



How Air Inform operationally supports the Royal Air Force

Background

RAF Digital supports the Royal Air Force Air Command through the provision of operational and capability analysis. The scope of this support encompasses air missions, people, goods, reconnaissance, surveillance, air transport, refueling and air interdiction.

In such a complex organisation that is at the heart of British Defence, some decisions made can be of national criticality. The RAF must be confident that all relevant information is available without delay to decision makers, at any location, at any time. This required a Digital Twin to be able to view the connected operational landscape and make informed plans reliably and efficiently.

Challenge

Air HQ commands a complex range of mission capabilities and activities, which are dependent upon information delivery across a vast portfolio of information systems and services and required both definition and analysis.

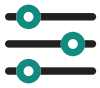
While all relevant intelligence already existed, it was in geographically dispersed and multi-format silos. A lack of any unifying information system meant that, in a typical situation, decision makers would have to telephone SMEs and other personnel in multiple locations to gather information and make significant efforts to assimilate that information into a usable format that could inform decision making.

SMEs, along with most other personnel, move post every two years, meaning the expert knowledge to take this action gets lost.

Solution

At a top level, the requirement was to help RAF Digital drive mission-focused information system transformation for 120 Air domain Mission Vignettes across 25 platforms and 4500 information services.

RAF Digital sought a service that could assemble data in consistent formats from multiple sources, relating to a variety of equipment and services. The solution needed to:



Be interrogatable using many **filters**.



Produce reports both in **tabular** and highly-visual styles to aid understanding.



Be **consistent** in data presentation despite inconsistent input sources.



Maintain **up-to-date** information through an ongoing managed service with CACI to continue to deploy our skilled business analysts.

Our solution was Air Inform, a software tool that enables a user to see how the RAF is organised regarding its information flows, modelled in terms of aircraft and operational capabilities.

It enables RAF decision-makers to understand critical data exchanges required to support a mission, including pre-flight, during flight and post-flight phases, and the systems required to support these exchanges. This ultimately enables decision-makers to easily answer questions such as what systems are required to support a deployment and what operational capability a system underpins, enabling the identification of vulnerabilities and redundancies, and inform replacement programmes.

At the heart of Air Inform is a complex operational architecture, overlaid with a system for intelligence collection and analysis, and visual models to present actionable intelligence from multiple perspectives to end users. Key features include scenario modelling and inter-dependency visualisations by mission as well as platform and information systems (Ground, Air & Space).

Security was also important – the system can be air-gapped, and a version classified as “secret” is available.

Results

Air Inform is now embedded within the organisation and is effectively supporting decision makers, not only saving them time, but improving the quality and speed of their decisions. Several benefits have already been recognised, including:

- Effectively planning for replacement of airframes.
- Enhanced understanding of interdependencies, allowing changes to be made without unexpected gaps in service provision that could affect the RAF's ability to deliver its commitments.
- Financial management is now supported, helping to avoid over (or premature) spend.
- Intelligence is no longer bleeding out as people move on, thus maintaining the integrity of the knowledge base.
- New personnel can now quickly understand their working landscape.
- Security is now protected through more secure data transfers.
- Data architecture now identifies inefficiencies and drives improvements.

“In line with our strategic aim to continually improve efficiency and effectiveness of our investments, this architectural modelling of complex mission capabilities improves understanding which enables more effective future Air Capability planning.”

Sqn Ldr Connor Maguire
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