Interview Summary: Participant C

Professional Background

Participant C is the Digital Aviation Director at a large Engineering, Advisory, and Consulting Services, based in London, supporting airports worldwide. The interviewee has 29 years of industry experience, with 23 years focused on aviation. The work includes business development and delivery of digital advisory, design, and management services. Covers special airport systems such as ICT, security, air traffic control, distributed wireless systems, and Smart City integration.

Understanding of Digital Product Passports (DPP)

Is familiar with the concept of DPPs, comparing it to the aviation industry's existing system of hardware passports, where each aircraft part is tracked across its lifecycle. Within airport design and operations, digital product passports are seen as a natural extension of current practices, enhancing data tracking from BIM models into operational phases.

Potential and Impact of DPP in Industry

Participant C sees strong relevance for DPPs in improving structured data handover, sustainability reporting, and lifecycle management at airports. Emphasized the importance of a “single source of truth” for operators to meet increasing demands for transparency, sustainability metrics, and Freedom of Information Act compliance. DPPs could combat "greenwashing" by providing verifiable, structured data throughout the asset lifecycle.

Current Integration Practices and Data Tracking

Described the current practices involving BIM models and AutoCAD environments, with challenges around maintaining consistent, centralized data. Data often leaks into Excel sheets, complicating later integration into asset management systems. Handover to operations typically requires major effort to assimilate fragmented data into a structured system.

Data Formats and Transformation

Data primarily originates from design tools like AutoCAD, supplemented by spreadsheets from suppliers. A significant challenge is the lack of unified data integration into the common data environment during project phases, leading to inefficiencies at operational readiness and transfer (ORAT) stages in airports.

Enterprise Asset Management Systems (EAM/CMMS Usage)

The company where participant C is an employee at, uses an EAM system, and operational airports universally use computerized maintenance management systems (CMMS) to manage complex infrastructures. Without such systems, managing airports serving over 30 million passengers annually would be impractical.

Security and Data Sharing Concerns

The interviewee emphasized stringent security and privacy requirements, especially under GDPR regulations. Sensitive operational and security data must be separated. Technologies like LIDAR are increasingly used to collect anonymized operational data, reducing reliance on sensitive CCTV footage. Aviation faces heavy obligations to securely manage data across operational and security domains.

API and Future Integration Needs

While API use is limited in design phases, operational airports increasingly rely on APIs for external integrations (e.g., taxis, hotels, IoT systems, smart city initiatives). Transitioning from traditional Airport Operational Databases (AODB) to broader data-sharing ecosystems is a growing trend, positioning airports as integral parts of smart cities (aerotropolis models).

Interoperability and Semantic Technologies

Participant C is aware of ontologies and semantic technologies, especially their use in industries like pharmaceuticals and defense. Noted that aviation could learn from these sectors by applying granular data labeling and access rights management to improve interoperability and secure data sharing.

Data Validation and Consistency

Manual data validation and surveys are still heavily relied upon, especially for hidden infrastructure like underground cabling. Sees major potential for structured data and digital tools to replace repetitive manual checks and enable proactive asset management.

Customization and Standardization Challenges

Airport data collection and reporting often lack standardization, leading to inefficient reuse and sustainability planning. The interviewee advocates for improved methods of data structuring to better track assets not only during construction but throughout their operational life, reuse, and end-of-life phases.

Use of QR Codes and Mobile Access

Highlighted the importance of mobile access to asset data, especially for large operational teams. QR codes or mobile apps that direct field personnel to relevant maintenance data can significantly improve efficiency. However, stressed the need for flexibility: users should receive core task data by default but have optional access to broader contextual information if needed.

Implementation Challenges

Key challenges include:

- Maintaining structured, integrated data across design, construction, and operational stages.
- Adapting legacy assets into digital frameworks.

- Securing sensitive data while enabling effective use.
- Overcoming reliance on manual workflows.
- Designing data access models that balance task-specific simplicity with broader system insights.

Opportunities for Feedback Loops

Participant C emphasized opportunities for feedback loops, particularly in ORAT phases and sustainability reporting. A structured DPP system could streamline operational testing (stripes) and enhance training by offering real-time access to reliable asset data.

Outlook and Recommendations

Strongly supports integrating DPPs into airport operations for enhanced lifecycle efficiency, sustainability reporting, regulatory compliance, and operational readiness. The interviewee recommends:

- Capturing structured, reusable data early in the design process.
- Utilizing mobile and API-based technologies for real-time data access.
- Learning from other industries in ontology use and semantic data management.
- Viewing airports and surrounding urban areas as integrated smart city ecosystems.
- Gradually replacing manual data processes with automated, verifiable digital workflows.