

Look, no hands! Autonomous capability trial makes waves

Dress rehearsal for Royal Navy's Unmanned Warrior 16 exercise demonstrates how our innovative technologies mean that threats at sea can be evaluated without endangering lives

A major security alert in the Solent. A highly manoeuvrable rigid-hulled inflatable boat (RIB) is deployed to check out the situation...

Reconnaissance complete, and fears allayed, the RIB is returned to the shore, with no human beings put in harm's way.

This state-of-the-art boat, complete with unmanned aerial vehicles featuring 360-degree cameras, had no-one at the helm. Instead it was operated by remote control, a safe distance away.

Science fiction? No, this realistic scenario was actually trialled in Portsmouth's Langstone Harbour, thanks to leading-edge technology that we've developed in partnership with a number of companies including Fareham-based ASV.

Called Unmanned Capability, this event showcased the impressive unmanned systems technologies that we offer to naval operations, and demonstrated the planning, tasking, control and monitoring of these systems.



At the heart of the demonstration was our Combat Management System, acting as the information hub for each of the unmanned vehicles and creating a single overall picture to support the command team's decision-making. The system, which is in operation across the entire Royal Navy surface fleet, has been advanced for unmanned operations, through an intelligent software enabler – developed in collaboration with QinetiQ and SeeByte – known as Maritime Autonomous Platform Exploitation (MAPLE).

ABOVE: Intelligent network – our Combat Management System information hub is graphically demonstrated

RIGHT: Unmanned warrior – the Pacific 950 RIB in the Solent

It all acts as a transportable command and control centre with the capability of integrating unmanned systems from different suppliers. This minimises the number of screens and controls needed to conduct missions, making the whole system highly efficient with minimum risk of human error.

Also integral to the demonstration was MarTacNet technology, an intelligent maritime communications network that enables the type of high-speed communication essential for different vehicles from a range of suppliers to communicate in unmanned operations. This capability has been developed in collaboration with Cloudnet IT Solutions, which uses part of the ultra-high frequency spectrum made redundant by the digital TV switchover to provide high-bandwidth, long-range tactical communications.

It could mean that unmanned surface vessels may be able to operate up to 20 nautical miles away from a ship.

In the Solent, the Pacific 950 unmanned RIB was one of the main attractions of the demonstration. This RIB is capable of 47 knots and provides unique ship-launched situational awareness to support the decision-making of its operators.

The unmanned technology is designed to be fitted to existing RIBs, such as those already used extensively by the Royal Navy, as an affordable, modular upgrade.

Richard Williams, Naval Ships Combat Systems Director, said: "This is an exciting time. Through successful collaboration, we've effectively demonstrated this new technology and we've taken an important step forward in the process of properly integrating these novel unmanned systems into a warship's combat system. The feedback we've had from both the customer and our partners on the demonstration has been very positive. Big thanks must go to

everyone involved, including those who managed the event, staged the demonstration and provided presentations."

One of the key elements of the success of Unmanned Capability was the collaboration between Naval Ships and Maritime Services, who worked hand-in-hand to ensure a smooth event that told the combined story of our capability. A joint project team worked behind the scenes on this for months to develop the scenarios, compile the guest list and understand the stage management of the day.

The Portsmouth event was a major dress rehearsal for the Royal Navy's Unmanned Warrior 16 exercise, which will be the largest event of its kind ever undertaken when it's staged off the coast of Scotland and Wales in October.

Our new technology will be vital in co-ordinating this complex exercise, which will inform the Royal Navy's future capability planning.

