



COMPLETE MISSION-PLANNING SOLUTION ENSURES ROYAL AIR FORCE READINESS

UNITED KINGDOM MINISTRY OF DEFENCE

/// CASE STUDY



To enhance the efficiency, speed and accuracy of planning air missions, the Ministry of Defence looked to IT partner EDS, an HP company. EDS developed a family of mission-planning systems that now supports almost all aircraft types in the Royal Air Force fleet.

CLIENT PROFILE

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The Ministry of Defence works to defend the United Kingdom and its interests and strengthen international peace and stability.

Industry: Government

Headquarters: London, England

Business Need Addressed:
Productivity

"AMPA speeds the process that I learned when I first started flying the Tornado by seven to 10 times. That is time I can reinvest in improving my situational awareness during a deployment and ensuring the mission is planned as precisely as possible."

Dean Andrew
Wing Commander/Commanding Officer
31 Squadron
Royal Air Force

The UK wanted to enhance the speed and accuracy of RAF mission planning

With much of the world's armed forces dedicated to restoring peace in the Middle East, global powers such as the United Kingdom are increasingly relying on technology to enhance tactical communication, collaboration and precision - saving lives as a result.

A case in point is the Royal Air Force's (RAF) Tornado GR4, a cutting-edge fighter aircraft capable of flying at supersonic speeds or automatically terrain following at as low as 300 feet. The GR4 is equipped with an integrated global positioning system that ensures long-range, high-speed precision strike capability. Yet, the Tornado GR4 is just one of the RAF's in-service fleet of aircraft, which includes the Harrier GR9 fighter, C-130J, Hercules tactical transport aircraft and the Hawk fighter trainer, among others.

Recognizing that the aircraft themselves are only as effective as the operators and information behind them, the Ministry of Defence (MoD) sought a way to enhance the efficiency, speed and accuracy of planning missions involving these aircraft. The department looked to longtime IT partner EDS for a total mission-planning solution.

EDS designed and delivered a total mission-planning solution

To answer MoD's needs, EDS delivered the Advanced Mission Planning Aid (AMPA), a family of mission-planning systems that supports the majority of the RAF's aircraft fleet and can be easily adapted to new aircraft types as the RAF's fleet grows. AMPA operates as a unified network system, enabling communications and information sharing across all the RAF bases and deployed units. At the core of AMPA is a common mission-planning software solution that provides a foundation for tailoring to the needs of each aircraft type. Whenever a new aircraft is introduced, MoD can simply customize this core solution to the specific features of the aircraft without having to develop an entirely new system, saving the government both time and money. Today, more than 300 AMPA systems are in service across the RAF.

A UNIVERSAL CORE COMPONENT CUTS COSTS

About 80 percent of the AMPA solution is core functionality, which means it is the same across all platforms. EDS then adapts AMPA to meet the specific needs of different aircraft types. For example, with the Tornado aircraft, weapons planning and delivery are crucial functions that have been built onto the core system. Whereas, for the Hercules transport aircraft, EDS customized AMPA to provide detailed payload upload and dispatch calculations to ensure the safe, speedy delivery of cargo.

Services featured

- Applications Development Services
- Global Testing Services
- Network Management Services

"AMPA has provided us with a quantum leap in mission planning. It gives us extra capacity to ensure that we are fully prepared for each and every mission. And the relationship with EDS is not just a relationship with a business; it's actually a partnership where each side learns from the other, ensuring the product is as good as it can be at any stage."

Dean Andrew
Wing Commander/Commanding Officer
31 Squadron
Royal Air Force

Here's how the solution works. Once the mission has been created within AMPA, it is then downloaded to a solid-state data transfer cartridge. The cartridge is loaded into the aircraft's mission computer, enabling the pilot to access mission details directly from the aircraft's display unit.

AMPA has revolutionized the way in which squadrons plan and execute missions, providing air crew with far more capacity and capability than they ever had previously. For instance, an interactive 3D viewer allows pilots to visualize critical elements of the mission right down to the terrain and landscape. "To be able to visually generate the target area and what the situation might look like is a fantastic aid to mission planning and preparation before one enters a particularly tricky sortie [mission]," notes Dean Andrew, Wing Commander/Commanding Officer of 31 Squadron, Royal Air Force.

Today, approximately 120 EDS IT specialists, half of whom are software developers, continually work to enhance the solution, implementing new releases for all of the RAF's platforms every nine months.

AMPA gives pilots greater situational awareness, ensuring safety and success

EDS successfully delivered an unprecedented end-to-end mission-planning solution for the RAF by working to understand the pilot's complex planning processes and then implementing them within a highly interactive IT system, continually seeking user feedback during site visits and progress meetings to refine the process. Adds Wing Commander Andrew, "We have a relationship with EDS where we make changes on paper when we introduce new systems or types of weapons. We draw it out with a pen, and then EDS digitizes it. It's a living, breathing tool, which is developing alongside the airplane and weapons we put on it."

AMPA has dramatically improved planning across the RAF, ensuring that if a pilot needs to be airborne at a moment's notice, the pilot can do so with adequate preparation in mere minutes. What's more, because AMPA is a networked solution, it enables rapid collaborative planning across main or deployed bases. This is particularly valuable when coordinating a multi-aircraft operation.

The RAF maintains a long history of meticulous training to exacting standards. Yet, as challenges in the field - whether in Iraq, Afghanistan or beyond - become increasingly more complex, AMPA provides fighter pilots with up-to-the-minute information and interactive planning tools they need to successfully execute these complicated missions. Pilots now have greater situational awareness when planning a mission and can visualize everything from hostile Surface to Air threats to obstructions in their path - all of which help to empower the MoD's military readiness, and ultimately, its success.

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