

PREMIUM EDITION

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Early delivery of second Shadow 200 UAS

The Government has announced that a second Shadow 200 Tactical Unmanned Aerial System (TUAS) will be delivered for use by Australian troops preparing to deploy to Afghanistan, almost one year ahead of schedule. The first of the two Shadow 200 Tactical Unmanned Aerial systems was delivered in August 2011 and is currently operational in Afghanistan.

The Shadow 200 system captures full motion video during both day and night operations which can be sent back to a ground control station up to 125 kilometres away. It can recognise targets on the ground while operating at an altitude of up to 8,000 feet.

The Shadow 200 System comprises five aircraft, ground control stations, a launch and recovery element, and associated equipment, logistics and training.

The US Army and Marines first used the system in Iraq and have been using it operationally in Afghanistan. Other nations such as Sweden and Italy are also procuring the Shadow 200 system.

The Shadow 200 system has been purchased through the US Foreign Military Sales program. Originally scheduled to be delivered in the first half of 2013, the US has now agreed to deliver the second system to Australia in the first half of this year.

The accelerated delivery of the second system will enable Australian troops preparing to deploy to Afghanistan to train with the Shadow 200 system in Australia. The first Shadow 200 system is currently operating in Afghanistan and will be certified as fully operational in the near future. It has already completed more than 220 hours of successful testing and training.

The two Shadow 200 systems are being acquired through Joint Project 129 (Phase 2) at a total cost of over \$90 million.

Shadow air vehicle numbers

There appears to be some confusion about the total number of Shadow 200 aircraft included in the overall purchase by Australia. It was generally understood that a total of 18 aircraft were involved in the FMS acquisition of four Shadow 200 systems with official announcements indicating that the first two systems delivered included 10 aircraft, hence each system comprised five aircraft (as above).

But according to US military sources a single TUAV system includes three Shadow 200 air vehicles with a fourth air vehicle as part of the issued equipment of the maintenance section. This suggests additional attrition aircraft have been included in the first two systems delivered and that the next two systems will comprise four aircraft each = 18 aircraft altogether. QED.

Ouch! Growlers a costly capability

Defence is to spend more than \$19 million to purchase long lead item electronic equipment for the potential conversion of twelve of Australia's F-18 Super Hornets to the EA-18G Growler variant. In 2009, the decision was made to wire 12 Super Hornets for potential conversion to the Growler configuration at a cost of \$35 million.

Growler is an electronic warfare system that gives the Super Hornet the ability to jam the electronics systems of aircraft and land-based radars and communications systems. The Growler electronic warfare aircraft was used very effectively by the US Navy during air operations in Libya last year.

The long lead items are systems and equipment that are required for any potential conversion of Australia's existing Super Hornets and include:

- Electronic systems;
- Antennas; and
- High Frequency modulation receivers

The decision to purchase this equipment has been made now to ensure Australia continues to have potential access to the Growler technology. A final decision on whether Australia converts some of its Super Hornets to Growler configuration will be made after exhaustive assessment by the government this year. This purchase ensures Australia will continue to have access to specific technologies needed to make any such conversion.

Should Defence go the whole hog / Rhino with the full installation of the Growler capability, reports suggest the conversion cost could run to \$500 million for the fleet of 12 aircraft. The purchase of this equipment is being made through the US Foreign Military Sales process. As part of this process, a Letter of Request formally requesting the purchase has been delivered to the US. Should Australia convert some of its Super Hornets to Growler configuration it will be the only country in the world, other than the United States, operating such aircraft.

Comment: The announcement that Australia will go for the Growler capability is no great surprise to insiders but the timing of the announcement is still up in the air. Given the budget circumstances the government faces, ADM will be having a very close look at the Budget next month.

Further update on JLTV

To date there have been six proposals for the upcoming 27-month JLTV Engineering and Manufacturing Development (EMD) phase but whether all are acceptable for evaluation for down selection remains to be seen. The EMD phase entails the delivery of 22 prototype vehicles and other equipment for testing.

By June this year up to three contenders will be awarded contracts worth up to \$65 million for the final element of this program which should see a prime contractor chosen about mid-2014. Reports indicate that the winner will receive a multi-year contract worth around US\$6 billion.

Production orders could lead to the delivery of 52,250 vehicles for the US Army and Marine Corps worth up to \$250,000 each. Two JLTV variants will be built under the EMD phase, a Combat Tactical Vehicle that can carry four troops and the Combat Support Vehicle that carries two, with additional payload.

Proposals have been submitted from the following:

- **BAE Systems with Northrop Grumman and Meritor Defense** offering the Valanx powered by Ford's PowerStroke® diesel engine;
- **AM General** has submitted an independent JLTV solution based on its new Blast-Resistant Vehicle – Off Road (BRV-O);
- **AM General also is supporting a separate proposal from General Tactical Vehicles**, the joint venture formed in 2007 with **General Dynamics Land Systems**. GTV received one of three Defense Department contracts for the Technology Demonstration phase of the JLTV program;

- **Lockheed Martin** submitted a proposal for what it termed a substantially lighter and more affordable JLTV. BAE Systems, a Lockheed Martin JLTV team member, provided benefits in advanced armour solutions and production facilities for high volume assembly;
- **Navistar Defense** submitted a bid with a variant of its International® Saratoga™ light tactical vehicle, which Navistar launched in October after conducting its own automotive and blast testing; and
- **Oshkosh Defense** is offering the latest generation of its Light Combat Tactical All-Terrain Vehicle (L-ATV) to upgrade the light tactical fleet with MRAP-level protection and mobility in future missions.

JLTV and Land 121 PMV-L

With a prime contract for JLTV likely to be awarded by mid-2014 — considerably earlier than originally anticipated due to modification to the EMD program — Defence has the opportunity to compare the final JLTV winning vehicle with the Australian vehicle preferred for the Manufactured and Supported in Australia (MSA) option under Land 121 Phase 4 within its own time schedule.

The Thales Australia-led Hawkei was named on 12 December 2011 as the preferred vehicle for the MSA option to supply up to 1300 Protected Mobility Vehicles – Light (PMV-L) to replace the army's unprotected Landrover 4x4 and 6x6 Perenties. The option requires at least 50 per cent of a contending vehicle to be manufactured and supported in Australia.

The MSA component was introduced more than a year after Australia invested \$40 million in the Technology Development phase of the JLTV program. At the time the government said that the investment was to ensure it had a range of options available for the Land 121 Phase 4 requirement.

Although Defence says it will continue to monitor JLTV progress, the US program now appears to have been relegated to insurance for unforeseen problems with Hawkei. At this stage Defence has chosen not to make any further Australian investment in the EMD phase, and as a further back-up, Phase 4 also includes provision for the so-called Market Available Option, in effect a fully imported MOTS solution, though there has been little said about the viability or investigations into this option.—Julian Kerr ADM

New Thales headquarters

Thales Australia will establish its new Australian headquarters at Homebush Bay in Western Sydney, announced NSW Deputy Premier and Minister for Trade and Investment Andrew Stoner.

Stoner announced in January that the NSW Government had helped secure Thales Australia's commitment to Sydney with assistance from NSW Trade & Investment.

Thales Australia CEO Chris Jenkins said work was underway on the new headquarters building in Murray Rose Avenue, Homebush Bay.

"The support from the NSW Government has been a key factor in Thales Australia's decision to establish its new Australian headquarters in Sydney. The location is ideal, in close proximity to suppliers and geographically convenient for our staff. We look forward to being based at Homebush Bay for many years to come."

Thales Australia's long term lease at the Navy's Garden Island facility in Sydney expires in 2013. The company will invest \$10 million to establish its new headquarters at Sydney Olympic Park, while continuing its maritime support to the Navy at Garden Is-

land. Thales and Defence are still in negotiations about the finer details of the lease of the facility. Stay tuned.

SEWG needs you!

As per the ToR agreed upon establishment of the SEWG, meetings are to be co-chaired by the Director General Simulation and an Industry representative elected by SEWG members every two years or upon notice of resignation. Daniel Munro was elected as the industry representative in August 2010 and has made the decision to step down prior to the next meeting of the SEWG in June.

As the Defence co-chair, Dr Mike Brennan has thanked Dan for his efforts in helping to establish and grow the SEWG over the past couple of years.

The SEWG is now formally calling for any interested industry representative to provide nominations by COB 23 April 2012. Names will then be put forward to the group for a vote.

Responsibilities of the co-chairs include:

- understand and communicate Defence simulation priorities, issues and opportunities to SEWG membership;
- facilitate description of Industry capability to Defence;
- liaison and coordination with other Environmental Working Groups;
- facilitate communication between relevant Industry groups and Defence;
- evolve the framework for interaction between Defence and Industry; and
- co-chair SEWG meetings.

Those interested in the position should contact Lori Catelli, Deputy Director Simulation Enabling Services on lori.catelli@defence.gov.au

Holy Firetrucks Batman

The Australian Army has taken delivery of the last of 16 new Australian-designed and manufactured fire trucks on budget and ahead of schedule. The vehicle was built by SEM Fire and Rescue in Ballarat, and was accepted on Defence's behalf by Catherine King, Federal Member for Ballarat and Parliamentary Secretary for Infrastructure and Transport.

"These trucks replace our previous fleet of fire vehicles which have served our Army since the 1970s. The new trucks provide a modern fire fighting capability, essential in training and operations," Defence Materiel Minister Jason Clare said.

The 16 fire trucks will be based at major Army locations around Australia and the ADF's primary fire fighting training establishment in Queensland.

Boeing and CSIRO use science to drive innovation

A five-year \$25 million strategic research program between CSIRO and Boeing will see new innovation in space sciences, advanced materials, energy and direct manufacturing which will drive improvements and productivity in the Australian economy.

"A partnership, with a global company such as Boeing, helps CSIRO get its science from the laboratory into industry so that people can benefit from the discoveries and developments," Senator Chris Evans, said.

During the 23-year partnership, CSIRO and Boeing have jointly invested about \$110 million across a wide range of projects, including world-leading technology innovations in sustainable aviation fuels, aircraft assembly processes, fire retardants and aircraft

maintenance management software.

One such example is the development of a simple and effective 'spray on and leave on' paint technology for aircraft which has replaced a time-consuming and laborious aircraft repainting process.

The CSIRO-Boeing technology involves applying a metal alkoxide-based surface treatment that modifies and activates an 'aged' paint surface, forming a strong chemical bond with the fresh paint layer.

"Since June 2008, this technology has been applied to over 800 commercial aircraft including recent deliveries to both Qantas and Virgin Australia, resulting in multi-million dollar cost savings.

"This new \$25 million agreement represents the next stage in what has been an extremely successful relationship between CSIRO and Boeing that has delivered real technological breakthroughs for the industry," Ian Thomas, President of Boeing Australia & South Pacific said.

"Direct manufacturing, for example, offers dramatic savings in labour, time, materials, energy and other costs," said Senator Evans. "It has the potential to deliver a 'quantum leap' in the manufacturing process and enable manufacturers in developed countries like Australia to compete with countries where labour costs are low.

"If we are going to prosper in the global economy we must be smarter and more innovative than our competitors. Being at the forefront of scientific discovery is fundamental in achieving this goal."

The strong relationship with Boeing has also played a key role in the development of Boeing's operations in Australia—most notably the decision to establish research and development laboratories in Brisbane and Melbourne.

There are now 37 scientists employed within these facilities, many of whom collaborate with CSIRO on joint projects.

Who'll buy my *lovely* submarines?

The global economic crisis forced austerity measures in many countries all around the world, directly impacting defence budgets. For the last few years, Europe has witnessed significant defence spending reductions, mainly among EU-15 nations, imposing early retirement of many military platforms to reduce fleet sizes for a tidier budget.

Countries such as the UK, Germany and the Netherlands have seen most of the outcome, which is leaving a vast amount of early retired yet relatively modern defence systems 'frozen' in military facilities. These include major platforms such as Tornado combat aircraft and Leopard tanks or F122 Bremen class frigates, amongst others. Now non-operational, this extra capability is available for new customers, mainly within the framework of government-to-government transactions, for a small fee compared to the price of new weapons.

The second-hand defence market is an interesting example of a win-win solution for all involved. Armed forces that want to dispose their redundant defence platforms will not spend money on the conservation of unused weapons. This offers a chance to other armed forces that are looking for defence systems to improve their military capabilities at a reasonable cost, especially those governments with already limited spare cash.

More importantly, this offers a particularly interesting option for defence suppliers. From a defence contractor point of view, the selling price of major armaments covers about 30 per cent of the total armament life-cycle cost. The remaining 70 per cent is earned from support in service, mainly line and heavy maintenance, modernisation and spare parts, during 30-40 years of weapon utilisation. In other words, customers of second-hand equipment represent a spin-off source of support in service earnings and

potential contracts for new systems in the future. On a strategic business perspective, this also allows defence contractors to develop new relationships, partnerships and future business prospects. —Dominik Kimla, Frost & Sullivan/Defpro.com

UK's new Joint Forces Command

The launch of the UK's new Joint Forces Command (JFC), which achieved Initial Operating Capability this week, is a major milestone in the MOD's Transforming Defence - the most significant program of Defence reform for a generation.

The Joint Forces Command has been established to ensure that a range of vital military capabilities, functions and organisations – such as medical services, training and education, intelligence, and cyber – are organised and managed effectively and efficiently to support success on operations.

By bringing together a number of joint Defence organisations, the JFC will ensure investment in joint capabilities is appropriate and coherent, and strengthen the link between experience in operational theatres and top-level decision-making.

The creation of the JFC was recommended by the Defence Reform review, led by Lord Levene, as part of the most significant program of change across the Ministry of Defence in a generation. The report was published in June 2011; and the JFC has been designed and delivered from scratch in only nine months.

Over the next year, the JFC will assume the full range of its planned responsibilities in support of Defence's objectives for current operations, future contingencies, and for the longer term. — UKMOD/Defpro.com

New mini-sensor payload for RQ-11B Raven

AeroVironment has unveiled a new miniature gimballed sensor payload on the battle-proven RQ-11B Raven small unmanned aircraft system. The modular payload includes a high-resolution colour and an infrared thermal video sensor, as well as a laser illuminator integrated into a multi-axis sphere capable of continuous pan. The new payload will become a standard component of future Raven systems and will be sold as an upgrade for previously fielded units.

Upgrading existing digital Raven systems to accommodate the new payload requires only a software update to each air vehicle and ground control station. The new payload is one of four products offered in AeroVironment's "Mantis" suite of gimballed sensor payloads now available for commercial applications including unmanned aircraft systems, manned aircraft, ground vehicles and watercraft — Defpro.com