



# DEFENCE WEEK

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*Just as troops from the US were welcomed to train in Australia, Minister Johnston has extended the invitation to UK troops.[Photo:Defence]*

## UK forces to come down under?

**Australia has invited the UK to utilise its Defence facilities in Darwin much like the US is doing, as the allies increasingly focus on the Asia Pacific region.**

Defence Minister **David Johnston** met with his British counterpart, **Philip Hammond**, and the foreign ministers of both countries in London on Tuesday for the annual **AUKMIN** meeting where he was asked about the possibility of a permanent UK base in Australia.

Senator Johnston told reporters it would be a decision for government but he nevertheless extended a broad invitation to British forces.

"We do have US Marines coming to Darwin. It will not be a basing, it's an opportunity for them to utilise our facilities," the Minister said.

"(And) we welcome such a similar utilisation at every opportunity for the Royal Navy or any other of the services from the United Kingdom to come to Australia and to inter-operate with us, to train with us and to do things that are mutually beneficial." - AAP





## Offensive cyber tools for the ADF?

Tom Muir

In an article\* in the current *Australian Army Journal*,\* Major Nicholas Rose, who is currently serving with the Deployable Joint Force HQ, describes three tools, applicable to offensive cyber operations, should the ADF move from purely defensive concepts of cyber warfare to the use of offensive cyber capabilities along the lines of those concepts under consideration by the US Marine Corps. His tools for defence planners include cyber-reconnaissance, cyber-isolation and cyber-strike.

**Cyber-reconnaissance:** Whereas the conduct of general reconnaissance is necessary to understand an adversary, the conduct of cyber-reconnaissance is necessary to assess an adversary's network or system, the system's weaknesses, its defence mechanism and who is operating in the system. For the operational planner, knowing what is occurring inside the enemy's computer systems is a vital enabler that should be exploited.

**Cyber-isolation:** The first step may comprise the isolation in cyberspace of a military objective or operating area as a preliminary to land operations. Such isolation can include the denial of official internet services, disruption of cyber systems in an adversary network, and the denial of internet communication to outside third parties. Cyber-isolation would be particularly useful during the decisive phases of an operation in which limiting or disrupting enemy communication networks domestically and internationally may contribute to achieving military objectives.

However, given the interconnected nature of cyberspace, the electronic isolation of an entire nation or even a significant portion of a nation, could create second and third order effects in other nations drawing other unwanted combatants into the conflict.

**Cyber-strike:** According to some analysts the **Stuxnet attack** of 2010 was a game-changer in the realm of cyber operations. Stuxnet was a sophisticated computer virus allegedly created by the US or Israel to attack Iranian nuclear facilities. Specifically the worm was designed to survey and then subvert very specific industrial controls relating to supervisory control and data acquisition systems that monitored industrial nuclear processes. A cyber-strike was conducted through the precise insertion of the virus.

The US Navy is reportedly developing airborne electronic warfare systems that will be able to 'fire' malicious codes into closed adversary networks from up to 200 miles away. In a similar fashion the US Army is reportedly experimenting with techniques to insert and extract data from sealed or wired networks from a stand-off distance.

Such technology has been termed '**electronic warfare-enabled cyber**' and attempts to transmit code via radio signals into targeted computer systems. The potential for such weapon systems to be used in future conflict, with the capacity to enable stand-off disruption to enemy networks, is significant.

In conclusion Major Rose says the demonstrated characteristics of cyberspace operations will provide military planners with unique battlespace-shaping tools, including cyber-reconnaissance, isolation and strike that can significantly enhance the future conduct of warfighting.

\*Major Nicholas Rose: *Shaping the Future Battlespace – Offensive Cyber Warfare Tools for the Planner*, *Australian Army Journal*, Summer 2013, Volume X, Number 4.





## BAE Systems' bid for JP1770

Tom Muir

**According to BAE Systems, the design and integration of state of the art sensors, niche expertise, and cost effective technologies are at the heart of the company's solution for the JP 1770 - Maritime Rapid Environment Assessment (M-REA) request for tender.**

The ADF sees knowledge of the environment as a critical factor in the conduct of successful joint military operations and towards this end it has a keen interest in improving its capabilities to collect, analyse and disseminate geospatial information.

Rapid Environmental Assessment allows relevant geospatial and environmental information relating to a particular area of military operations to be collected, processed and disseminated to military planners, decision makers and operational forces. This geospatial and environmental information includes hydrographic, topographic, oceanographic, and atmospheric data that may be sourced from both archived data and data collected in real-time.

The provision of reliable and relevant geospatial and environmental data facilitates situational awareness and decision superiority in the battlespace, thus enabling optimal employment of platforms, weapons systems and sensors. The Rapid Environmental Assessment capability to be delivered under JP1770 Phase 1 is expected to introduce improved sensor and collection systems, and enhanced information management and dissemination structures across Defence.

BAE Systems has partnered with Brisbane-based company, **IX Survey**, which has decades' experience in hydrographic survey and pioneered innovative shallow water survey techniques. IX Survey also brings a significant investment in a purpose-built survey craft, which is part of the solution.

BAE Systems' team includes **ESRI**, providing geospatial software, and a supply chain boasting some of the world's premium providers of sensor platforms, such as **R2Sonic**, **Knudsen Engineering** (underwater acoustic products) and **Fugro** (satellite positioning services and products).

Importantly, prime responsibility for the delivery of the M-REA outcome rests with BAE Systems. The company has extensive experience in systems integration and partnering successfully with the ADF.

"We are confident that our solution can deliver the best possible outcome, providing a Maritime Rapid Environmental Assessment capability that will be effective, safe, cost-effective and with minimal risk," **Kim Scott**, BAE Systems' director Land & Integrated Systems said.

"We have brought together a talented and innovative team to ensure we offer the latest technology, practical experience and the flexibility to meet the Commonwealth's rigorous demands. Our solution supports the Royal Australian Navy's amphibious capabilities, headlined by the two new **Landing Helicopter Docks** currently being fitted out by BAE Systems in Williamstown, Victoria," he said.



## Assistant Minister for Defence talks LAND 400 in Geelong

**The Assistant Minister for Defence, Stuart Robert, together with the Federal Member for Corangamite, Sarah Henderson, recently toured Geelong, speaking to local business and community leaders about Army's LAND 400 Combat Vehicle program.**

Robert's tour of Geelong comes after meeting with Ms Henderson and Geelong Mayor **Darryn Lyons** February 2014 to discuss Army's multi-billion dollar LAND 400 program.

"It is an absolute pleasure to be in Geelong with Sarah to talk with local leaders and industry representatives about Army's LAND 400 Combat Vehicle program and the potential manufacturing opportunities it could bring to the Geelong region," Robert said.

"The LAND 400 program is the Australian Army's largest, most expensive and most complex combat vehicle program and will provide Army with an essential capability for future land operations."

LAND 400 will allow for the retirement of Australia's current armoured vehicles including the **Australian-Light Armoured Vehicles (ASLAV)** and the armoured personnel carriers (**M113-AS4**) in line with their expected Life of Type, as well as providing new armoured manoeuvre support vehicles.

These new vehicles will provide the Army with precision firepower capabilities while providing high levels of survivability and tactical mobility.

Henderson said the visit provided a fantastic boost to Geelong's campaign to be considered a key location for the multi-billion-dollar contract to build the next-generation of Army combat vehicles.

"Today's visit by the Assistant Minister for Defence included a briefing to local industry and community leaders on the LAND 400 program. I am certain this has helped to galvanise local support for the program coming to Geelong," Henderson said.

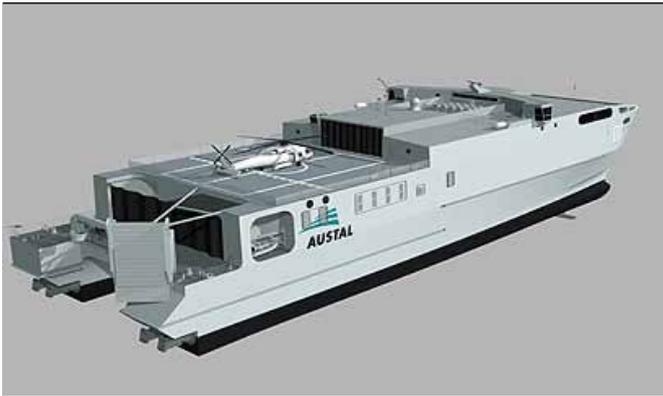
"While a decision on the awarding of contracts is a number of years away, the hard work must begin now if Geelong is to be successful in its bid for this significant, multi-billion dollar project."

### REGISTER NOW! ADM Cyber Security Summit 19-20 June 2014 | Canberra

This year's speaker faculty will feature presentations from renowned experts from government, industry institutions/agencies, academia and leading vendors. Some of the key topics to be addressed include:

- Cyber warfare
- Mitigating and preventing cyber offensives
- Protecting critical cyber infrastructure
- Intelligence and surveillance
- Cyber terrorism
- International Policy





## Austal wins contract for two High Speed Support Vessels

Austal has been awarded a US\$125m contract from a ME naval customer for the design, construction and integrated

### logistics support of two 72-metre High Speed Support Vessels (HSSVs).

Austal will construct the HSSVs at its shipyard in Henderson, Western Australia. Construction of the first vessel is expected to commence in CY2014, with the second vessel expected to be delivered in CY2016.

The HSSVs will be deployed with a similar mission to the **Joint High Speed Vessels** currently being constructed by Austal for the US Navy at the Company's shipyard in Mobile, Alabama. The HSSVs offer a range of capabilities to support naval operations, including helicopter operations, rapid deployment of military personnel and cargo, and search and rescue operations.

Austal chief executive officer **Andrew Bellamy** said the contract reflected the Company's strategy of pursuing higher-value, defence vessel export opportunities in new markets.

"I am delighted that we have been awarded this contract, which is in line with our strategy of leveraging our revolutionary intellectual property and technology to new defence markets, particularly for underpinning the Henderson shipyard," Bellamy said.

"This contract reinforces the significant progress we have made in positioning Austal as a prime defence contractor.

"At Henderson, for example, we have a proven ability in designing, constructing and supporting defence vessels, including our current eight-ship Cape Class Patrol Boat contract for the Australian Customs and Border Protection Service. Meanwhile, our commercial ferry operations have been successfully transferred to our Philippines shipyard.

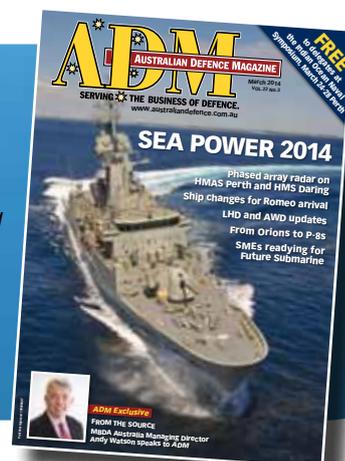
"The contract also illustrates the growing recognition by international naval forces of the utility of high speed support vessels, following on from our 10-ship Joint High Speed Vessel contract for the US Navy."

### OUT NOW!

### ADM March 2014

#### SEA Power 2014

- Phased array radar on HMAS *Perth* and HMS *Daring*
- Ship changes for Romeo arrival
- LHD and AWD updates
- From Orions to P-8s
- SMEs readying for Future Submarine





## JSF program head visits Quickstep

The F-35 program executive officer US Air Force Lieutenant General Chris Bogdan recently met with employees and management of Quickstep Holdings Limited at their manufacturing facility in Bankstown Airport where components are produced for the F-35 fighter.

"The technologies I saw have great potential to improve aerodynamic performance and help to keep manufacturing costs down. Quickstep's contributions to the F-35 program are highly valued today and will be for years to come," Lt. Gen. Bogdan said.

The visit was hosted by Quickstep chairman, **Tony Quick**, who said: "The F-35 is Quickstep's flagship project. Since commencement of the program we have now delivered more than 200 parts, and production is ramping up substantially."

The Quickstep Process involves using heated liquids to cure carbon fibre and resin composites more effectively. It transfers heat 25 times faster than traditional autoclaves, enabling a significant reduction in costs.



*HMAS Darwin's boarding party seized contraband from a Shu'ai Dhow which was tested and found to be positive for hashish during a recent boarding. [Photo:Defence]*

## French and Australian naval ships seize large quantity of cannabis resin

In a combined French and Australian operation, naval ships seized and destroyed almost 650 kilograms of cannabis resin hidden aboard a smuggling skiff in the Red Sea.

After HMAS *Darwin* intercepted the skiff, her boarding party discovered the cannabis resin in 120 plastic packages concealed in hessian bags labelled 'Basmati Rice'.

The skiff was initially detected by a French maritime patrol aircraft, with coordination and direction provided by the French Ship (FS) *Jean Bart* and HMAS *Darwin*'s Seahawk helicopter.

The operation's commander and Commanding Officer of the FS *Jean Bart*, Captain Benoit Bautonnière, requested HMAS *Darwin* close and investigate the skiff.

HMAS *Darwin*'s Commanding Officer, Commander Terry Morrison, said Australia's interoperability with the French was key to the interdiction.

FS *Jean Bart* and HMAS *Darwin* are currently deployed on patrol under tasking to the **Combined Maritime Forces (CMF)** and the Australian led **Combined Task Force (CTF) 150**.





## Replacement of the Machinery, Control and Surveillance System on HMAS Success

The Defence Materiel Organisation requires a design for the replacement of the Machinery, Control and

### Surveillance (MC&S) System for HMAS Success.

The elements of this package are:

- Design a solution for replacement of the MC&S System
- Manage the installation and integration of this system onto the ship and produce Integrated Logistics Support (ILS) packages

Click [here](#) for more details of the tender.



## ADM Online: Weekly Summary

A summary of the latest news and views in the defence industry, locally and overseas. Check out our webpage for daily news updates on the ADM home page and make sure you bookmark/RSS this for a regular visit.

This week, the ADF sent two RAAF **AP-3C Orion** aircraft to Malaysia to assist in the search and rescue effort for Malaysia Airlines Flight MH370.

The Minister for Defence Senator David Johnston welcomed the release of the **United States' 2014 Quadrennial Defense Review**.

And, Boeing's **Maritime Surveillance Aircraft (MSA)** demonstrator completed its first flight to verify airworthiness.



## International



### Boeing wants USN to buy more Growlers

Tom Muir

With a blank future procurement chart for F/A-18 Super Hornets and EA-18G Growlers in the Pentagon's fiscal year 2015 budget released last week, aircraft builder Boeing is pitching Congress on a Navy and a broader Defense Department need for the electronic attack capability of its Growlers.

"So what we're positive about on this is that there is an emerging need for more Growlers. And I call it an emerging need, very specifically, because that's a term that has been used by our customer side as they look at the number of Growlers with the current program of record, but how many Growlers do they think they really need for the total joint force?" **Mike Gibbons**, vice president of F/A-18 and EA-18 programs for Boeing Military Aircraft, told *Inside the Navy* in a 6 March interview.

"Growlers have a unique electronic attack capability that is not in any other aircraft nor is it intended to be in any other aircraft in the future, especially any strike aircraft. That capability - that broadband sensor and electronic attack capability is needed to protect fourth and fifth generation aircraft and it's critical, and numbers that are out there, as they're looked, are deemed to be numbers that are probably insufficient."

In its FY-14 budget request, the US Navy asked to fund 21 additional Growlers as part of an effort to grow the electronic jamming force. But the Pentagon FY-15 budget request released last week includes no further procurement figures for the electronic attack aircraft.

From an Australian operational perspective, the RAAF's newly acquired Growlers will enable the air force to independently conduct operations against relatively more advanced adversaries than would otherwise be the case. Strategically, this significantly increases the range of circumstances where Australia can launch operations without the support of the US. As such, it's a valuable boost to our freedom of action in circumstances where our ally has conflicted interests or is otherwise distracted.

The Growler will deliver enhanced protection against emerging traditional and non-traditional threats, while holding at risk the adversary's electro-magnetic capabilities. Growler places the balance of risk on the enemy's side, maximising the RAAF's ability to obtain and maintain control of the air while minimising the risk to own forces. It truly is a game changer. - *TM/Inside Defense*





## US Navy's F/A-18 IRST flight trials

The US Navy has successfully completed the first test flight of infrared search and track (IRST), a passive and long-range sensor, aboard a Boeing-built F/A-18 Super Hornet aircraft off Edwards Air Force Base, CA.

Scheduled to be deployed by 2017, the IRST is being developed by Boeing and **Lockheed Martin** as part of a \$135m contract awarded in 2011 and will be integrated as an essential upgrade to the combat capability of the US Navy's Super Hornet aircraft.

The Navy F/A-18 program manager captain **Frank Morley** said that the installation of infrared sensor on to the Super Hornet strengthens the US Navy's warfighting ability. Morley said, "Combined with the Super Hornet's advanced radar and the Growler's electronic attack radar jamming ability, IRST will allow the fleet to dominate the skies in all threat environments.

"With the successful completion of the IRST first flight, we are looking forward to moving on to the next steps required to field this invaluable capability."

The IRST has been designed to ensure the **Block II Super Hornet** stays ahead of known and emerging threats through 2025 and beyond.

Lockheed Martin Missiles and Fire Control fixed wing programs director **Ken Fuhr** said, "The success of this first flight and the test flights before it highlights the maturity of the next-generation IRST system that Lockheed Martin and Boeing are delivering to the US Navy today to support Navy Carrier Strike Group objectives."

The IRST system underwent initial trials on a Boeing King Air test aircraft last year, which helped reduce costs by advancing the technology prior to integration on Super Hornet aircraft. IRST F/A-18 program manager **Tim Adrian** said, "When radar isn't an option, this upgrade allows operators to locate targets and deploy the best weapon for the mission."



## Singapore orders six Airbus A330 MRTT aircraft

Airbus Defence and Space has secured a contract to deliver its A330 new generation multi-role tanker transport aircraft (MRTT) to the Republic of Singapore Air Force (RSAF).



Under the contract, whose value remains undisclosed, the company will supply a total of six air-to-air refuelling aircraft to RSAF, making Singapore the sixth nation to select the type following Australia, Saudi Arabia, the UAE and the UK.

Capable of carrying 256 passengers, the aircraft can be fitted with the company's **aerial refuelling boom system (ARBS)** to refuel receptacle-equipped aircraft, Cobham 905E under-wing refuelling pods for probe-equipped aircraft, and a Cobham 805E fuselage refuelling unit (FRU) for large probe-equipped aircraft.

A universal aerial refuelling receptacle system installation (UARRSI) may be integrated for self in-flight refuelling missions.

Deliveries of the Singaporean aircraft are scheduled to commence in 2018.

## US Navy issues \$698.9million contract modification to LM for FY14 LCSs

**The US Navy has issued a Lockheed Martin-led industry team a \$698.9 million contract modification to add funding for construction of two Littoral Combat Ships (LCS) – the seventh and eighth in a 10-ship contract awarded in December 2010.**

The contract modification is for construction of *Indianapolis* (LCS 17) and LCS 19, yet to be named. The first ship on this 2010 contract, the *USS Milwaukee* (LCS 5), was christened and launched in 2013, and is undergoing trials before delivery to the Navy in 2015. The future *USS Detroit* (LCS 7) will be christened and launched later this year. *Little Rock* (LCS 9), *Sioux City* (LCS 11) and *Wichita* (LCS 13) are all in various stages of construction, and *Billings* (LCS 15) will begin construction this year.



## Airbus Helicopters delivers German Tigers

**The Germany Army has received the last of 12 Tiger UHT support helicopters upgraded by Airbus Helicopters for missions to support ground troops, protect convoys and perform reconnaissance operations in Afghanistan.**

This milestone rotorcraft was provided to the military service's 36 Combat Helicopter Regiment.

It completed the three batches of four Tiger UHT support helicopters modified to the **ASGARD (Afghanistan Stabilization German Army Rapid Deployment)** configuration through a program launched in late 2011 by Airbus Helicopters and the German Federal Ministry of Defence. The ASGARD conversion includes installation of engine sand filters and additional ballistic protection, along with the incorporation of

a mission data recorder and enhanced communication equipment for multinational missions.

The German Armed Forces began deploying its initial Tiger UHTs modified to the ASGARD configuration in December 2012, with operations beginning a month later in Mazar-e-Scharif.

To date, these ASGARD-upgraded Tigers have accumulated well over 1,000 flight hours in German military service, demonstrating their high reliability, mission effectiveness, and a high level of acceptance during support missions.



## New BFT device from Track14

**UK company, Track24, was established in 2004 in response to the precarious situation faced by civilian contractors in Iraq. To provide an operational picture showing the location of personnel and vehicles on digital maps, Track24 introduced satellite tracking and miniaturised GSM technologies. A process was then established to identify who was at risk and pinpoint their exact location within seconds.**

This system enables a swift, efficient response to emergencies and panic alarms on Track24 devices proved fundamental to saving lives in the thousands of incidents in which company clients have been involved.

Now Track24 Defence has introduced a new **IP68-rated beyond line-of-sight (BLOS) satellite device** for secure **blue force tracking (BFT)** and command and control (C2) applications. Dubbed **Echo**, the device can function as both a standalone device and as part of Track24's SCC TITAN BFT solution, and is a **commercial off-the-shelf (COTS) tracking and messaging solution** designed for defence and security sector users.

IP68-rated waterproof to two metres, the ruggedised handheld device operates on the Iridium satellite constellation, and can also withstand the austere land and sea environments within which military users operate.

Track24 defence sector director **Giles Peeters** says the Echo is smaller and lighter than Track24's existing tracking device, the Whisper, yet represents a more robust, ruggedised option for forces operating in vast and austere terrain. The device can work with Windows and Android operating systems (OS), and is configurable over the air using the Track24 SCC platform. All data communications are encrypted.

Echo's hardware features M2M functionality, which will enable it to connect an array of tablets, smart phones or sensors to transmit data in near real time to the operational command, which could be situational awareness or vital signs of a soldier. The device has already been adopted by an undisclosed Special Forces organisation, according to the company.

## FORTHCOMING EVENTS.....page 12



# FORTHCOMING EVENTS

For a full list of defence and industry events, head to **ADM's online events page at [www.australiandefence.com.au](http://www.australiandefence.com.au)**

## The Submarine Choice: ASPI's International Conference

**DATE:** 8 - 10 April, 2014, Canberra  
**ENQUIRIES:** Lynne Gozzard, Ph: 02 6270 5109;  
 Email: [lynnegozzard@aspi.org.au](mailto:lynnegozzard@aspi.org.au)

Join distinguished international and Australian speakers for two days of debate on Australia's Future Submarine choice. Topics include: The Strategic Context; the Navy's Perspective; Regional Perspectives; Design Options; Industry and Economics; Project Management; Lessons from Abroad.

ADM will  
be in  
attendance

## 3rd annual ADM Cyber Security Summit

**DATE:** 19 - 20 June, 2014, Canberra  
**ENQUIRIES:** ADM Events - Adam Wiltshire, Ph: 02 9080 4342;  
 Email: [adam.wiltshire@informa.com.au](mailto:adam.wiltshire@informa.com.au)  
 Web: [www.admevents.com.au](http://www.admevents.com.au)

Over the last 2 years, the summit has gathered 150+ senior Defence, National Security and Industry executives to address current and emerging cyber threats to Australia's security.

ADM will  
be in  
attendance

## Defence and Industry (D+I) conference 2014

**DATE:** 29 - 30 July, 2014, Adelaide  
**ENQUIRIES:** Defence Materiel Organisation  
 Email: [DMO.Communication@defence.gov.au](mailto:DMO.Communication@defence.gov.au)

The Conference is an opportunity for Industry to discuss with Defence officials acquisition and sustainment investment opportunities.

ADM will  
be in  
attendance

## SimTect 2014

**DATE:** 25 August, 2014, Adelaide  
**ENQUIRIES:** Web: <http://www.simtect.com.au/>

SimTect is the annual Simulation Technology and Training Conference held by Simulation Australia. Since its inception in 1996, SimTect has grown to become Australasia's premier simulation conference for industry, government and academia.

ADM will  
be in  
attendance

## **Land Forces Conference 2014**

**DATE:** 22 - 26 September, 2014, Brisbane

The Land Forces Conference is a major event for users, providers, academics, designers and manufacturers to meet, present, share and exchange new and visionary ideas on Land Systems. More details to come.

**ADM will  
be in  
attendance**

