

# X-31 to fly again under tri-national MoU

GERMANY, Sweden and the USA are planning to launch the second phase of the X-31 experimental aircraft programme which will focus on using vectored thrust to improve take-off and landing performance.

The German and US governments have signed a memorandum of understanding (MoU) to start work on the thrust vectoring extremely short take-off and land-

ing, tailless operations research (VECTOR) project. Sweden is expected to agree to participation.

The X-31, which has been in storage for four years at NASA's Dryden flight test centre, could be flying again by early next year. The aircraft has been moved to Boeing's Palmdale facility for restoration.

US participation in the VECTOR project will be led by the US Navy, which is interested in

using the technology for aircraft-carrier operations. The US work will focus on integrating the engine nozzle. DaimlerChrysler Aerospace (Dasa) of Germany and Sweden's Saab Aircraft and Volvo Aero are also taking part.

Dasa says the technology demonstrated during VECTOR research could be transferred into existing as well as future high-performance military aircraft. A short

take-off and landing capability is of greater interest to the air forces than extreme manoeuvrability, says Dasa Military Aircraft division president Aloysius Rauen.

The successful first phase of the X-31 programme, carried out by Dasa and Rockwell (since acquired by Boeing), focused on horizontal manoeuvres at extremely high angles of attack, utilising three-dimensional thrust vectoring. □

## NEWS IN BRIEF

### ■ RAAF DUMMY ASRAAMS

Matra BAe Dynamics has delivered two dummy ASRAAM advanced short-range air-to-air missiles to the Royal Australian Air Force to support flight qualification testing aboard Boeing F/A-18 Hornet fighters.

### ■ EUROSPIKE DEAL

The Eurospike consortium will manufacture and market its Rafael-designed anti-tank missiles in Europe. Eurospike includes NT-D missile developer Rafael and three German companies - Diehl, Rheinmetall and STN Atlas. One of the partners will be prime contractor in each future competition and at least 50% of the missiles will be made in Germany.

## L-159 calls the shots in Norway

AERO VODOCHODY has completed live weapons firing trials with an L-159 light attack aircraft at a Norwegian test range, in preparation for first deliveries to the Czech air force in December.

The aircraft fired Raytheon AGM-65 Maverick air-to-ground and AIM-9 Sidewinder air-to-air guided missiles, as well as Bristol Aerospace Canada CRV-7 and

SUU-20 unguided rockets during six weeks of testing. Practice bombs were also dropped.

Gun firing tests have been carried out at Zbrojovka in the Czech Republic, using three Czech twin-barrel 20mm gun pods.

The Czech air force is due to take delivery in December of the first five of 72 aircraft it has on order. □

## Israel develops new anti-ship missile

THE MBT division of Israel Aircraft Industries is developing a long-range, surface-to-surface, anti-ship missile to replace the Gabriel system aboard Israeli navy warships. The Gabriel, in service since the late 1960s, has been upgraded continuously but is near the end of its operational life.

MBT has been developing the new anti-ship missile for some time and, according to sources, it has already been tested.

Performance details of the long range over-the-horizon range system also remain classified, but sources say it will surpass most existing sea-launched missiles and has an advanced seeker. The missile has large aerodynamic surfaces that deploy after launch.

Yitzhak Nissan, general manager of the MBT division, says the missile will be able to defeat existing naval anti-missile defences. □



The Czech air force will take delivery of its first L-159s in December

## USAF considers re-opening Agent Defeat Warhead competition

THE USAF is considering re-opening a competition for its Agent Defeat Warhead (ADW) programme after the first round, for initial development and demonstration, failed to attract bids "of sufficient merit to warrant an award".

In March, the Air Force Research Laboratory's Munitions Directorate at Eglin AFB, Florida, sought technical and cost proposals from US aerospace companies for ADW concepts. Bids were due by

29 April, with the contract to be awarded before 30 September this year.

Project officials have decided that none of the bids is viable, and say: "The acquisition strategy for this programme is under re-evaluation." Officials suggest that the programme's technical objectives may be revised, but it is unclear when the USAF would re-open bidding for a revamped ADW development.

As originally envisioned, ADW

would be fitted to 900kg (1,980lb) guided air-to-surface munitions. Agent Defeat would be used to attack fixed, soft and hard ground targets associated with the development, production and storage of chemical and biological weapons.

The ADW is intended to neutralise targets without dispersing toxic materials. The USAF left it up to the bidders to devise appropriate "kill mechanisms", including low-blast fragmenting warheads, neutralising chemicals

and high-temperature incendiary devices.

The Gulf War in 1991 highlighted the need for a weapon capable of knocking out chemical and biological agent production sites and stockpiles without collateral damage.

The Munitions Directorate earmarked \$16 million for the ADW demonstration, but saw its funding slashed to \$7.3 million, resulting in a research programme stretching out at least 42 months. □