Reflection

Creating my presentation on *Digital Twins in IoT* was a rewarding opportunity to engage with a topic that aligns directly with my future career in cybersecurity and digital forensics. I've always been interested in how virtual systems interact with the physical world, but this research helped me understand just how central digital twins will be in sectors like manufacturing, smart cities, and even healthcare. As more infrastructure becomes dependent on real-time virtual models, I now see how important it is to not only protect these systems from external threats, but also ensure they remain accurate, traceable, and resilient during failure.

The presentation exchange process offered some valuable insights. My classmate **Adhwa** presented on *IoT Verticals*, looking at how technologies are tailored specifically for sectors such as smart cities, industrial IoT, and agriculture. Her breakdown made me realise how important it is to consider the wider IoT ecosystem when analysing specific tools like digital twins. It was particularly useful when she pointed out that my case study on manufacturing could've also been positioned within a smart city context. For instance, I now see how a comparative use case could involve using twins in a smart grid to optimise energy consumption while also managing industrial equipment in real time. Her feedback helped me recognise the flexibility of my topic, and she commented that my presentation felt focused and technically sound, which reassured me that my depth of research was effective.

Another classmate, **Izzy Hobbs,** also covered digital twins, but in an aerospace context. Her presentation focused on how digital replicas are used to simulate engine systems and monitor flight performance. It was fascinating to see the same concept applied in a completely different industry. This comparison made me think more critically about how sector-specific requirements like safety or speed can shape the implementation of IoT tools. Izzy's feedback on my presentation was positive; she particularly liked the visuals and said the slides were "precise and well-structured." She also mentioned that she appreciated the clarity of my explanations.

An area I will continue to work and improve on is integrating comparative sector examples in greater depth and exploring how cybersecurity approaches may need to adapt across domains. The experience taught me how important it is to understand not just the function of digital systems, but their operational context, vulnerabilities, and long-term implications.

Overall, the exchange process helped me grow in both technical awareness and communication. It also reaffirmed my interest in shaping secure, intelligent infrastructures where virtual and physical systems coexist responsibly.

Presentation Exchange Summary:

- Adhwa Al Houti– *IoT Verticals (e.g., Industrial IoT, Smart Cities)*
- Izzy Hobbs – *Digital Twins in Aerospace*