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Aquila
Case Study

Enhancing air traffic management for the UK Armed Forces

Working with Aquila Air Traffic Management Services, Cellnex Site Share is helping the UK Ministry of Defence (MOD) transform terminal air traffic management at military airfields across the UK and overseas.

In 2014, Aquila was contracted to deliver a safe and efficient, reliable and sustainable Air Traffic Management system and services to support UK military flying and air deployed operations. Now at initial operating capability, the programme is expected to support the MOD through 2037 and beyond.

The Challenge

Military aircraft must be able to operate safely in all weathers to protect the UK's sovereign airspace, support counter-terrorism efforts and operations and exercises in the UK and abroad. With the MOD's existing air traffic management infrastructure approaching obsolescence, and unable to comply with mandatory international regulations, a new Wide Area Multilateration (WAM) aircraft surveillance technology deployment was needed.

This required considerable infrastructure investment, including the development of a nationwide network of towers to host the new radar equipment.

The Cellnex Solution

Cellnex has delivered the key locations and the comprehensive site management services Aquila needs to host its radar equipment – from Lossiemouth in the North of Scotland to multiple locations throughout England and Wales.

Working closely with Aquila on the design for siting antennas and dishes at each of the MOD sites across the UK, the Site Share project management team ensured the challenging demands for communication with aircraft in the skies were addressed. At each site, Cellnex managed the civil engineering work, connected the power supply and undertook the rigging to achieve a safe and secure equipment installation. Today, over 70 sites have been deployed by Cellnex.

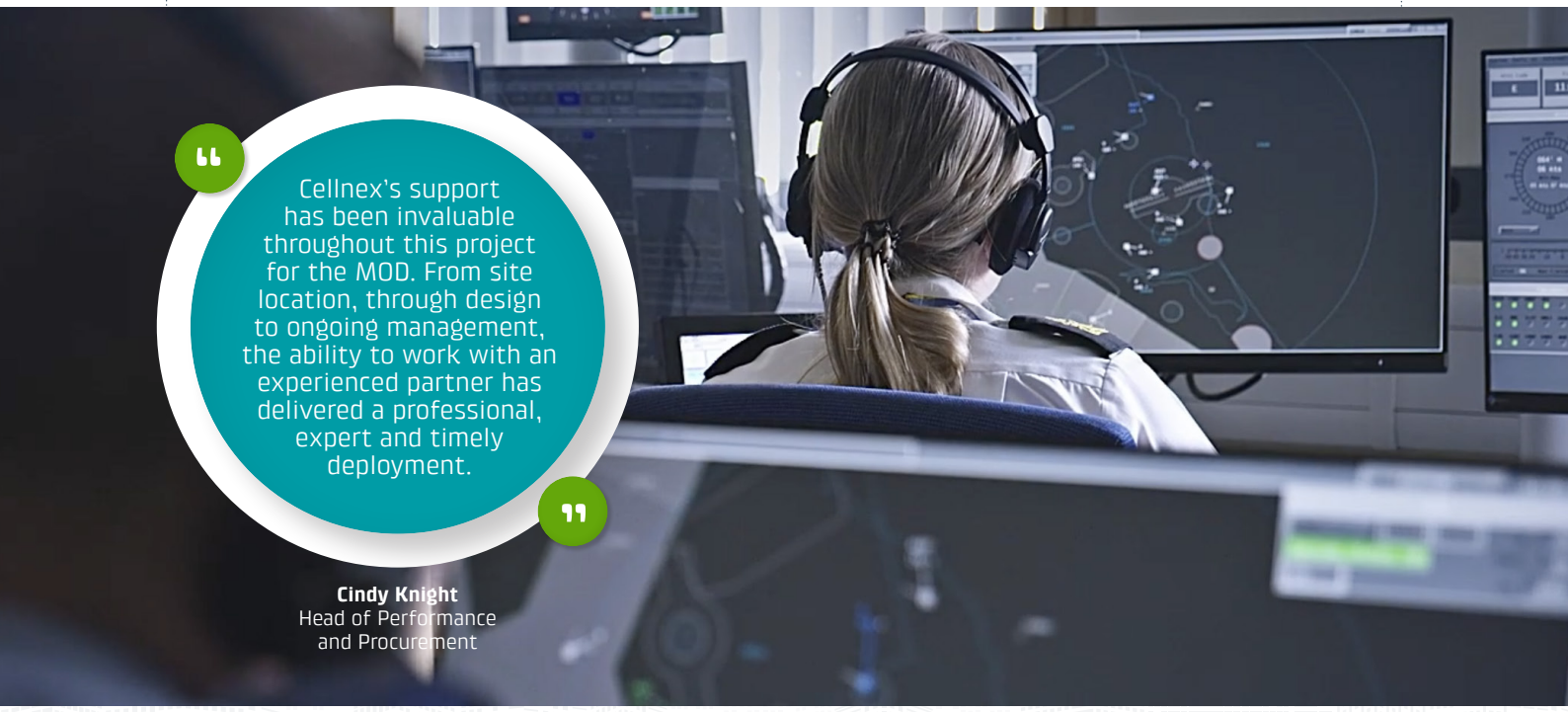
The Results

With the new radar system operational, the MOD has a state-of-the-art air traffic management capability across its airfields and air weapon ranges – assuring compliance with legal requirements and allowing aircraft to operate in all weathers to protect the UK's sovereign airspace.

How WAM Works

The radar solution uses Wide Area Multilateration (WAM), an aircraft surveillance technology where several ground-receiving stations listen to signals transmitted from an aircraft to accurately track its location. The aircraft's position is transmitted through a new Air Traffic Control automation system on screens for air traffic controllers.

The data collected from the aircraft transmissions is relayed through a Wide Area Network of microwave dishes to the system where the aircraft's location is mathematically calculated. This enables air traffic controllers to ensure aircraft separation so that all flights are safely and efficiently managed and sequenced for take-off and landing.



> Cellnex's support has been invaluable throughout this project for the MOD. From site location, through design to ongoing management, the ability to work with an experienced partner has delivered a professional, expert and timely deployment.

Cindy Knight
Head of Performance and Procurement

To find out more, get in touch with our experts on
www.cellnex.co.uk