A Team Approach to the 1st Typhoon AMRAAM Guided Firing

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Abstract

In April 2002, the first AMRAAM guided firing from Eurofighter Typhoon was successfully achieved at the Hebrides Range in Scotland. This trial challenged us to develop new team relationships on both a national and international level and was the culmination of years of planning in terms of bringing the range facilities and the weapon system to an acceptable standard to support a guided firing.

This was also the first AMRAAM guided firing conducted on the Qinetiq Hebrides Range. Initial trials planning therefore concentrated on a series of carriage trials to assist the Range in developing their capability to support AMRAAM guided firing trials. The weapon manufacturer, Raytheon, was involved from the outset, providing all necessary safety information, via the U.S. Joint Services Project Office, to our MoD representative at BAE SYSTEMS. This information was shared with the Range to co-ordinate the position of the necessary safe area.

Eurofighter GmbH delegated overall control of the firing trial to BAE SYSTEMS who, in co-operation with the customer, agreed the profile for this first firing. The next step was to assess the weapon system performance from flight data with captive carriage AMRAAM being generated by BAE SYSTEMS from Warton and by EADS-Germany at Manching. In addition, joint methods for aircraft ground testing were developed and tests performed to assess the armament control system for anomalies that would have had an adverse impact on success. Modelling of the firing profile was provided by DERA and the EADS-Germany Attack & Identification team at Ottobrun using Raytheon supplied AMRAAM models, and some runs were repeated using data from the initial flight test results, to determine the probability of trials success.

Deployments to the Hebrides of a BAE SYSTEMS mobile ground station were necessary to monitor the EF Typhoon telemetry whilst the aircraft was on-range. In addition, JSPO and Raytheon teams were co-located at the Range to monitor the weapon telemetry. These facilities needed to be integrated with the Range and the method of operation developed. This was a most challenging aspect of the trial, but successful, and has proved a suitable method for the conduct of future trials.

The day of the firing necessitated co-ordination of many groups of people. The RAF was required to provide maritime reconnaissance cover for the sea area and tanking aircraft for the EF Typhoon. The team at Warton checked the aircraft and missile prior to departure to confirm serviceability. The Hebrides team had to provide the meteorological forecast, operate the Italian unmanned target system, provide air traffic control for Range safety and deploy to a remote island to operate the tracking Radars.

The complexities of the final few hours could only have been managed with efficient working relationships. The paper will further analyse these relationships, summarise the problems overcome over the preceding 12 months and assess whether the lessons learned can be taken forward to the planning for the remaining guided firing trials.