving. When I think of the especially the London based colleagues, when I think of the of the German entity, I think there's hardly any knowledge. On automation currently.

SPEAKER1 22:54 And what do you think is the sort of reason for the difference between the two jurisdictions, the two offices?

SPEAKER2 23:04 The main thing is that that the most important departments from the trading quantitative analysis and compliance are located and even bizarre is located in London. Um. And they are and especially the dealing desk, and they are much more into that topic than any colleague here in Frankfurt. So, we currently we really have to traders employed in Frankfurt and already for this process. And when we think of the risk department, I think there are two new journalists recently. The I think they don't have any knowledge about the algorithm and regulation. Currently the one from the observer team, probably not. So, from the right side, maybe I am the only one being at least a bit familiar with the regulation. And, um. And the two traders should have some knowledge as well on this, but on the other side of the aisle, the other 50 percent of the stuff really front office when we speak of sales, client service, marketing, I think they have no knowledge of automation at all.

- SPEAKER1 24:27 And in your company, how would they maybe develop knowledge or stay abreast of developments in this area? I mean, because if you look at some of the big banks, what they do is they've got this there's a British Bankers Association. They've got this portal where banks can contribute operational risk incidents on a sort of no name's basis. So, the idea is this, that your organization may not have seen a risk event, but if you share the information on this portal for these different incidents and some of them are conduct related incidents, the idea is, is that you can use that as a form of intelligence and maybe improve your own systems and controls. And there's a bit of an early warning system. Do you have anything similar to this and yours or SEC subsector or not? Really. Is it more sort of siloed each company sort of looking after themselves?
- SPEAKER2 25:35 I think you're saying that that's the sea and then there's a British company and that they can go into the Bankers Association's portal and have a look what is reported there?
- SPEAKER1 25:51 I think the so there's different sources from my knowledge of operational risk. I did some operational risk studies and there are a number of different sources, I think one. But I think to be the BBA, the British Bankers Association, you have to be a bank credit institution. OK, but it's quite interesting because actually I see in different sectors slightly different approaches. So, the banks have got this approach. And then in the futures industry, there's a body, for example, like the Futures Industry Association, and their approach is slightly different. So, what they tend to have been like working groups with I don't know if you've heard of Chatham House rules where you have like say anything you say is not attributed in the meeting, but you're there in person and you can discuss maybe topics, issues, problems that have arisen. And then people go back to their individual firms. They go back and say, OK, maybe, you know, we heard from this other company here that they've put in place these systems of controls here. And maybe this is something we want to look at doing as well, because none of this stuff is competitive. It's not like, you know, they're discussing. Yeah, surcharging, none of that stuff. Obviously, they can't talk about this. But I mean, is there anything like that in the CFD sector?
- SPEAKER2 27:11 To be honest, I mean, I haven't heard of anything that in the UK. I'm just I'm just maybe two, two away from that in London. Um, I do know that that I think that working groups with the German associations as well, you have the, um, the Banking Association, which is of course the biggest body in the financial sector in Germany. But you also have an association for the certificate's business and also for the CFTC business or for foreign banks in Germany. And they are discussing that in that kind of, um, working groups internally or they even discuss the outcomes of that of that working groups with the regulator. Right. Get some attention on this

SPEAKER1 28:01 is we have also here in the UK, we have quite a strong, informal network of people. So if something happens, they will, you know, maybe share it with another broker and they try to get insights on maybe how they have a broker handle the situation or something like this.

SPEAKER2 28:25 I think the main aim for this is to get some feedback from the regulators because the regulators don't talk individually to the to the firms, but usually to only talk via the associations. But if you have questions from one company to the session, then maybe it's not that the working group and asked different come to have the same experiences and the same issues needing some more information. And then the association goes to the two BaFin / Bundesbank. And I said, look, our members have an issue with this and that's can you give some guidance that we can have some informational controls with which might, let's say, please, the regulator and to control the issues with certain regulation?

SPEAKER1 29:14 Interesting. Interesting. I think our approach is quite different in the UK because I think the regulators here, they do tend to talk sometimes quite a lot here.

SPEAKER2 29:24 Um, OK. But they only talk to firms when they have audits. That's the only thing when they demand questions or information from the firms

SPEAKER1 29:36 in Germany or

SPEAKER2 29:37 in Germany. Right. Yeah.

SPEAKER1 29:38 Right. Okay. Yeah. Yeah. That that is different to here. There's quite a lot of two-way information sharing. Quite a lot. And quite often you would go to the regulator and tell them about something quite informally, quite sometimes they say informally, but you wouldn't necessarily put in a formal notification every incident, sometimes contact by phone or an email or something like this. So, yeah, OK, so it's interesting. Are you aware of any sort of conduct fraud type or as you as you describe it, incidents involving sort of automation in your firm or subsector in the last few years?

SPEAKER2 30:22 I'm so I can't recall anything from my firm if there's something happening just in the in the London office. I'm most probably not involved in this, but I can tell you from that when we speak of automation in the sector. And maybe I'm not well-prepared enough, but I'm not I can't think of anything that pops into my mind immediately.

SPEAKER1 30:56 OK, um, are you aware of any plans maybe in your own business or in your sector, perhaps to look to reduce overhead for automation so, you know, fewer human beings, more automation. More bottom-line revenue,

SPEAKER2 31:16 I mean, what you can see is that if you look back in maybe in the in the mid-90s, my company would have had much more illustrator's sitting on the

desk and then executing hedge trades. Yeah, there has there has already been a shift to automation that that we do have the quantitative and that is sitting at the trading desks and looking at the at the algorithms doing the hedge trades. I think that there has already been a shift from, let's say, pure human trading into automated trading, but I cannot imagine that that I never say never again, but that we will completely get rid of our traders and just let me have machines sitting there doing the decisions. I think there will always be a minimum of human intervention or even oversight over the machines.

SPEAKER1 32:17 Do you think that that sort of migration that you've described from your own office where more human traders were there to maybe an office where there are fewer now, in your view, does that increase or reduce? This type of risk.

SPEAKER2 32:40 Personally, I don't see an increase of risk because the framework around it that we have set for our principle and putting code life and having controls in place, that that should mitigate that risk.

SPEAKER1 33:00 Some firms or, you know, maybe it's been spoken in some sort of working groups and stuff that maybe at one stage in the future we have. Almost machine to machine sort of regulation, because things are moving so quickly that the ability of the human eye to pick anything is very difficult. Obviously, it's different in a market trading environment, trading, trying to do it to your type of environment. Is that something that you might see in your environment, or do you think it's not really going to be possible just because of the way it's so decentralized?

SPEAKER2 33:43 Yes, exactly. So, I completely just get your description from Lebanon when I'm thinking of the trading desks and that the big banks that that with all these, that will be increased machine to machine trading. Um, but from my in my company, I think we're offering that service to retail and clients. And I don't see that that the majority of them will just be on machines. I think the way they want to have the experience that they can trade by themselves, and they want to execute them, these trades by themselves, maybe they get some eight. From, let's say, applications for the control will almost be with them,

SPEAKER1 34:36 In your firm, do you give your retail clients are submitting the orders, do you give them any sort of briefing or training on what they can and can't do from a sort of ethical perspective in terms of , you know , the you know, for example , with CFD , one of the biggest issues is insider trading

SPEAKER1 34:59 and

SPEAKER1 35:00 communicate with your clients about, OK, just so you're aware, you know, these types of laws apply in Germany, and you can't....?

SPEAKER2 35:11 I think these of course, these are these are contained in the terms of business we give the clients when they open an account. But when you when you speak of, let's say, have a conversation on ethical. Topics of their trading, I don't see that yet. OK, I will always be if and we don't talk to the clients' money, if a client is doing some insider trading and our civilian controls picking that up, that will result in a report to the regulator and not to the client himself.

SPEAKER1 35:55 Yes, yes, but you don't sort of give any sort of like specific training or guidance. Not really.

SPEAKER2 36:05 At least I'm not aware of that. And when I'm listening to the guys, talking to the clients and talking more about the future of the platform, what they can achieve using tools within the platform to increase their oversight, to do to increase their money management and get more experience. Yeah, it's not it's not on the conduct side.

SPEAKER1 36:31 You mentioned about surveillance. So post-paid. So, I mean, I assume it's not real time at source is it not T plus one type of surveillance is it.

SPEAKER2 36:41 Yeah, I think so, yes.

SPEAKER1 36:43 And do you use like a specific monitoring platform for that or is it is it something that you've designed in-house?

SPEAKER2 36:51 I don't know.

SPEAKER1 36:53 And how would you how would you rate the ability of humans to detect potential? Trading issues coming from maybe alerts generated from that system. From energy to things, you think human beings are well equipped to sort of spot potentially malicious activity in the trading, or do you think that that's something which is better done by a machine?

SPEAKER2 37:28 I think you are not able to do it without a machine because of the pure amount of information that there needs to be assessed. But I think the machine itself, all alone, is not able to pick everything up correctly because you need some it's a human experience on certain patterns that that the machine itself will give them some indication that that is something that looks out or that that looks like this pattern. But then you need to have a human assessment. That's really the case.

SPEAKER1 38:08 And how about the BaFIN? I mean, the regulator, because obviously all European companies have to do this transaction reporting right on these products and definitely start to identify potentially abusive behaviour. How would you rate the ability to spot this stuff independently of the third party?

SPEAKER2 38:28 That's a good question as well. I tend to believe that regulators employ really experienced people to detect that by themselves. But when I think of

the pure amount of information on trade reporting is done by our firm and that's done by every firm on the continent. I have difficulties to believe that that the regulators are able to detect that because of the sheer mass of information. So, we do we do submit trade reporting for EMEA, we submit trade reporting for MiFID, that's almost a duplicate of information. There is some more information in this and then more in-depth reporting. But if I if I had to do it properly, I wouldn't have to two regimes for the submission of the trade report that they've one and have the information that is required in there.

SPEAKER1 39:35 But, yeah, it's almost, I think, and what I've seen in the U.K. when I see. Certainly, the types of cases are right from FCA and stuff, a lot of it has been a lot of the fines have actually been issued around the process of reporting, as always, almost become about the process and not about the outcome. I have we is this actually delivering us useful information where we can detect market abuse and how many people have, we have we prosecuted as a result of finding stuff for this transaction reporting? You tend to see bigger enforcement actions on the on the firms. Yeah. So, um. Do you think firms in the CFD sector in terms of maybe trying to sort of innovate, to capture new forms of trading? Do you think they're likely to look for in-house solutions where they actually try to build things themselves? Or do you think that they are more likely to look for sort of vendor led solutions to things like.

SPEAKER2 40:49 Sorry, I can't answer that that question properly, but my approach would be to build an in-house solution because I can control, I can raise the tool from the behaviour of my clients. But better than using a vendor solution, because the vendor solution will always be that that one solution fits a lot of clients. Yeah, but for the clients themselves, might be completely different, have different clients. And even if you think of CFT clients, I truly believe that when you think of the bigger clients that you have with, I don't know if you have seen [REDACTED] and they have different clients to demand from [REDACTED]. If these two groups of firms were the same business, solution the that the same, the outcome will be identical.

SPEAKER1 41:59 You can't have a one size fits all type.

SPEAKER2 42:03 Yes, exactly. And therefore, personally, I would be the in-house solution. Hmm. But I don't know if the cost rewards will be as good as the management is looking at it.

SPEAKER1 42:18 It is interesting because in the futures markets, this is where you see quite a big difference, and because they're trading more sort of standardized, fungible products, there's definitely more of a preference, I think, to buying a solution from a vendor. Yeah, yeah. And they like the safety and numbers. They like to think, well, we know if all the other firms are using the same

vendor and then if the regulator knocks on my door, they can't say that I'm any worse than the other firm than the others.

- SPEAKER2 42:50 Yeah, I agree to that. But with that futures business, you always have one side. Is the CCP made you do...
- SPEAKER1 42:59 Yes. If you will, if you're a clearing member. But you could do indirect clearing so you could be a smaller broker face directly. I'm one of the things which I mean, I guess you've got the same in Germany we've got here in the UK because I think it's coming from the Capital Requirements Directive. There's been a big focus on remuneration, remuneration of brokers, of staff. And the big part of it of remuneration is obviously trying to sort of guide firms to take sensible risk decisions. So, yes, you know, be it to punish somebody because they've had bad conduct or maybe to incentivize them to do good conduct and reward them for something. When you have this sort of vendor, when you have sort of more machine led trading, do you see any way to reward or punish a machine for your behaviour? And I say this because in the UK in the early 90s, we had this funny thing we had done outside the something called the Dangerous Dogs Act. Right. And we had a big moral panic in the UK in the early 90s with owners not being responsible with their dogs and the dog in these Dangerous Dogs Act, the dog could be punished, i.e. the dog could be put down or he basically killed for it if it attacked a child or something. But equally, owner could also be fined or put in prison for the bad behaviour as well. I sort of created a two tier of agency. So, you got the owner and then you've got the agent in the dock. And what I've seen with some articles I've read is the same sort of thing with algorithms in the markets and that, you know, the owner, the operator. Has a degree of responsibility, but then also the algorithm itself potentially could be viewed off as a as an independent agent and the European Union has actually been looking at and considering giving assigning agency to various degrees of algorithms and saying, actually, these are almost like natural persons. They have a mind of their own. And there's been some debate about that and a lot of disagreements. Do you think there's any in the financial sector? Do you think that could work or not? Is it just too farfetched?
- SPEAKER2 45:43 Oh, that's an interesting question. Again, I mean, if you have a pure code that it's executed without any machine learning. And I believe that that shouldn't be possible. But what if you have really machine learning, if you have a KI and then the code is developing by itself?
- SPEAKER1 46:27 I mean, could you have an example, I mean, have you heard of the Kill switch?
- SPEAKER2 46:32 Yes, sure.

SPEAKER1 46:33 So, the kill switch in the Markets in Financial Instrument Regulation, where there's a method to, you know, the algorithms behaving strange, so you switch it off basically.

SPEAKER2 46:43 Yeah, but that's done by a human being and then

SPEAKER1 46:46 that's done by a human being. But could you have a situation? I mean, what if you had the regulators say, OK, well, this right this hour of is in real time. It's because markets are so interconnected, it's behaving so strangely and it's going off in its own mind that actually we're going to terminate this algorithm in real time with no human intervention. I mean, let me get that present more dangers for the market or is that actually a realistic prospect? Because, you know, if markets are I don't know if you remember capital when they collapsed. They had a malfunctioning algorithm, which they could lose nine hundred million or something in the space of about five minutes or something. Yeah, and then they went out of business and obviously catastrophic for lots of people, lots of people saving for their investments, everything. And maybe this idea that if the regulator in real time can intervene and switch something off but it could create other risks, right?

SPEAKER2 47:55 Yes, for sure. I mean, if you have a machine can controlling itself or another machine and maybe it's maybe it's too naive, but then I really think out of the Terminator movies.

SPEAKER1 48:09 Yeah.

SPEAKER2 48:10 They can take over control of some of the company's market itself.

SPEAKER1 48:18 There's actually an article I read about spontaneous intelligence sounds quite strange, which is a step removed from artificial intelligence where you have so many computer networks attached, they're all linked together, interlinked. And actually, it may well be that intelligence is able to form itself on the just on the Internet, independent of any human actor. Which becomes quite philosopher of philosophical.

SPEAKER2 48:51 Yeah, absolutely, absolutely,

SPEAKER1 48:54 but that there's a suggestion in this article that I read that that that nation states and, you know, regulators and all sorts of actors, you know, economic actors , individuals , all sorts of actors may have to think about what they do in response to spontaneous intelligence , which is perhaps not attributable to any one person or group of persons .

SPEAKER2 49:26 That certainly I mean, you are asking that. If the remuneration can be any puts or bonuses.... can be attributed to the machines in. I tend to think the duration is always something that is that is due to humans, and they should be responsible for that. Yeah, so. And still, the question is, if you have a

senior management of a big bank and the bank is running an algorithm. Can then be punished if a developer is coding the automation incorrectly. Yeah. And then it comes to, and it comes back to compliance.

SPEAKER1 50:34 But in human beings, we always like to be felt like we're ultimately in control, right? And I don't know if he's right. I don't know if you've heard of him. Have you heard of the book, the two books on Homo Deus from, Yuval Noah Harari on this Homo Sapiens. Have you seen these two books? These are quite popular. If you go to an airport lounge, you know, they're usually in the top 20 cities, OK?

SPEAKER2 51:01 No, I haven't. Maybe I've read the German versions of it.

SPEAKER1 51:07 Right, right. There's an Israeli an Israeli academic has written these books are extremely interesting books. But what he says is that they the society is very humanistic. And actually where we're heading to is a situation where we might actually be losing control and that it may one day just be there when we don't actually think it's going to be that like at the moment is where we're biased towards thinking that everything's going to be the way it's always been for human beings being the number one intelligent beings on the planet . Right. But he's saying, I actually know what is coming is going to be very different. And, you know, the law, like you said, you know, is designed to punish people and the remuneration code rewards people. But what happens if actually the people are no longer the key actors? And actually, it's the machine that is the key actor? And how does the financial regulation regulate that? Hmm, and how does how does you know where we might one day say , OK, well, what is the point in in a in an artificial actor making money for no particular reason, but then it has a goal and the same way as a driverless car has it go from A to Z. Yeah. Try and get to the fastest, fastest route possible. And that might mean cutting a corner. Which a human being wouldn't do necessarily, because it's just taking in data, it's not taking in emotion.

SPEAKER2 52:55 Exactly.

SPEAKER1 52:57 Um, then I don't know whether this this debate, this kind of debate and thinking is being thought about in Germany as well as in America and the U.K.

SPEAKER2 53:11 I think that there might be this this discussion in Germany as well. But I haven't been involved in the discussions yet. But it's really, it's something really that is really interesting. And there are many, many more saying that that you have a machine controlling the kill switch. Yeah. I think my first intention is to say, as long as the code of that machine controlling Kill switch is controllable by humans, that should be fine, because then we know what mechanics of what logic is used to push the world to trigger the code switch. What if the machine itself has an artificial intelligence as well and

we don't know by when it will be in musicals which are not. That might be a really dangerous.

- SPEAKER1 54:12 So, you wouldn't be here as a sort of MD of a company you wouldn't be comfortable with that?
- SPEAKER2 54:18 I wouldn't be comfortable with that for sure.
- SPEAKER1 54:20 It's a little bit like I mean, some people won't be comfortable with driverless cars, right? I mean, some people just they can't because they can't get their heads around. Putting them, putting their own safety in the in the hands of in this sort of invisible black box almost. Something which is very similar.
- SPEAKER2 54:47 Yeah, in fact, it's absolutely it's not identical, but there are some. Yeah, but I wouldn't have an issue stepping into the backseat of a of an automated car and let me drive him from here to the airport.
- SPEAKER1 55:02 Even low, you know, it could crash. Why would you not have an issue with that?
- SPEAKER2 55:14 Because it is more abstract for me because it's a car using streets. OK, it can crash into a house. Yeah, but the capital market itself, it's not as abstract. Oh, it's. No, it's more abstract and then than in street.
- SPEAKER1 55:35 But it is but what is more predictable, because the capital markets are data driven animals, so, yeah, it's all numbers-to-numbers game and that's why some of these big HFT firms and stuff, you know, the people that work for them actually have quite well, allegedly. This is just what I've researched. But quite a lot of them don't even think of themselves as finance professionals. They see themselves as technology people
- SPEAKER2 56:02 and
- SPEAKER1 56:02 they don't even learn about the financial markets so much. They don't know that much about the fundamentals of the markets and the. The thing I would say is that, OK, you know, you're you know, it's very data driven, but with. But with a car going down street. As far as I know, is that it could it not be more unpredictable because if a child kicks a football into in front of the car and runs in front of the car,
- SPEAKER2 56:31 there
- SPEAKER1 56:32 could I mean, what would be better? The human reaction or the machine reaction?
- SPEAKER2 56:42 You know how much of it is instinct, how much of it is yeah, yeah, in fact, the instinct that, you know, when you when you drive by a backyard with an open gate and you hear maybe even hear some kids screaming, then you're more alert and then the machine can be.

SPEAKER1 56:59 Yeah, know this is this is the thing. And this is what's quite interesting.

SPEAKER2 57:03 It's like it is maybe it's illogical or irrational, but really, I would trust an automated car more than an algo machine trading on the financial markets.

SPEAKER1 57:20 In terms of going.

SPEAKER2 57:24 And I can't tell you why, but maybe I'm more familiar with the car than with algorithms to doing business in milliseconds and creating profits out of that.

SPEAKER1 57:43 In terms of sort of looking at some of these issues, I mean, do you think what would you think are preferable industry led or do you think it should be more sort of top down, sort of led by legislators and regulators and things like that, or how do you see it?

SPEAKER2 58:06 I don't believe in regulation at all. Because the day they look in the past and said, it's my experience that they don't make any prediction into the future. So, if there is regulation done, then from, let's say, from the bottom or from the business itself. And we have

SPEAKER1 58:43 ethical

SPEAKER2 58:44 ethical guidelines around that I think that that would be the better approach from my perspective.

SPEAKER1 58:59 So much is quite interesting because that's almost quiet. How we call in the U.K. quite Thatcherite, because in the in the early 90s, all the way before the Barings disaster, um, the U.K. structure was all about self-regulation. And so. Yeah, yeah. Can you hear me?

SPEAKER2 59:22 No.

SPEAKER1 59:25 Can you hear me now? Hello?

SPEAKER1 59:30 I'm not sure what's happening. Uh.

SPEAKER2 59:42 You can hear me,

SPEAKER1 59:44 I can hear you; can you hear me?

SPEAKER2 59:48 I. No, no, I can hear I'm on my headphones anymore. Hold on for a second, maybe I'll try this this way. Can you say something?

SPEAKER1 01:00:04 Yeah, I can hear you clear, very clear.

SPEAKER2 01:00:09 It's really strange. I can only hear why on my mobile. OK, but very, very low volume.

SPEAKER1 01:00:18 OK, strange. I mean, we're nearly at the end anyway. There's maybe two,

SPEAKER1 01:00:26 two or three questions left.

SPEAKER2 01:00:28 OK, we'll just try to do this this way.

SPEAKER1 01:00:32 OK, so how would you rate the effectiveness of the regulatory approach? Maybe four in Germany, two to two that in other jurisdictions when it comes to these topics.

SPEAKER2 01:00:58 I believe that the effect from the regulation is not too big. It gives it gives a framework for the companies, but I think the most important thing is that the companies themselves, they have an interest that their algorithms working in the most efficient way.

SPEAKER1 01:01:28 So really, that is the firms are the biggest motivator.

SPEAKER1 01:01:32 Yes, yeah, and

SPEAKER1 01:01:37 do you think there's any lessons that can be learned from incidents outside the financial industry but might be from another industry? So, for example, I had somebody on a on another interview, they were talking about the for example, that the airline industry and the fact that a lot of airlines are self-piloted and things like this now that they've got a lot of sorts of autopilot and things. And they were sort of they went through some of the things that could be interesting, that could be learned from there. Are you aware of anything that could be of interest to the financial industry from other industries?

SPEAKER1 01:02:20 [Breath]

SPEAKER2 01:02:34 Not from the top of my head, Alex.

SPEAKER1 01:02:38 OK, that's fine. Finally, what would

SPEAKER1 01:02:44 be your principal concerns for the future?

SPEAKER2 01:02:55 My principal concern is that that. The deregulation will be increasing and therefore will be an extensive burden to the companies that prevents them from offering the service they're currently doing, because the regulator from mine, from my perspective, they're just trying to regulate as much as possible. And I think one big step from it is in Germany was that. When we speak of, let's say, consumer protection that in the past, or maybe until four or five years ago, consumer protection was to protect the consumer from companies treating them in an incorrect way. Yeah, and there was a switch in the perception of the regulator that they now try to prevent the customer from him or herself. So, they are they are trying. To be to be smart and don't let the customer choose what is right for themselves, and if you transpose that into automation. That they want to regulate the companies running the algorithms in the most possible way without taking into consideration the interests of the companies themselves. If I have an incorrectly working algorithm in my company, I will switch that off by myself because I do see that the algorithm is only creating negative results for me.

I'll switch that off. But I don't need to have a regulator telling me you need to have process ABCDE in place to evaluate if that if that algorithm is profitable or not. But I would. Believe that the regulator and the regulator should listen again, more to all regulate less what they think is right, but let the market choose themselves.

SPEAKER1 01:05:25 OK, but some. Thank you very much for that. That's that concludes the interview, so I'm going to switch off the recording now.

SPEAKER2 01:05:37 Good.