Danes display missile warning systems

New advanced missile warning systems for the Boeing AH-64 Apache helicopter and the Lockheed Martin F-16 are being displayed at Farnborough by Danish company Terma (Hall 2, C30).

The Apache system is an upgrade of the existing Terma warning systems in service with the Royal Netherlands Air Force. Both old and new systems use six ultraviolet sensors, on a pod mounted on the Apache's stub wing, to detect missile approaches from any angle, identifying the ultraviolet radiation from the missile plume.

Once a missile is detected on the old system, flares are automatically deployed from a magazine on the pod, which is known as the Apache Modular Survivability Equipment (AMASE). Instead of flares, the new system uses a directed infrared countermeasures (DIRCM) capability. An infrared laser is housed on a gimbal attached to the pod. Once a missile is detected, the gimbal swivels towards it and the laser fires, disrupting the missile's guidance system.

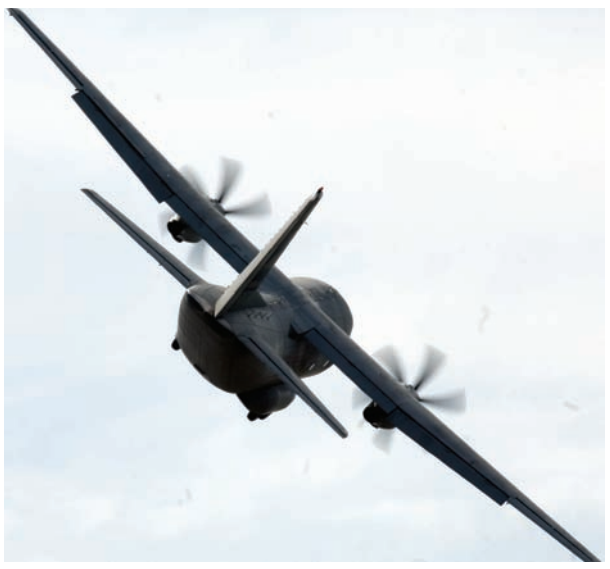
The sensors are manufactured by Northrop Grumman and the DIRCM transmitter by Northrop Grumman and Selex, while Terma handles the systems integration.

GMAS settles on sites for Spartan

Alan Dron

The team promoting the Global Military Airlift System (GMAS) C-27J Spartan for the US Joint Cargo Aircraft (JCA) programme yesterday announced the site where it proposes to build the aircraft for the US Army and Air Force.

Headquarters for GMAS, which includes L-3 Communications, Alenia North America and Boeing, will be located at Meridian, Mississippi. The site will encompass a centre of excellence for engineering, worldwide logistics and turnkey support.



The C-27J has found new homes in the southern states.

Final

Production and final assembly of the aircraft would be undertaken at Florida's Cecil Field, Jacksonville, where Boeing already has an aircraft modification and upgrade centre.

The JCA programme calls for a replacement for the US Army's Shorts C-23B Sherpa intra-theatre transports. The initial 33 aircraft are to replace Sherpas, but the JCA request for proposals (RFP) laid out a potential requirement for 145 intra-theatre transports.

Lockheed Martin recently entered its C-130J for the contest, arguing that, although more expensive initially, it would have 40% lower life-cycle costs than the competing twin-engined C-27J and the EADS Casa North America CN-235 and C-295.

Necessary

It added that a study of the RFP showed a four-engined aircraft was necessary to provide the performance reserves to move a reasonable payload in hot and high conditions.

"You have to look at the requirement from the Services," said Bob Drewes, president and chief operating officer of L-3 Communications, yesterday. "They require a medium-lift capability and an aircraft with two engines.

"We feel very strongly that what we're offering meets or exceeds all the requirements."

Lockheed Martin was previously a partner on the C-27J and remains a major subcontractor on the programme. "When Lockheed Martin was promoting the C-27J, they were underlining the fact that they needed a two-engined aircraft for these operations," noted Giuseppe Giordo, president and chief executive of Alenia North America.

P&W's F135 boost to Piaggio

Pratt & Whitney has signed a letter of intent with Italian company Piaggio Aero for work on the F135 engine that will power the F-35 JSF Lightning II.

Announced at Farnborough on Monday, the deal has a potential value of more than $17 million over the life of the programme.

Piaggio Aero will produce F135 vane supports for the low-pressure turbine, critical hardware requiring advanced machining and strict quality standards.

This most recent agreement between the two companies for engine hardware brings the total value of F135 work placed to more than $270 million.

The F135 is an evolution of the highly successful F119 engine for the F-22 Raptor.

Together, the F135 and F119 will have logged around 800,000 flight hours before the F-35's introduction into operational service in 2012.

Rated at 40.000lb (180kN) thrust, the F135 is the most powerful fighter engine ever built.

Northrop shield gives missile protection

Northrop Grumman (Outside, OE6) has developed a laser-based system that can prevent airborne threats within a five-mile radius of an airport.

Called Skyguard, it creates a laser "bubble" that it says is effective against shoulder-fired missiles from up to 20 miles away. The company says the system will destroy "rockets, mortars, artillery shells, unmanned aerial vehicles, short-range ballistic missiles, as well as cruise missiles".

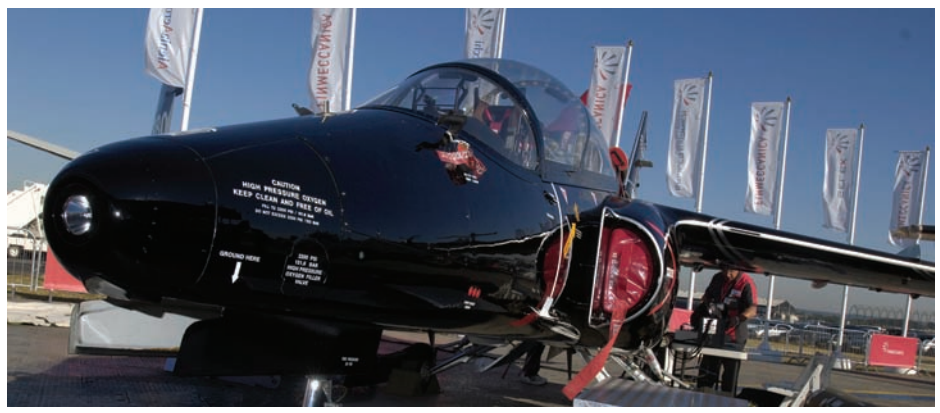
Skyguard is derived from the company's Tactical High Energy Laser (THEL) test bed, but has higher power and a larger beam. Mike McVey, vice president of Northrop Grumman's directed energy systems, says: "The THEL Testbed has demonstrated unequivocally that lasers can engage and destroy rocket, artillery and mortar threats in flight. It has shot down dozens of live threats, including long- and short-range rockets."

Finmeccanica pushes M311 for UK training

Phil Nasskau

Finmeccanica's Alenia-Aermacchi division (Outside, OE2) is pushing its M311 basic jet trainer as its candidate for the UK government's Military Flying Training System (MFTS) contract.

Flying at Farnborough for the first time, the Italian trainer is one of the options available to the UK MoD to fulfil its MFTS requirement. A decision is due in November. Fifteen pilots from all components of the UK MFTS have flown the M311 at RAF Cranwell and completed a total of 20h. It is understood that the British pilots felt the aircraft was very 'Hawk-like', easy to fly and less intimidating than the Shorts Tucano, which is likely to be replaced by the winning MFTS bid.



The M311: decision due in November.

The M311 is based on the Siai-Marchetti S211, which has been extensively modified to bring the airframe and systems into the 21st century. The revised structure is mainly built of light alloys with the remaining secondary structure being mostly composite materials.

The M311 has an extended nose, making it slightly longer than the S211. This means it can accommodate taller pilots than the S211, as well as providing space in the hinged nose to house two mission computers.

As part of the avionics upgrades, the front cockpit features three 5in by 7in MFDs, while the rear has four.

The M311 is also competing for the Singapore trainer requirement for between 18 and 20 aircraft with the Pilatus PC-21, Embraer EMB-314 Super Tucano, and Raytheon T-6B.

High-tech and low-risk keeps CH-53K on track

The team supporting Sikorsky's $3 billion CH-53K heavy lift helicopter programme is gradually taking shape, with Rockwell Collins being named as the avionics management system (AMS) supplier. A decision on powerplant is expected later this year.

Having signed a contract on 5 April to deliver 156 new-build CH-53Ks to the US Marine Corps, the programme team is taking a low-risk, but high-technology approach.

Col Paul Croisetiere, the USMC H-53 programme manager, says he wants to avoid any creep in the requirements. "History tells you that allowing the requirements to evolve during the development of a new aircraft creates vulnerability. We have said from the outset: 'This is what we need the -K to do. If we need to change the requirements, it will happen at a later time'."

The CH-53K is not due to enter service until 2015.

Thales sees end to British Chinook saga

Thales Aerospace (Hall 3, C5) believes the long-running saga of Britain's grounded special forces Chinook helicopters could finally be within sight of resolution.

"We think the Ministry of Defence will know what it wants to do by the end of the year," UK managing director Richard Deakin said here yesterday. "The real challenge now is commercial rather than technological."

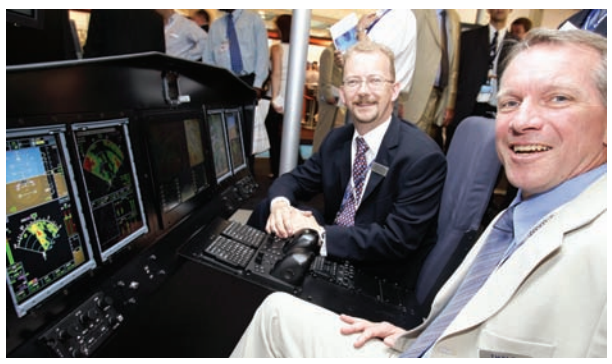
Last year Thales was selected by Boeing in competition with five other suppliers to form part of the team set up to restore to flight status eight Chinooks originally ordered for the RAF's special forces unit but embarrassingly grounded by avionics certification and other problems since 1999.

Pillars

The company is offering its TopDeck integrated flight deck as one of the main pillars of the 'Fixed to Field' rectification programme. With its five multi-function LCD displays and planned synthetic-vision capability, TopDeck is on show here. The demonstration version is representative of the fit being supplied to Sikorsky for the S-76D.

If TopDeck is ultimately selected for the grounded Chinooks, Thales is confident that there will be no repetition of the problems that have seen them languishing in storage for seven years. "We expect to have no difficulty with certificating the system in these aircraft," said Deakin.

The reworked aircraft will be designated Chinook HC.3.



Richard Deakin, UK managing director, Thales Aerospace, and Mark Knight (marketing and sales director, helicopter solutions, Thales Aerospace in the TopDeck helicopter integrated flight deck