

Prophesea™

Enhancing information sharing across
the Royal Navy's complex data estate



Introduction

Data integration is central to the Royal Navy achieving its [2030 digital vision](#), and in turn supporting the UK MOD's long-term goal to create a 'digital backbone' across all defence domains – air, sea, land, cyber and space.

To make its vision a reality, the Royal Navy knew it needed to centralise the management of the vast amounts of data essential to supporting and maintaining its complex warships, such as technical manuals, schematics and part numbers. It planned to incorporate a number of platform classes, including Queen Elizabeth aircraft carriers, Type 45 destroyers, Type 31 frigates, new Type 26 frigates and potentially one other.

Through consolidating this aircraft carrier and warship data, the Navy strove to enhance operational support for service personnel at sea. This meant giving decision-makers access to exactly the right information at the right time, helping them to maintain and maximise the availability of critical Defence assets. Greater data ownership and commonality were also key factors. By breaking down silos, the Royal Navy wanted to improve flexibility and ways of working surrounding contractual agreements with its suppliers.

But bringing together two decades worth of disparate, legacy databases was not a simple task. The sheer scale of it required a new data management solution – and the Royal Navy needed a trusted industry partner to help. As BAE Systems Digital Intelligence had previous experience in providing similar Intelligent Complex Asset Management capabilities for an international government, we were well-placed to support.

In close collaboration with the Royal Navy and a number of industry partners, we are delivering a programme designed to connect disparate data sets. The toolset delivered as part of the programme is enabling the data to be effectively centralised, ready to be found and shared by naval decision-makers.

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The Challenge

Over the years, the Royal Navy's data estate had become fragmented, operating multiple databases – each with their own nuances – across its Queen Elizabeth aircraft carrier and warship platforms.

A lack of commonality between the information stored in these databases was causing several challenges for everyone, from service personnel to contracted delivery partners. It meant accessing data and sharing it between different parts of the Navy's ecosystem was a complex and lengthy process.

Crucially, the Royal Navy needed a solution to allow ship build data, vital to supporting in-service operations, to be configured and handed over in a structured and controlled manner.

A Data Integration Platform for its Queen Elizabeth aircraft carrier did exist. This was created by BAE Systems in 2020 as an interim solution to bring information into one place after the consortium that developed the aircrafts closed down. While the DIP was delivering benefits, the ultimate aim was to replace it with a scalable, common Navy-controlled and hosted system, capable of unifying the fragmented data estate across the different platform classes.

Working closely with the Royal Navy, our team provided the domain intelligence and technology to navigate these challenges, guiding the transition to centralisation and ensuring a low risk, futureproofed approach.

The Solution

As part of the programme we provided an Integrated Intelligent Complex Asset Management toolset to help the Royal Navy securely consolidate data and deliver valuable insights to personnel working on the ships. Key components include:

1. **A Product Lifecycle Management tool** to ensure assets are optimised throughout the phases of their lifecycle.
2. **A tool that offers access to documentation across the system**, providing users with the benefit of transparency. Importantly, this prioritises confidentiality by safeguarding information within each document from unauthorised users.

Using this technology, the Navy can create commonality between complex aircraft carrier and warship platforms. In doing so, it can better manage, integrate and optimise performance through the platforms' full lifecycle, ensuring availability of the ships via proactive maintenance, and bring new ones into service.

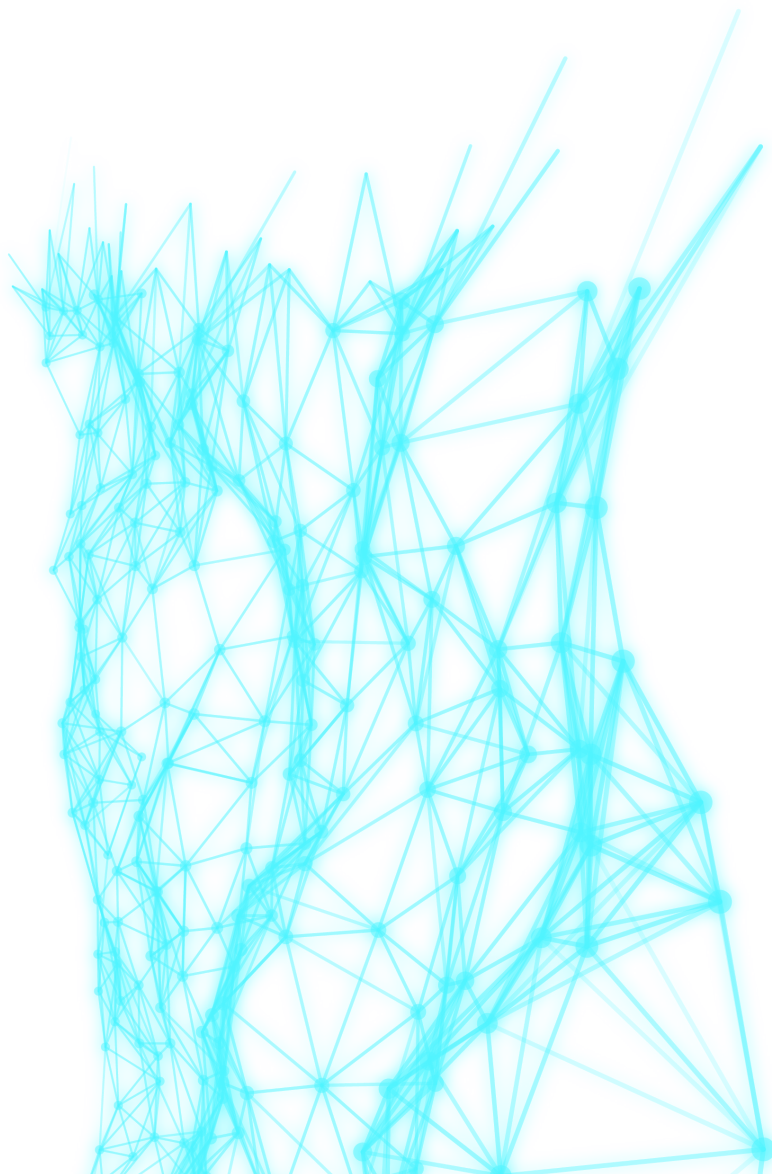
At the same time, the capabilities enable the right documentation to be delivered to the right people in a timely way, so that the Navy maintainer can remain at the heart of the solution. In practice, it enables those shore side to create and deliver thousands of technical data packs directly to Navy maintainers, giving them the ability to make decisions about the fundamental day-to-day running of a ship.

To ensure the lowest possible risk, cost and timeframes, the solution combines commercial off-the-shelf products from Information Builders, Genpact and Eurostep (which is now part of BAE Systems Digital Intelligence). It is also based on the data integration capabilities delivered through the Data Integration Platform, the solution that was in service with the Queen Elizabeth aircraft carrier.

As a first step, we created a scalable UK MOD-owned solution for the aircraft carrier, securely and compliantly transferring data held in the existing platform over to the new one over to the new platform, with a view of rolling it out across the other platforms.

To ensure we are able to support current and future ship classes and platforms within this environment, a collaborative exercise was undertaken to map the Royal Navy's data estate across the Queen Elizabeth aircraft carrier and warship platform classes. This involved figuring out a standard way to detail information in unified data environment while ensuring governance and interoperability.

Finally, as part of creating a sustainable solution we conducted a series of workshops to introduce the team to the system's functionalities, along with providing enduring mentoring support.



The results so far

As a result of our work, the Royal Navy now has its first ever government-owned data platform for the Queen Elizabeth aircraft carrier. Across one week, we have securely and successfully transferred over **1.1 million documents** across multiple systems to the new environment, while simultaneously creating a roadmap for connecting all the Queen Elizabeth aircraft carrier and warship platforms in the near future.

In this way, we are supporting the Royal Navy's digital transformation mission, helping it to become a truly data-driven organisation, optimise the availability and make better decision about its most critical Defence assets, and contribute to the UK's overarching Defence strategy of creating a 'digital backbone' with data.

In an increasingly dynamic and unpredictable world, it is imperative that your complex assets are always mission-ready. To learn more about our Intelligent Complex Asset Management Solutions for Defence organisations, visit: baesystems.com/prophesea



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We are BAE Systems Digital Intelligence

Digital Intelligence is part of BAE Systems and employs over 4,800 digital, cyber and intelligence experts that collect, connect and understand complex data to help protect nations, businesses and citizens around the world from advanced threats. Our services, solutions and products span customers in central government and government enterprises, critical national infrastructure, law enforcement, military, national security, space and telecommunications.

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