

PREMIUM EDITION

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Defence Pre-Budget announcements

The government has finally decided to cancel the self propelled element of Land 17. The contenders of Raytheon/Samsung Techwin with the K-9 and the KMW PzH2000 have been put out of their misery with the decision that had been lingering on the books for far too long. Minister for Defence Stephen Smith said the decision would save \$225 million in the Budget next week.

Since the project was outlined in the DCP at between \$500 million and \$1.5 billion it will be interesting to examine the budget papers next week carefully as to how this figure was reached.

“The Government’s announcement not to proceed with the acquisition of self propelled artillery for the Australian Army is a disappointing outcome for **Raytheon Australia, Samsung Techwin** and our SME partners who have worked on this project for the last seven years,” said a Raytheon spokesperson.

“The decision has denied the Australian Army an important new heavy artillery capability which would have offered an unprecedented level of protection for Australian forces.”

When asked to comment on the move Vincent Williams on behalf of **KMW** in Australia was concerned about the impacts of the decision on Land 121 Ph 4 and Land 400 down the line.

“The SP element was considered integral only at the end of last year,” Williams said.

He was also keen to point out that since KMW declined to participate in the DMO tender two years ago, any issues that Minister Smith spoke of were not to do with the PzH2000.

Also announced was the decision to **push back the JSF buy of 12 craft by two years**. The government has officially signed up for 14 aircraft (but only contractually obliged to take 2 thus far) with 2 to be delivered in 2014 for training and the others now from 2016.

“The Budget effect of that is that it takes out of the forward estimates for this year’s budget between \$1.5 billion and \$2 billion,” Smith said, adding the “net benefit” to the budget was \$1.6 billion.

There would be range of programs in the defence capability plan which have been delayed or deferred, not as a result of any financial or fiscal imperative, but because of “industrial or technological difficulties”

Defence will be helping the government return to surplus thanks to cuts in capabilities but not people, Smith confirmed.

NEXT WEEK

As always, **ADM Editor Katherine Ziesing will be in the Budget lock up next week and the ADM website will be the home of Defence budget news** in the day following, while the June print edition will have the full story.

Movement on Future Sub, thanks to funding

Prime Minister Julia Gillard, Minister for Defence Stephen Smith and Minister for Defence Materiel Jason Clare today announced the Government would provide \$214 million for the next stage of the Future Submarine Project.

This funding will go towards further detailed studies and analysis to inform the Government's decision on the design of Australia's next submarine.

The Government is conducting a Review into the Sustainment of Australia's Collins Class submarines, led by Mr John Coles.

The Coles Review involves a detailed examination of complex engineering issues associated with submarine sustainment and support from international experts and companies in this field.

The Government is considering four broad options for the Future Submarines:

- An existing submarine design available off-the-shelf, modified only to meet Australia's regulatory requirements;
- An existing off-the-shelf design modified to incorporate Australia's specific requirements, including in relation to combat systems and weapons;
- An evolved design that enhances the capabilities of existing off-the-shelf designs, including the Collins Class; and
- An entirely new developmental submarine.

The Government has ruled out the option of a nuclear submarine.

Indicative Timeline for the Future Submarines

2012: The Government will make a decision on design and test facilities including the Land Based Test Site and will receive the Future Submarine Industry Skills Plan.

2013: The Government will receive the results of the work announced today and will make a decision on the combat systems, torpedos, sensors and other weapons systems.

2013/2014: On current planning First Pass approval is scheduled for late 2013/early 2014.

2017: On current planning Second Pass approval is scheduled for around 2017 with construction expected to begin following Second Pass.

The funding announced today will inform the Government's final decision on the design and workforce requirements for the Future Submarine, and identify and address risks in this complex project.

These studies are in addition to the Government's announcement in December that it had approved the release of Requests for Information to three overseas submarine designers (DCNS, HDW and Navantia), and that Defence had

entered into a contract with Babcock for a study into a land-based propulsion site.

The studies announced today will be conducted across three broad areas:

- Design studies;
- Scientific and technological studies; and
- Future Submarine Industry Skills Plan.

Design studies

Options for the Future Submarine range from a proven fully Military Off The Shelf design through to a completely new submarine. All options are being considered, other than nuclear propulsion, which the Government has ruled out.

These studies will be undertaken across four areas:

1. Military off the shelf design studies

These studies will be undertaken with three European ship building companies:

- * DCNS (France), designer of the Scorpene
- * HDW (Germany), designer of the Type 212 and Type 214 submarines
- * Navantia (Spain), designer of the S-80 submarine

These studies will help inform the Government on the viability of a military off the shelf design and what modifications would be required to meet specific Australian conditions.

2. Initial design studies for an updated Collins Class submarine

The Government will engage Swedish ship designer and builder Kockums to undertake initial design studies for an updated Collins Class submarine.

The updated design will build on the high level of capabilities of the existing Collins Class submarine design, address challenges and obsolescence issues and provide capability enhancements.

3. Analysis of options

An expert submarine design firm will be engaged to conduct cost and capability trade-off analysis of all options. These studies will model the technical and performance characteristics of different submarine designs against capability and cost considerations.

4. Capability modelling by the United States

At the Australia-United States Ministerial (AUSMIN) consultations in Melbourne in November 2010, Australia and the United States agreed that Australian-United States cooperation on submarine systems was strategically important for both countries.

The high level of submarine interoperability between Australia and the United States and our technical cooperation will extend into Future Submarine acquisition program.

United States submarine companies Systems Performance and Analysis and

Electric Boat will undertake capability modelling under a Foreign Military Sales case. These companies will investigate the capability of an off the shelf option as well as an evolved Collins option.

Scientific and technological studies

In addition to these design studies, scientific and technological studies will be conducted primarily by the Defence Science and Technology Organisation.

They will assist the development of requirements and provide technical advice to Government aimed at reducing risk in critical areas for the project.

These studies will cover areas including:

- * Propulsion and Energy Storage;
- * Signatures and stealth performance;
- * Combat systems; and
- * Hydrodynamics, propellers and pumpjets.

The scientific studies undertaken will deliver a range of reports and recommendations on the development of Future Submarine helping to provide better options to the Government for decision.

New submarine 'go to' man

Given the central role of submarines in Australia's national security, the Secretary of the Department of Defence, Duncan Lewis, has recommended that a senior Defence position be dedicated to focusing exclusively on the oversight of all existing and future materiel-related submarine activities in the Department of Defence.

The Government has agreed to this course of action and is announcing today the appointment by the Secretary of **Mr David Gould as the General Manager of Submarines** in the Department of Defence.

Mr Gould will work in the Defence Materiel Organisation and will take responsibility for all materiel-related aspects of submarine support across Defence. Mr Gould will report to **Mr Warren King, Chief Executive Officer.**

In addition to working closely with the Chief of Navy, Mr Gould will work across Government and industry as a project integrator to pull together the remediation and support of our existing submarine fleet and the project to replace our existing Collins Class submarines.

As a result of Mr Gould's appointment, and on advice from the Secretary, the **previously announced position of Associate Secretary Capability will not be progressed.**

Defence Force Posture Review final report released

Prime Minister Julia Gillard and Minister for Defence Stephen Smith today released the final report of the Defence Force Posture Review.

The report finds that our changing strategic environment does not require

widespread changes in the location of our Defence Force bases, but that some adjustments should be made to meet future needs.

It finds that there are some weaknesses and risks associated with the capacity of Australian Defence Force (ADF) bases and training areas as well as our ability to sustain high-tempo operations in Northern Australia and our neighbourhood and region.

Release of the final report follows the Government's release of the interim report of the Review on 30 January.

The Force Posture Review addresses the range of present and emerging global, regional and national strategic and security factors which require careful consideration for the future.

These strategic and security factors include:

- the rise of the Asia-Pacific as a region of global strategic significance;
- the rise of the Indian Ocean rim as a region of global strategic significance;
- the growth of military power projection capabilities of countries in the Asia Pacific;
- the growing need for the provision of humanitarian assistance and disaster relief following extreme events in the Asia Pacific region; and
- energy security and security issues associated with expanding offshore resource exploitation in our North West and Northern approaches.

The Review also examined logistics support requirements, training areas for large-scale and joint training exercises, demographic and economic factors, public communications strategies, and engagement with industry, particularly the minerals and petroleum resources industries in Australia's North and West.

The Review concluded that the Australian Defence Force needs a force posture that can support operations in Australia's Northern and Western approaches, as well as operations with our partners in the wider Asia Pacific region and the Indian Ocean Rim.

This will be particularly important as the Australian Defence Force approaches a period of transition and subsequent drawdown in Afghanistan, as well as in East Timor and Solomon Islands.

The Review identifies expanding maritime capabilities as significantly influencing Australia's future force posture.

Joint amphibious capability is identified as having a transformational effect on Navy, Army and the ADF generally, driving force posture considerations.

The Review examined possible basing options in the North and North West of Australia and the possibility of arrangements that enhance access to commercial ports. While permanent Navy bases in the North West are not operationally necessary, the Review recommended that Defence examine options involving investment to enhance Broome, Darwin and Cairns as naval bases.

The Review highlights the potential for greater wharf capacity and support facilities at HMAS Stirling (Fleet Base West) to support major surface combatant capability and operations.

The Review finds that Defence should proceed with its plans to homeport the Air Warfare Destroyers and Landing Helicopter Docks at Fleet Base East in the

short term but also develop additional options involving Brisbane and Fleet Base West.

The Review also found that while Air Force bases are well-located, many currently lack the capacity to fully support new platforms, and some air bases in Northern Australia face significant logistics constraints.

The Review found that Defence should upgrade bases at Edinburgh, Learmonth, Pearce, Tindal and Townsville to enable unrestricted operations by KC-30 and P-8 aircraft and that Defence should upgrade Curtin, Learmonth, Tindal and Townsville, with Scherger as a lower priority, to support future combat aircraft operations.

The Review also identifies Defence's international engagement as a significant strategic asset.

The conclusions and recommendations of the final report are in the main longer term options for consideration. No decisions have been made about individual proposals. Many of these options, including development of new facilities involve substantial additional investment.

The Force Posture Review report will now form part of the security and strategic considerations feeding into the 2013 Defence White Paper (which was previously going to be released in 2014 having been moved forward a year in the same announcement), and decisions on Force Posture Review options will be made as part of the 2013 White Paper process.

The Review was undertaken by the Department of Defence and overseen by an expert panel comprising two of Australia's leading national security experts, Dr Allan Hawke and Mr Ric Smith, both former Secretaries of the Department of Defence.

The final report is available at:

<http://www.defence.gov.au/oscdf/adf-posture-review/>

Ministers launch Sydney Aerospace and Defence Interest Group

Sydney's new Aerospace and Defence Interest Group (SADIG) was jointly launched on April 30 by Defence Materiel Minister Jason Clare and Deputy NSW Premier Andrew Stoner.

SADIG has been formed to bring together the key industry stakeholder groups in the Sydney area and has established three working groups covering skills, supply chain and innovation to meet the demands of future complex defence projects.

Chris Williams, chair of the SADIG executive committee, said the group already had 110 members and anticipated this increasing to 300 by the end of the year – more than a third of the 850 ADF suppliers that Minister Clare said were located in NSW.

SADIG will identify new additional strategic opportunities which can only be tackled on a collaborative basis, and provide feedback to industry members and other stakeholders including the State and Federal governments on the makeup and health of the Sydney area's aerospace and defence industry sectors.

It will also identify key factors and trends, and help facilitate industry access to government support and services.

The launch was given a boost by Phillip Odouard, managing director of Quickstep, who said that 350 staff would eventually be located at the company's Bankstown facility as part of the company's move from Perth to Sydney.

ManpowerGroup announces recruiting contract for the ADF

ManpowerGroup has announced a new contract, worth at least \$400 million over five years, for Recruiting Services to the Australian Defence Force (ADF).

The new contract renews ManpowerGroup's Recruitment Process Outsourcing (RPO) collaboration with the ADF for the next five years – and has set a record as the industry's largest RPO partnership.

The contract covers the entire recruiting process – including marketing, recruiting operations, medical and psychological assessments and the coordination of selection boards and employment offers.

The Australian Defence Force first partnered with ManpowerGroup in 2003 to create the first Defence Force Recruiting (DFR) contract.

This unique private-public collaborative effort was an industry first and continues to evolve into its second decade.

The DFR engagement is managed from its own headquarters and includes a candidate relationship management center and 16 national recruiting centers.

Between 20,000 – 40,000 candidates are processed annually for the Australian Navy, Army and Air Force.

Under the new contract, beginning in November of this year, ManpowerGroup will continue to manage the largest and most complex RPO program in the world for the next five years.

If successful in exceeding the ADF's outcome-based requirements the contract can grow to 10 years.

ManpowerGroup will manage two major subcontractors, Corporate Health Group Defence (CHG Defence) for the provision of medical services, and Hewlett-Packard (HP) for ICT services.

Hawker Pacific signs support contract for DSTO aircraft

Hawker Pacific has won a four year contract to support and operate Defence Science and Technology Organisation (DSTO) Beech 1900C Defence Experimentation Airborne Platform (DEAP) aircraft providing engineering design and modification, maintenance, and flight operations services.

The \$5.8M program will support important strategic capabilities of the Australian Defence Force (ADF) in areas of electronic sensor and system testing.

Hawker Pacific's chief operating officer – Pacific Region, Doug Park, believes the DEAP contract represents an exciting opportunity for Hawker Pacific to fur-

ther demonstrate the company's ability to deliver full turn-key operating services on a complex program.

Hawker Pacific will begin operations with the DEAP 1900C aircraft in June 2012, with two by two year extension options to the contract.

The aircraft will be based at the company's Bankstown engineering and maintenance facility.

PIC Innovation Program recipients

Nine Australian companies have been offered \$12 million in matched funding to commercialise new defence technologies under the first round of the DMO's Priority Industry Capability Innovation Program.

In September last year Defence Materiel Minister Jason Clare announced the establishment of the \$45 million program aimed at building Defence priority industry capabilities.

Under the program companies can apply for up to \$4 million in matched funding for innovative projects that will improve or enhance a Priority Industry Capability (PIC).

A merit-based program, proposals need to demonstrate a high level of merit against certain criteria, including strategic benefit, commercial prospects, management capability and of course, value for money.

Following are the companies offered matched funding and their technology proposals under the first round of the PIC Innovation Program:

- **Cirrus Real Time Processing Systems Pty Ltd**, \$469,602, for Sensor Association and Fusion Engine (SAFE). SAFE is a technology that addresses a core problem with sensor and/or combat systems that track contacts; how to determine which sensor measurements associate to which (if any) tracks, and which sensor measurements associate to background clutter. SAFE is designed to use internal algorithms that have a much lower computational impact than those algorithms traditionally used for this "track association" problem in combat systems.
- **Sonartech Atlas Pty Ltd.**, \$726,956, Sonix Sonobuoy Architecture and Acoustic Processing Modernisation. The project's aim is to modernise and extend the capabilities of the Sonix System which has applications for Maritime Ranging and Surface Ship ASW and Torpedo Defence.
- **Secure Systems Ltd**, \$423,116, Secure Portable Anti-Tamper Data Storage Solutions. The project seeks to develop the next generation of portable Silicon Data Vaults that will be able to store and protect Top Secret data yet allow handling as a 'For Official Use Only' device; or protect Secret data yet allow handling as an Unclassified device.
- **Micreo Limited**, \$152,706, Fast-turning Wideband Synthesiser. The project's aim is to commercialise a new high performance frequency synthesiser with sub-microsecond switching speed and excellent spurious suppression across an output frequency range of 2-20 GHz.
- **C4i Pty Ltd**, \$2,187,477, SwitchplusNG – integrated network centric Command and Control (C2) Communications. SwitchplusNG is a fifth genera-

tion end to end internet protocol based voice and data communication system. The project's aim is develop and enhance a number of sub systems (Communications Simulator, High Availability Communications, Multi-Domain Secure Interface Units and Multi-Purpose Gateways) under the SwitchplusNG program.

- **CEA Technologies Pty Ltd**, \$2,564,940, CEA FAR Phased Array Radar Land Environment Transition Project. The objective of this project is to transition CEA FAR Active Phased Array technology from the Maritime to the Land environment and establish a Multi Mission Radar hardware platform that is able to support: Air-Surveillance, Air Traffic Control, Weapon Location and Ground Based Air Defence.
- **Australian Defence Apparel Pty Ltd**, \$4,000,000, Armour Technologies Commercialisation and Expansion Project. The project's aim is to commercialise a new suite of armour technologies to expand ADA's capacity to manufacture high quality armoured products at a cost that is competitive in the global market.
- **Sentient Vision Systems Ltd**, \$529,378, Automated Target Detection and Cueing System for Remote Weapons Stations. The project will develop automated target detection capability for Remote Weapons Stations (RWS). By analysing the imagery from the long-range and battlefield sensors of the RWS, the proposed Automated Target Detection and Cueing system will give significantly enhanced capability to RWS operators increasing its effectiveness.
- **Quintessence Labs Pty Ltd**, \$1,055,309, Visual Zeroisation Storage and Management System for Military Information Platforms. The project's aim is to significantly improve the anti-tamper capability of stored data through the implementation of a system which is always active and does not rely on reactive or physical countermeasures. The data is in effect protected before a tamper event even occurs.

Scaled-down CEA-FAR for land use?

Long aware of the scalability of CEA Technologies' phased array radar (now in RAN service) ADM's April 2012 From the Source interview featured the company's CEO Rob Forbes, who was asked whether consideration had been given to the development of portable PAR systems for land operation, such as for mortar location or even Counter-RAM applications.

Forbes said that not only had the company considered it, but that they were developing a ground-based radar as well as a portable radar available for airport defence mounted on the back of a truck but which could also be carried around for mortar detection or location.

This has now been confirmed by CEA's multi-mission radar proposal for PIC innovation funding which includes weapon location capabilities.

However CEA Technologies won't be the first in the field with a digital beam forming ground radar.

Cassidian, the defence and security division of EADS, has launched the SPEXER 1000, a new security radar into the market, as part of the company's

SPEXER radar family.

“Our new radar is the first operational security radar using the latest digital beam forming (DBF) technology, which enables the early detection even of single pedestrians in all weather conditions,” explained Elmar Compans, Head of Cassidian Sensors & Electronic Warfare.

“Thus, SPEXER 1000 gives police or security forces additional reaction time in order to deal with illegal intruders.”

However, like other non-optical radars, the SPEXER 1000 can only generate a limited set of results - position and velocity - and is optimised for surveillance of critical infrastructure such as oil fields, power plants, military camps and so on.

Despite its digital beam forming capabilities it is a far cry from CEA’s multi-mission radar concept.

Defence cuts in the offing?

During a door stop interview with media last week at HMAS Stirling, Defence Minister Stephen Smith said Defence had to expect to make a contribution to the return of the Budget to surplus, adding that other departments and other agencies would also make a contribution.

“All details, of course, will await Budget night, Tuesday week. But there are a couple of general things I can say – firstly, I have made it clear in the past, and make it clear again today that there will be no adverse impact on any of our overseas operations.

“And so the fiscal constraints will see our operations in Afghanistan, our operations, our peacekeeping and stabilisation missions in East Timor and in the Solomons, they will effectively be ring-fenced from any fiscal consideration,” Smith said.

“Secondly as I’ve made clear in the past there’ll be no adverse impact on the number of personnel that we have on the military side of the Australian Defence Force.

“The Chief of Army recently underlined the importance of that as did I, so in two important areas there’ll be no adverse implications. As for the rest, we need to await Budget night, but as a general proposition it’s important to say this.

“We’ve seen in recent times both the UK, for example, and the US subject to very stringent cuts so far as Defence spending has been concerned, and they have both done that which has seen changes to their Budget arrangements in the Defence area.

“So we won’t be the only country going through a tight fiscal regime so far as Defence expenditure is concerned, but the UK have managed that.”

Growler funding?

The Growler concept is not without controversy especially in relation to the ageing ALQ-99 jamming pods that would come as part of the final conversion deal.

Deferring the full Growler conversion until the next generation jammer (NGJ)

is available - by the likely date of 2020 - may make sound sense.

Since we will only have JSF trainers at that stage the more potent the Super Hornet fleet we have, the better.

However if the long lead items now being purchased are relevant only to the ALQ-99 that would be a pity.

Cobham awarded NAVAIR contract for Low Band Transmitter

Cobham has been awarded a US\$39 million contract from the US Naval Air Systems Command (NAVAIR) to manufacture the AN/ALQ-99 Low Band Transmitter-Antenna Group for US Navy and Marine Corps EA-6B and EA-18G electronic warfare aircraft.

The contract is a modification to a previously awarded firm fixed price Full Rate Production contract to exercise an option for 48 Low Band Transmitters; 13 vertically polarized antennas; and 28 horizontally polarized antennas associated with the AN/ALQ-99 Low Band Transmitter- Antenna Group.

The contract's initial award procured 60 Low Band Transmitters and an associated number of antenna assemblies in a variety of configurations.

The AN/ALQ-99 Low Band Transmitter-Antenna Group (LBT-AG), developed by Cobham Sensor Systems, has been in production since 2005.

The LBT is designed to protect strike aircraft, ships, and ground troops by disrupting enemy radar and communications.

It is flown on US Navy EA-6B Prowler and EA-18G aircraft and Marine Corps EA-6B aircraft, and has been used in combat operations.

Cyber security and Australia-US relations

At the September 2011 AUSMIN talks, Australian and US officials took advantage of the 60th anniversary of the signing of the ANZUS Treaty to announce the alliance would now extend into cyberspace.

ASPI convened a conference of Australian and American experts on December 9, 2011 in Washington DC to discuss what this means for the future of conflict and defence in cyberspace and how allies perceive and respond to mutual threats.

As a result, papers by Andrew Davies, James Lewis, Jessica Herrera-Flanigan and James Mulvenon have been compiled in this Special Report.

Download the PDF version here at www.aspi.org.au

Lockheed Martin to provide US Army with 360-degree protection

The US Army awarded Lockheed Martin US\$391 million in production orders for a new radar system that provides soldiers with enhanced 360-degree protection from rocket, mortar and artillery fire.

The orders represent the execution of two contract options for a total of 33 AN/TPQ-53 (Q-53) counterfire target acquisition radars – formerly designated EQ-36 during their development and initial production – to be delivered by the end of 2014.

The options include spares, testing and training materials.

If all options are exercised, 38 additional low- and full-rate production systems could be added and the total contract value would exceed US\$800 million.

Mounted on a five-ton truck, the Q-53 can be rapidly deployed, automatically leveled and remotely operated with a laptop computer or from a fully equipped climate-controlled command vehicle.

Korean Navy procure Rheinmetall's MASS decoy system

The Navy of the Republic of Korea is procuring Rheinmetall's MASS, the company's latest decoy system for frigates, corvettes, minesweepers and patrol boats, for installation on its new Landing Ship, Tank vessels (LST-II).

The South Korean Defence Acquisition Programme Administration (DAPA) contracted with Samsung-Thales Co. Ltd. of Seoul to equip the ships.

The basis for this is a license agreement between Rheinmetall and Samsung-Thales. Total order volume comes to around €7 million.

As a pilot project, four LST-II-class ships will be equipped with two MASS launchers each. This trainable decoy system is poised to become standard equipment throughout the ROK Navy.

Since the product's launch in 2002, Rheinmetall has booked orders for MASS from the navies of 11 nations – a total of 186 launchers for 22 different classes of vessels.

US Navy to provide briefing on Littoral Combat Ship program

A House Armed Services Subcommittee has unanimously passed an amendment to require the US Navy to provide a full briefing on its troubled and expensive close-to-shore combat ship program.

The amendment comes on the heels of a letter POGO sent to leaders of the House and Senate Armed Services Committees calling for the elimination of one variant of the Littoral Combat Ship (LCS).

As we reported last week the non-partisan, independent US watchdog POGO called for one LCS variant to be eliminated because photos and documents showed numerous cracks and evidence of corrosion in the hull of the USS Freedom, the first vessel Lockheed delivered in the LCS program.

The amendment, introduced by Rep. Duncan Hunter (R-CA) as part of the fiscal year 2013 defense budget bill, would require the Navy to give a full briefing on the LCS 30 days after the defense budget is signed into law. It was the only addition to the bill in an otherwise short hearing.

USAF upgrades its EA pods

The US Air Force has awarded Northrop Grumman a US\$52.8 million, 27-month engineering and manufacturing development (EMD) contract to upgrade its electronic attack (EA) pods.

The program has a potential value of US\$480 million including EMD, a low-rate initial production phase (LRIP) and five production options.

The Northrop Grumman team designed an innovative solution that provides our USAF pilots with the electronic warfare protection for combat operations.

Northrop Grumman's solution, an upgraded ALQ-131 EA pod, is fully capable of operating in support of A-10, C-130, F-15 and F-16 aircraft and aircrews.

US Navy explores extreme-range UUV tethering

The US Navy is experimenting with fibre-optic cabling to see if the technology could prove suitable as a communications link between unmanned undersea vehicles (UUV) and submarines.

"One thing we are looking at is how do we create a real-time datalink to these undersea assets so that you can, in real time, see what that vehicle is seeing, see what it is experiencing and feed it back to the submarine commanding officer so he can make real-time decisions based on that data," Commander John Vlattas, programme manager, Advanced Submarine Systems, told IHS Jane's.

GD to upgrade US Army's Abrams MBTs

The US Army's TACOM has awarded General Dynamics Land Systems US\$31 million to begin upgrading 24 M1A1 Abrams main battle tanks and 22 M1A2 System Enhance Package (SEP) Version One (V1) tanks to the M1A2 SEP V2 configuration.

The most technologically advanced digital tank available, the M1A2 SEP V2 includes improved colour displays, day and night thermal sights, auxiliary power and a tank-infantry phone.

The configuration is a digitally connected tank with a latest electronic backbone, powerful computers and an open architecture designed to accept future technologies without the need for significant re-design.

The SEP enhancements are said to make the Abrams the most survivable tank in the world and enable it to fight as part of the Joint Force network for decades to come — *Defpro.com*

Upgraded Fire Scout for USN

The US Navy has designated Northrop Grumman as the prime contractor to upgrade its MQ-8B Fire Scout unmanned aerial vehicle (UAV).

The US\$262-million contract covers an expansion in payload and endurance as well as a greater flight range. The upgraded UAVs will carry the designation MQ-8C.

Northrop Grumman plans to produce eight Fire Scouts based on the Bell 407 airframe as part of the agreement, two of which will be used for tactical vertical takeoff and landing manoeuvrability testing.

A total order for 28 of the upgraded UAVs is expected from the Navy with work completed by May 2014.

Pratt & Whitney contract Rolls-Royce for JSF

Rolls-Royce has received a contract for US\$315 Million from Pratt & Whitney to supply the Rolls-Royce LiftSystem for 17 F-35B Lightning II aircraft.

The LiftSystem comprises a Rolls-Royce LiftFan, Roll Posts and a 3-Bearing Swivel Module.

Rolls-Royce will produce 17 LiftSystems for the fourth lot of Low-Rate Initial Production (LRIP) in 2012, with a further order for the fifth lot expected later in the year.

HMS Vigilant to start sea trials after overhaul

The Royal Navy's Trident missile carrying submarine HMS Vigilant has left Babcock's Devonport Royal Dockyard, Plymouth, UK to start sea trials following completion of a successful three-and-a-half year Long Overhaul Period and Refuel (LOP(R)).

A key feature of the LOP(R) has been the successful implementation of new ways of working designed to assure programme delivery, ensure product quality and maximise the submarine's operational capability.

A ground-breaking contractual arrangement between Babcock and the UK Ministry of Defence (MoD) has supported close co-operation and joint working, greater transparency of information, focused attention on cost reduction while improving safety and quality standards, and incentivised achievement of the agreed schedule.