

# AT SEA DEMONSTRATION: A WATERSHED MULTINATIONAL LIVE-FIRE EXERCISE

Hosting the world's first international integrated air and missile defence test

A groundbreaking naval exercise conducted using Long Term Partnering Agreement (LTPA) facilities, At Sea Demonstration 2015 (ASD15) was the largest multinational live-fire maritime exercise ever. Planning and preparation took more than four years.

LTPA technical expertise, range space and associated resources enabled the Royal Navy and other members of the Maritime Theater Missile Defense (MTMD) Forum to successfully complete the first multinational capability-level Training & Evaluation exercise. Indeed, the nature of the LTPA overarching contract meant all nations involved could contract with the UK government in a simple and straightforward way.

## 'THE ONLY RANGE CAPABLE'

A successful demonstration of joint working between some of the world's leading navies and comprising more than 30 events, activities included simultaneous tracking and engagement of a ballistic missile target and two sea-skimming cruise missile targets. With the project valued at £10.3 million, MOD Hebrides – operated by QinetiQ under the LTPA – was the only Range outside of the Pacific capable of hosting the exercise. QinetiQ expertise and skills were deployed to ensure the Range was ready to deliver such a complex trial, including upgrading capabilities and facilities as well as ensuring safe delivery of trials activities. It enabled the MTMD Forum, including the UK Royal Navy, to carry out the first ever multinational, capability-level Test and Evaluation exercise.

## CHALLENGES AND SOLUTIONS

A Danger Area equalling the size of Spain was needed to accommodate operational areas and safety traces for the ships, targets and missile systems involved. Detailed stakeholder management was required to plan and obtain approvals for the enlarged allocation and safe use at MOD Hebrides whilst also

## BENEFITS

- Pioneering exercise
- Only Range outside the Pacific capable of such a large-scale project
- Expertise and skills to deliver complex trials
- Detailed stakeholder management to plan and obtain approvals
- Highly experienced safety team
- Exceptional safety planning
- Management of multiple interdependent projects to complete upgrades

**"This exercise created opportunities to develop doctrine, tactics and procedures to enhance the Royal Navy's war fighting capabilities."**

**CAPTAIN STEVE HOLT,  
ROYAL NAVY,  
MISSION COMMANDER**

## NOTABLE FIRSTS

The demonstration resulted in a number of notable firsts, including: the first object ever launched into space from the UK; the first use of multinational beyond line-of-sight data link for Maritime Integrated Air and Missile Defence in Europe; the first NATO (non-US) maritime cueing of a space target to a US ballistic missile defence guided missile destroyer; and the first launch of Standard Missile 3 outside US Pacific Ranges. Captain Steve Holt RN, Mission Commander, described the trials as "one of the most rewarding tasks I have done, and in particular the demonstration of a war fighting capability never achieved before."

This pioneering exercise has not only showcased the UK MOD Hebrides range as a world-class capability, but it has also left a legacy of benefits for future customers using the LTPA, with the MOD Hebrides Range now offering improved technical capabilities and significantly enhanced customer facilities.

minimising disruption, with transatlantic air routes northwest of the UK closed from sea level to the edge of space during live firing. QinetiQ's highly experienced safety team at the Range worked closely with Air Traffic Control to minimise disruption and ensure a successful outcome.

Significant infrastructure upgrades were required to meet the trial's complex demands: from a planned upgrade of the Trials Control System to a launch facility for the ballistic rocket target Terrier Orion and control antennas for the Mirach aerial target. Upgraded data and voice communications systems were needed for increased bandwidth and beyond line-of-sight capability, and all delivered to an exacting time scale. Meanwhile, a devastating storm damaged existing equipment. QinetiQ managed a programme of multiple interdependent projects to successfully upgrade all components, with complex work planned and managed so the Range stayed open for other QinetiQ customers wherever possible. Due to the large numbers of visitors and participants, including high-ranking officers and government VIPs, upgrades were also required to Range visitor facilities. Facilities were substantially improved and a logistics plan ensured all visitors had the best possible experience.

Firing long-range missiles and targets is hazardous: meticulous planning is needed to ensure hazard zones are calculated correctly, with measures taken to ensure risks are fully understood and minimised. It was essential for safety planning that accurate weapon characteristics were shared in advance and rigorous security measures applied to avoid leakage of sensitive information. This work required the full breadth of expertise and knowledge from QinetiQ's Hebrides Range team, drawing on more than 200 personnel and other experts from across the LTPA to support safe delivery. Individual training, rehearsals and dry runs ensured everyone was exercised and prepared for each event.



**TERRIER ORION BALLISTIC TARGET LAUNCH**