The Internet of Things for Efficient Internal and External Medical Logistics

- Internal Medical Logistics
  - IoT for Asset Management
    - Medical Consumables
    - Location of items throughout hospital
    - Medical Equipment
      - IV Stand (Case Study)
  - Staff Tracking
    - Logging of equipment and consumables use
    - Tracking of location within hospital
      - Wearable RFID Tags
  - PDA's / Tablet Computing
    - Logging of patients and medical records
    - Location sensitive to bring relevant patient information up
  - Smart Cabinets
    - Great Ormond Street Hospital Trial (Omnicell)
    - Guys, King's & St Thomas' Hospital Trials
  - Patient Tracking
    - Logging of equipment use
    - Tracking of location within hospital
      - Wearable RFID Tags
    - Logging of medical consumables use
      - Wearable Bar Codes
      - Scanning of items used and patient bar code to create an instant database
- IoT in Patient Care (Internal / External)
  - Examples
    - Body Sensor Networks (BSN)
      - Monitoring patient conditions outside hospitals
        - Early discharge from hospital care (hospital operation savings)
    - How could this application be used / benefit in inventory management?
- External Medical Logistics
  - Monitoring of waste bins
    - Inform collection authority of demand
  - Last mile
    - Monitoring of vehicles within a given proximity of the hospital for more efficient deliveries
  - Better Yard Management
    - Booking System
- The Internet of Things
  - Internet of People
  - Concept
  - "Blue Sky" Thinking?
- IoT Technologies
  - RFID
    - Issues
      - RFID - supplemented with 2D coding (Paper ref)
      - Implementation costs
      - Contact ECS regarding developments on new low power RFID
      - Refer to papers for further issues
      - Unreliable
  - 2D Coding
    - 1D Bar Codes
    - QR Codes
    - Integration of Smart Phones
- Case Studies
  - Singapore Hospital
  - Hospitals in U.S.
  - Denmark Hospitals