Bell sees light at end of H-1 service tunnel

Bell believes the troubled H-1 helicopter upgrade programme has turned the corner after months of protracted delays and escalating production costs.

The company says it is now ahead of a recovery plan launched at the start of 2006 and will deliver four aircraft this year.

Operational Evaluation of the H-1 by the US Marine Corp began in May.

Bell chief executive Mike Redenbaugh said the business now had a much firmer handle on the issues that had taken the programme off track.

"In terms of remanufacture, the condition of the incoming aircraft was more varied than we expected."

The USMC has altered the programme, which was based around remanufacturing 180 AH-1W attack helicopters and 100 UH-1N utility aircraft to a new AH-1Z/UH-1Y standard.

Under fresh plans, 90 of the 100 utility aircraft will be new-build. Operational capability for the AH-1Z and UH-1Y is scheduled for 2008.

Raytheon in thick of trainer selection contests

Alan Dron

Raytheon is bringing its T-6B turboprop trainer to the UK not only for the airshow but also for a series of flight evaluations at Blackbushe, near Farnborough, as part of the UK's Military Flying Training System (MFTS) project.

The 25-year MFTS will team the UK Ministry of Defence (MoD) with an industry provider to manage the instruction of some 1,500 pilots a year across 20 aircrew disciplines.

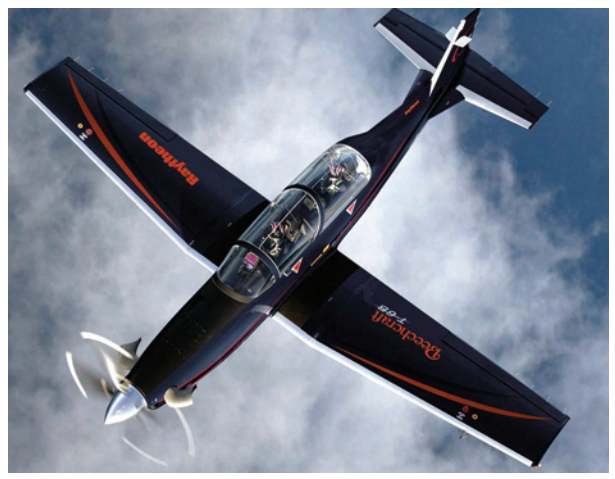
Selection of a partner from among three competing consortia has slipped from May to November, but the programme is expected to be up and running by April 2007.

The winning consortium and the MoD will choose the aircraft felt to be best suited for the basic trainer role. Contenders include the Aermacchi M311 and M346, plus the Pilatus PC-21 and T-6B, to replace the Shorts Tucano that has filled the basic training task for the UK Royal Air Force since the mid-1980s.

Raytheon has added an embedded training capability, head-up display and multifunction displays for the T-6B and is able to retrofit the latter's avionics into earlier T-6As if a customer wishes.

The company is promising an announcement about the type tomorrow.

Contrary to reports in late May, Singapore has not rejected the T-6B for its air force's trainer competition, says Jim Smith, Raytheon Aircraft vice-president, Government Business. "There were two reports three days apart," he says. One said that the Embraer Super Tucano and the T-6B had been cut; the other that the other two competitors, the M311 and the PC-21, had been unsuccessful.



Raytheon's T-6B is set for flight evaluations at Blackbushe.

Both reports were incorrect, says Smith: "There's been no downselect.

"The Singaporeans are very, very thorough and professional in their evaluations. We were told early on [in the contest] what the process was going to be and when things were going to happen and they've followed that sequence almost to the day."

He expects a decision on the winning contender in late September or early October.

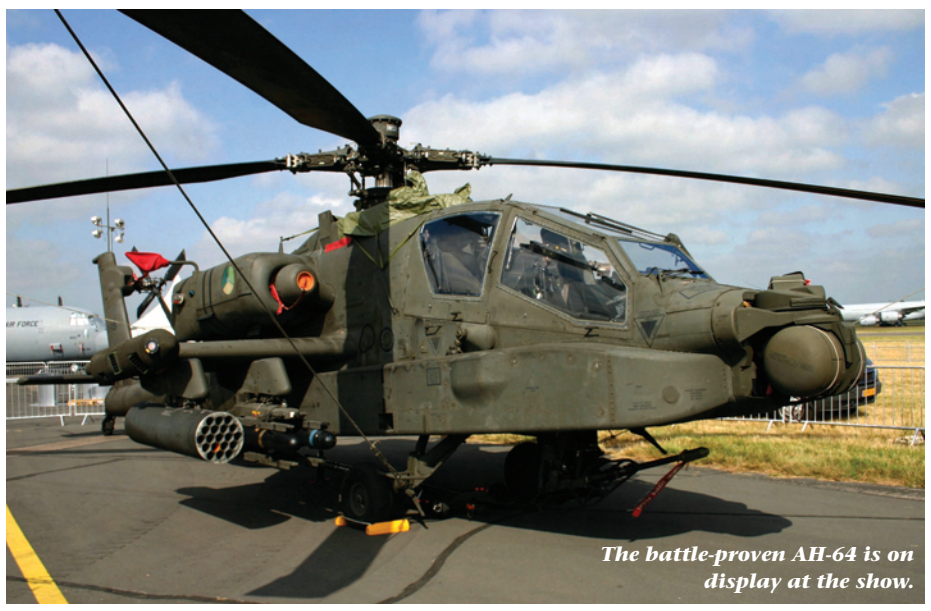
Of the other export competitions on the horizon, says Smith, Raytheon is in the final stages of formulating its response to a request for proposals from Turkey. There is also a request for information from Israel, which is seeking to replace its elderly Zukit trainers. Chile has expressed interest in replacing its Casa C-101s, while the United Arab Emirates is looking not only for a trainer aircraft but "creative ideas on their training system", he says.

And, while no formal requirement yet exists, Smith believes that Iraq's fledgling air force will have a need for a trainer and light aircraft.

Smith says Raytheon has talked to one customer about putting the AIM-9 Sidewinder and AGM-65 Maverick on the T-6B: "You could put on the AIM-9X and undertake a Noble Eagle-type mission to protect cities, as has been done in the US."

Raytheon is bringing a single T-6B to Farnborough, which will be used for both the static and flying display. The demonstrations will again be flown by three-times US national aerobatic champion, Patty Wagstaff.

Apache on the war path



The battle-proven AH-64 is on display at the show.

One aircraft heavily involved in operations in Afghanistan and Iraq is the Apache helicopter and Boeing is happy to bring an example of the battle-proven AH-64 to the Farnborough display.

The US Army's Apache fleet reached the milestone of two million flight hours in late 2005, almost one-third of them added during the past four years, say recently released US Army operational summaries. The fleet continues to add hundreds of hours every month in Iraq and Afghanistan.

Operation Iraqi Freedom alone now accounts for more than 200,000 flying hours.

Between 1984 and 1997, McDonnell Douglas Helicopters (now Boeing) at Mesa, Arizona, produced 937 AH-64As for the US Army and five export customers, and has since converted 284 A-models to AH-64D Block I and 217 to AH-64D Block II standards for the US Army.

Boeing has also contracted to build 145 AH-64Ds for five further export customers, and is under contract to build 13 new AH-64Ds as 'wartime replacement (attrition)' aircraft and to remanufacture 96 AH-64As to AH-64D standards under the Extended Block II programme.

Conversion

Boeing signed the first Block III Apache Longbow RDT&E Contract on 6 July 2005, setting the stage for a Long-Term Modernisation Programme that will see 284 Block I aircraft being converted from 2010, following the completion of current Apache production work.

The Block III upgrade will provide the Apache with much improved network-centric warfare capabilities through 25 technology insertions. The aircraft will gain open systems architecture, wideband network communications, extended range sensing, extended range fire control radar, extended range missiles, and data fusion to allow the merging of on- and off-board sensor imagery.

A key part of the Block III upgrade will be the provision of Level IV unmanned aerial vehicle control. Boeing demonstrated the ability of AH-64 to control a UAV on 12 April, as part of the Airborne Manned/Unmanned System Technology Demonstration (AMUST-D) programme.

The Apache took control of and commanding multiple payloads on the company's Unmanned Little Bird (ULB) UAV technology demonstrator. The tests included a standard Hellfire firing sequence from the ULB, using an L3 Communications' tactical common data link.

Eagle Eye crash knocks Bell onto back foot

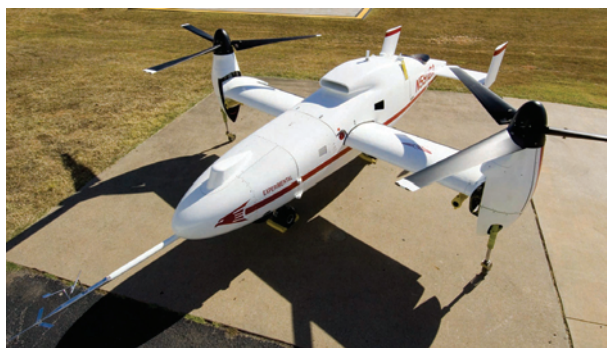
The crash of Bell's TR918 Eagle Eye tiltrotor demonstrator in April will not derail the Eagle Eye programme, but it has led to a period of reflection among the programme team, says Bell chief executive Mike Redenbaugh.

Redenbaugh says Bell remains "100% committed" to the technology, but the Eagle Eye team will be taking the time to listen to the customer and examine all the current technologies before deciding on the next steps.

"It's called experimental flight test for a very good reason," says the Bell chief. "You learn a lot from the process. "We'll be leveraging what we learned as we go forward."

The unmanned air vehicle technology demonstrator crashed on 5 April after losing engine power while in a stable hover. The aircraft, powered by a Pratt & Whitney Canada PW207 turboshaft, was significantly damaged in the mishap at Bell's flight-test centre near Fort Worth, Texas.

The US Coast Guard is launch customer for the technology and has ordered 45 Eagle Eyes and 33 ground stations, with a planned in-service date of 2010-11.



Loss of the Eagle Eye demonstrator gives Bell pause for thought.

Aerial display is only part of the Super Hornet story

Jon Lake

The Boeing F/A-18E/F Super Hornet is wowing airshow audiences with an impressive if conventional fast jet display, exploiting Hornet's high alpha capabilities, tight turn radius and sheer volume.

Piloting the display aircraft, an example leased back to Boeing from VFA-122, the Super Hornet Fleet Replacement Squadron at NAS Lemoore, California, is chief test pilot Ricardo Traven, a former Canadian Armed Forces pilot.

What Farnborough audiences do not see is the solid success of the Super Horner programme: operational with 15 squadrons, 275 aircraft delivered up to May 2006, under cost and ahead of schedule.

The Boeing F/A-18E/F Super Hornet: impressive.

The new Block II Super Hornet is now in service with the US Navy's frontline squadrons. The Block II aircraft has new displays, with a decoupled rear cockpit in the two-seat F/A-18F, new ATFLIR targeting pod and JHMCS helmet sight. Seven Block II aircraft equipped with AN/APG-79 AESA radar have already joined VFA-213 'Black Lions' at Oceana, and all Block II aircraft will be delivered with AESA from 2008.

For its part, Boeing is continuing to drive cost out of the programme, lowering the unit cost by instigating a number of new processes, including the adoption of a 'pulsed' production line in March 2005.

All 10 of the Navy's carrier air wings now include at least one Super Hornet squadron. Six wings have two squadrons, and there is a 'programme of record' for 490 aircraft, with a real chance of further orders for export customers, including India, Japan and Malaysia.

In marked contrast to the attitude displayed by some US manufacturers, Boeing is focused on providing direct and indirect offset work for Super Hornet customers. As one programme insider explained: "The CEO has a truly global outlook, and his mentality and philosophy permeates everything we do on the Super Hornet."

Kory Matthews, responsible for programme integration, says he has the "best job" in Boeing, bringing new capabilities to this superb warplane.

"This is anything but a legacy platform, relevant, dominant and the premier fighter for the US Navy into the 2020s. The Super Hornet is now supporting the warfighter in the war against terror, and is the Navy's frontline fighter against all threats, today and tomorrow."

The aircraft has a 90% mission capable rate when deployed.

Wedgetail is getting back on track

Boeing says plans are already in place to get the ambitious international Airborne Surveillance Programme back on track, after announcing it would include $300-$500 million of pre-tax charges.

These charges reflect the expected financial impact of schedule delays and cost growth on fixed-price contracts related to the Airborne Early Warning and Control (AEW&C) programme.

Known as Wedgetail in Australia and Peace Eagle in Turkey, this international programme involves producing a new AEW platform by fitting and integrating a variety of command and control and advanced radar systems, new command and control software, a new communications system, and a datalink, on a Boeing 737-700 aircraft.

Some of these new systems had never been installed on an aircraft platform before.

There were a number of early integration problems but though these were easily addressed the company then encountered more difficult "technical and schedule challenges", and quickly came to realise that some of the assumptions it had made based on the 707 and 767 AEW programmes were flawed.

As a result, the programme has been reorganised to improve systems engineering focus.

Hawk trainers fly into Farnborough for Bahrain handover

Bahrain will formally take delivery of the first of six Hawk 129 advanced jet trainers (AJT) from BAE Systems today, and is believed to be considering exercising an option for up to six more aircraft.

The aircraft will ceremonially fly into Farnborough with the Red Arrows, and will be handed over to the C-in-C of the Bahraini armed forces.

Formally accepted at BAE's Warton site in Lancashire on 30 June, the aircraft - 501 - is one of five Hawk 129s to have been delivered to Warton for flight testing to date. Bahrain's last aircraft is now nearing completion at Brough in Yorkshire.

All six will be delivered to the country by year-end. The Hawk 129 will provide the advanced element of a national training system supplied to Bahrain by BAE. This includes three Slingsby Firefly basic trainers and synthetic training devices.

BAE will also exhibit its first of two Hawk 128 AJT demonstrators for the UK Royal Air Force, in anticipation of a 26-aircraft production order and will showcase its sensor simulation capabilities using Hawk development aircraft ZJ951.

The Hawk 129 AJT: ceremonial flight.

Alenia bullish for C-27 orders

Alenia Aeronautica is confident of notching up more Boeing C-27J orders this year, and is also pushing for Italy to host a final assembly and check-out facility for the F-35 Joint Striker Fighter (JSF) programme.

Alenia chief executive Giovanni Bertolone says that the company is pursuing five "hot" commercial campaigns for the C27-J, including the joint cargo aircraft (JCA) for the US Army and Air Force. "I definitely think that before the year end we will hear about our aircraft again," predicts Bertolone.

Alenia has teamed up with L-3 Communications and Boeing to offer the C27-J for the 33-strong JCA requirement, and is up against Lockheed Martin's C-130J and a Raytheon/EADS Casa proposal for either the CN-235 or larger C-295.

Alenia secured a €75 million ($93.8 million) order from Lithuania for three C-27Js in early July.

Strong

In putting Italy forward for a JSF plant, Bertolone also makes it clear that he thinks "it is in Lockheed Martin's interest to assure a strong European footprint for the JSF programme."

"As we are still in negotiations, there are still issues to be resolved, but I am certain that a final assembly and check-out line located in Italy would be the best solution for the Italian and European air forces."

Alenia will be assembling 50% of the JSF wing as part of an agreement hammered out with Lockheed Martin and other partners, and Bertolone comments: "For us, it represents a very important programme, especially if all the interested parties interact smoothly, those parties being the nations that are interested in ordering the F-35, Lockheed Martin and the partner companies collaborating in the project."

Sentinel shows shape of UK defence future

Alan Dron

One of the defence highlights of the show is the first major public appearance of the aircraft that will play a major role in the UK's future intelligence, surveillance, target acquisition and reconnaissance (ISTAR) plans.

The Sentinel R1, the platform for the UK's Airborne Stand-off Radar (ASTOR) will be prominent on what programme integrator Raytheon calls 'The ASTOR Zone' in front of Farnborough's Media Centre.

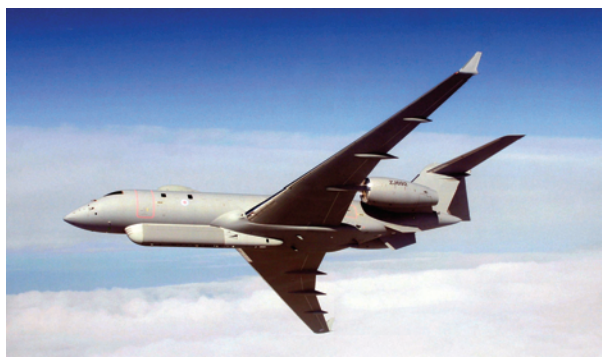
As well as the Sentinel, one of the system's modular tactical ground stations, carried on board a Pinzgauer truck, will be on show. In service, the Sentinel will operate either 'on-tether', with one of these forward-deployed ground stations, or 'off-tether', without ground support.

The aircraft appearing here in the third example of the five heavily-modified Bombardier Global Express executive jets that will make up the complement of the UK Royal Air Force's 5 (Army Co-operation) Sqn.

Role

That role is emphasised by the planned complement of Sentinel crews: one of the two image analysts on board will be Army personnel. In total, around 130 of 5 Sqn's 300 members will be Army, and a small number of navy personnel may also be attached.

The Sentinel R1 is instantly distinguishable from a standard Global Express by the large canoe fairing under the forward fuselage that houses the heart of the aircraft's capability, an active-array, synthetic aperture radar / ground moving target indicator (SAR/GMTI). The other giveaway is the satellite communications radome atop the forward fuselage.



Both the Sentinel R1 and its associated ground station are on display in the static park.

Work is now continuing with the full avionics suite and detailed engineering tests are being undertaken, including proving that the radar and associated equipment work 'as advertised' from a variety of angles and altitudes.

"We will be showing some imagery from the SAR at the show. The imagery is looking great and meeting all our expectations," said Tom Kennedy, Raytheon's vice-president, airborne systems, in a pre-Farnborough interview. "It's a transformational system and it will give the UK Ministry of Defence a significant capability for on-demand ISR."

The programme was still on track, he added, to meet the planned November 2006 in-service date. Crews are now being trained on the system's workstations in the UK and US.

In response to suggestions that much of Sentinel's work could be handled by unmanned air vehicles (UAVs), Kennedy argues that the much greater man-in-the-loop capability given by the aircraft provides a command and control node in the sky and aids dissemination of data.

New AgustaWestland twin to be unveiled

AgustaWestland is set to unveil more details of a new 7.5t multirole helicopter during Farnborough, hot on the heels of securing a major contract from the UK Ministry of Defence (MoD) to supply Future Lynx helicopters to the British Army and Royal Navy.

Development of the AW149 twin-engine helicopter, alongside the Future Lynx agreement, will transform the fortunes of AgustaWestland's Yeovil operation. As part of a restructuring AgustaWestland has confirmed that it is relocating its military helicopter division to the UK.

Potential applications for the AW149 include battlefield support, command and control, medevac missions and combat search and rescue. AgustaWestland says the aircraft will be capable of carrying up to 16 troops and will be armed with rocket launcher tubes and have the ability to carry air-to-ground and air-to-air missiles. The aircraft will have a range of 400nm (740km) and a maximum cruise speed of 165kt (300km/h).

The Future Lynx deal is good news for AgustaWestland.

No details of funding or a proposed in-service date have been released, but the UK government is likely to be asked to provide some money toward development costs.

The £1 billion Future Lynx deal is equally pivotal for AgustaWestland, with the long-expected confirmation that the British Army has ordered 40 Future Lynx, while the Royal Navy will take 30 aircraft. The deal, announced in the run-up to Farnborough, is the first to be awarded under a strategic partnership initiative between the UK MoD and AgustaWestland.

The agreement includes 10 options, split equally between the army and Navy, with aircraft due to be in service from 2014. AgustaWestland says it expects first flight of the Future Lynx in 2009 with initial deliveries in 2011.

The aircraft will be powered by two LHTEC CTS800 engines each rated at 1,015kW (1,361shp) giving greatly enhanced hot and high performance and single engine performance over existing army and navy Lynx helicopters.

Current MoD Lynx are powered by Rolls-Royce Gem engines. The replacement CTS800 engines will provide 36% more power. AgustaWestland says it has built in survivability to the Future Lynx design with features including crashworthy and armoured crew seating, crashworthy passenger seating, 'role fit' armoured cabin floor, wire strike protection system, a proven Integrated Defensive Aids Suite and an engine Infra-Red Suppression (IRS) system on the army aircraft.

Smiths HUMs a happy tune

Smiths Aerospace has been awarded the contract for the development and supply of its comprehensive health and usage monitoring system (HUMS) technology for the Future Lynx.

Smiths says the contract is worth $21 million and involves the implementation of the Smiths combined HUMS and cockpit voice and flight data recorder (HUMS/CVFDR) capability on all 70 Future Lynx on order for the UK Ministry of Defence.

"With more than 400 HUMS and two million flight hours, Smiths is the world leader in the supply of HUMS for both military and commercial helicopter applications," says John Ferrie, president of Smiths Aerospace.

Development is due to begin this year at the Smiths' facilities located at Southampton in the UK and Michigan in the USA. HUMS production deliveries are scheduled to begin in 2011. Smiths says its HUMS offers both improved safety and reduced operating costs and can be readily configured for a variety of helicopter platforms.

Laser JDAM hits moving target in F-16 test

Boeing has announced a successful test of its new Laser Joint Direct Attack Munition (LJDAM), which successfully hit a moving Armoured Personnel Carrier target on June 30 after release from a USAF F-16 flying at 20,000ft.

"Development is on our nickel. The USAF supplied the F-16, but the most focused primary customer is the US Navy," a Boeing source told *Flight Daily News*.

The laser spot produced by the targeting pod can be used to update the Laser JDAM's GPS, predicting the position of a moving target, and allowing the weapon to engage at the 'last, best' co-ordinates even if the laser spot is lost.

"Laser JDAM's performance continues to exceed our highest expectations. The weapon has the flexibility to engage both fixed and moving targets and will fill a significant gap in capability currently encountered by our warfighting customers," said programme manager Scott Van Dyke.

Boeing expects to complete development of the LJDAM in 2006, and initial production deliveries will begin in 2007.