MBDA has successfully demonstrated its Dual Mode BRIMSTONE missile on an MQ-9 REAPER Remotely Piloted Aircraft (RPA), scoring nine direct hits against a range of targets including very high speed and manoeuvring vehicles.

Dual Mode BRIMSTONE is the combat proven weapon of choice for the engagement of moving and manoeuvring targets, and targets in high collateral risk / urban environments. BRIMSTONE can now provide REAPER crews with a weapon that reduces collateral damage risk and demonstrates first pass, single shot lethality against high speed manoeuvring targets on land and at sea and in complex environments.

Conducted in December 2013 and January 2014 at US Naval Air Weapons Station China Lake, the trials were undertaken on behalf of the UK Ministry of Defence by the Royal Air Force’s (RAF) Air Warfare Centre Unmanned Air Systems Test and Evaluation Squadron, Defence Equipment & Support Weapons Operating Centre, United States Air Force’s BIG SAFARI Organisation, General Atomics Aeronautical Systems Incorporated and MBDA. All of the RAF’s primary and secondary trials objectives were met: demonstrating the integration functionality implemented, safe carriage, safe release, system targeting and end game performance whilst gathering data to support optimisation and clearance activities.

The trials began with captive carry of Avionics and Environmental Data Gathering Missiles, proving the successful integration of the two systems and gathering additional evidence to support future clearance activities. These were quickly followed by a series of live Operational Missile and inert Telemetry Missile firings.

The firings were taken from realistic ‘middle of the envelope’ profiles; typically 20,000ft release altitude and 7km - 12km plan range, with the platform being remotely piloted in operationally representative beyond line of sight (SATCOM) conditions, with tracking and designation of targets being conducted in a mixture of manual-track and auto-track modes.
BRIMSTONE scored nine direct hits in a range of very challenging scenarios including static, accelerating, weaving, fast and very fast remotely controlled targets. Two of the more challenging scenarios were against trucks travelling at 70mph in a crossing target scenario. At times, the targets were manually tracked by the REAPER crews, showing how the integrated Semi-Active Laser and Active MMW radar seeker works in tandem to ensure direct hits, even while tracking and designating targets manually over SATCOM. Every Operational and Telemetry missile performed as designed.

This very successful trials programme demonstrates that the world class dual mode seeker and robust guidance capability of BRIMSTONE is uniquely placed to enable beyond line of sight Remotely Piloted Aircraft to deliver the same low collateral damage effects with the same precision as that demonstrated already by the RAF with BRIMSTONE on Tornado GR4 fast jets on operations in Afghanistan and Libya. These trials are another step in the ongoing spiral development of the weapon system, broadening its application to deliver a true multi-role and multi-platform land/maritime attack capability.

In October 2013 BRIMSTONE further demonstrated from Tornado GR4 the ability to engage from a high off-boresight, targets travelling at up to 70mph, from longer ranges and without the need to revert to straight and level flight, whilst operating from a Close Air Support (CAS) wheel.

- Combined with ongoing and contracted RAF trials against maritime Fast Inshore Attack Craft, these trials further demonstrate the unique capability to deploy a single truly multi-role missile family for
land and maritime attack from fast jets, remotely piloted aircraft, multi-mission and maritime patrol aircraft, rotary wing platforms and surface platforms.

BRIMSTONE; Provides all platforms with single shot precision lethality ensuring minimal collateral damage

This multi-role / multi-platform approach delivers reduced whole life cost ownership of complex weapons. Value for money is further demonstrated through greater environmental robustness to extend carriage life on all platforms and through the very high single shot effectiveness minimising waste and collateral damage.

Note to editor

With a significant presence in five European countries and within the USA, in 2013 MBDA achieved a turnover of 2.8 billion euros with an order book of 10.8 billion euros. With more than 90 armed forces customers in the world, MBDA is a world leader in missiles and missile systems.

MBDA is the only group capable of designing and producing missiles and missile systems that correspond to the full range of current and future operational needs of the three armed forces (land, sea and air). In total, the group offers a range of 45 missile systems and countermeasures products already in operational service and more than 15 others currently in development.

MBDA is jointly held by AIRBUS Group (37.5%), BAE SYSTEMS (37.5%), and FINMECCANICA (25%).

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