DEVELOPMENT

New air-to-air contender

In development to meet the requirements of the German, Greek, Italian, Norwegian, Spanish and Swedish air forces, the IRIS-T short-range air-to-air missile will deliver an alternative to MBDA's ASRAAM, Raytheon's AIM-9X Sidewinder and the Python family of weapons produced by Israel's Rafael Armament Development Authority.

A development team headed by Germany's BGT completed a series of seven guided firings of the imaging infrared-guided missile last October, scoring seven direct hits against airborne targets. While not equipped with a warhead for the trials, the design succeeded in destroying a number of Meteor Mirach 100/5 target drones.

Already cleared for future integration with Lockheed Martin's F-16, the IRIS-T last month also recorded its first two in a series of seven separation firings from a Eurofighter Typhoon. Conducted from the Salto di Quirra test range in Sardinia, using Alenia's Eurofighter development aircraft DA7, these initial launches will be followed by further firings in the May/June timeframe. The weapon is scheduled to clear digital integration with the Typhoon platform in 2006, says BGT.

A multinational production contract for the manufacture of around 4,000 IRIS-T missiles is on track for award in early 2005, following the signature of a memorandum of understanding late last year between the six partner nations and Germany's BWB procurement agency. The system will arm, Panavia Tornado, Saab/BAE Systems JAS39 Gripen, F-16 and Typhoon fighters.

Germany has so far committed to buying 1,250 missiles from its planned total requirement for 1,800 rounds, with Spain holding the next largest need, at around 700. First weapon deliveries are expected in 2006.

Mirroring a growing trend among air-to-air missile manufacturers, BGT is also offering the IRIS-T for use as a ground-launched point defence weapon. Initial demonstrations succeeded in attracting German government backing, and development work will start next year on an enhanced surface-launched version of the missile. This will have three times the range of the current missile, an enlarged 152mm (6in)-diameter rocket motor and a datalink capability to enable beyond line-of-sight engagements.

The planned vertical-launched weapon will augment Germany's Lockheed Martin Patriot PAC-3-based Medium Extended Air Defence System from around 2010, with eight missiles to be carried on a launcher-equipped Unimog 5000 truck. Two trucks will be carried inside an Airbus Military A400M transport .

A more limited air defence system using unmodified IRIS-T missiles could be fielded sooner, if customers emerge for such a concept, says BGT.

BGT

Alenia's Eurofighter DA7 aircraft recently launched two IRIS-T missiles over a Sardinian test range

the German military's WTD-91 test range at Meppen last October, where it achieved a top speed of more than Mach 7. If perfected, such a hypersonic weapon could be used for suppression of enemy air defence (SEAD) – a leading capability shortfall identified among NATO's European members.

Responsible for producing the demonstrator's rocket motor, EADS/Thales joint venture Bayern-Chemie has also received heavy investment from MBDA to deliver the rocket-ramjet motor for the Meteor beyond-visual-range air-to-air missile.

Early last year it received an estimated €250 million ($295 million) contract to develop the weapon's propulsion subsystem, including its solid boron-fuelled throttleable ducted ram-rocket engine. The Meteor is set to arm the Dassault Rafale, Eurofighter Typhoon and Saab/BAE Systems Gripen multirole fighters for France, Germany, Italy, Spain, Sweden and the UK.

In a key development for the MBDA-led project, Bayern-Chemie says it is on track to conduct its first windtunnel test firing of the ramjet engine around the third quarter of this year. MBDA says the Meteor programme has achieved 200 project deliveries and milestones to date, and the weapon is on track to enter service in 2012. The next-generation weapon will challenge Raytheon's market leading AIM-120 AMRAAM medium-range air-to-air missile for future orders.

German independents

Although both LFK and Bayern-Chemie are strongly linked with – and partly controlled by – the current MBDA concern, Germany's other leading missile manufacturer, BGT, shows no interest in becoming a fully fledged part of the future four-nation company.

While it is 20% owned by MBDA, BGT is strongly defiant in retaining the independence offered through its 80% ownership by Germany's family-run Diehl group.

BGT is heading the development of the IRIS-T short-range air-to-air missile for six European nations: Germany, Greece, Italy, Norway, Spain and Sweden. It expects to receive a launch order and begin series production on the weapon early next year *(see box opposite)*. The company is also continuing development work on its Armiger anti-radiation missile, which is being promoted as a potential replacement for Germany's current Raytheon AGM-88 High-speed Anti-Radiation Missile.

Building on a successful test conducted last February, the next controlled firing of Armiger will take place from a ground launcher during October. This year's trials will be followed in October 2005 by the firing of an Armiger equipped with a seeker.