



DEFENCE WEEK

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Long range airburst technology for ADF Force Protection?

For counter-fire operations against insurgents in Afghanistan, 80mm airburst mortar rounds may be called in by Australian Joint Fires Observers (JFOs), usually operating in teams of two—observer and signaller—to 'keep heads down' and only used away from housing or villages.

Describing his role as JFO, in the September issue of *Army Newspaper*, **Bdr David Robertson**, who recently received the Medal for Gallantry for his efforts during a patrol in the Tangi Valley, Uruzgan last year, said a JFO party would go out on every patrol and be there in case the patrol needed outside support from mortars, artillery, attack helicopters or fast jets. "Mortars played a big part in my deployment, as it was much faster and easier to gain approval to have them support patrols compared to, say, calling in a fast jet."

But the need to seek permission to call in mortar fire for the seemingly innocuous purpose of 'keeping heads down' to help protect infantry patrols may be a thing of the past, with the development for the US Army of the XM-25 airburst grenade launcher by ATK Corp with help from Heckler and Koch.

While labeled a grenade launcher, the **XM-25 airburst weapon system** is much more than that, US Army officials say. It's a precision direct, and indirect, fire weapon system that combines sophisticated sensors, lasers and optics with a microchip-embedded 25mm high explosive round.



The weapon fires a high-explosive airburst round capable of detonating at a specific, pre-determined point in space near an enemy target hidden or otherwise obscured by terrain or other obstacles. Using laser rangefinder technology, the fire control system on the weapon uses computer technology to calculate the distance the round must travel in order to explode at a particular, pre-determined point in space.

US sources say that firefights in Afghanistan involve ranges, typically beyond 300 metres. At that range, even skilled marksmen are hard-pressed to hit a fleeting target ducking behind cover, but with the XM-25 soldiers only have to aim the launcher's air burst fragmentation warhead nearby. The warhead's blast is equivalent to a hand grenade but without the throwing distance, as 25mm rounds can be directed over enemy heads from up to 700 metres away, officials say.

Even if troops are patrolling within range of mortar tubes located back at their base, it can take up to ten minutes to call in a fire mission, says **US LtCol Christopher Lehner**, program manager for individual soldier weapons at PEO-Soldier. Calling in artillery or airstrikes takes even longer. But with XM-25, the operator can lase, put the reticule on target, and pull the trigger, within five seconds. At 400 metres, it takes another two seconds to get there and explode, and the weapon's ease of use is a huge advantage, he adds.

ADM Comment: Australian infantry are equipped with the **F88 Austeyr Individual Weapon**, a robust rifle that can be fitted with the **Grenade Launcher Assembly (GLA)** and a range of advanced sighting systems. Under Land 125 Phase 3C **Thales Australia** is developing an Enhanced F88 Austeyr based on the F88SA2 with a low powered 40mm grenade launcher. As an individual weapon this will doubtless be an improvement over the issue Austeyr F88 rifle. However neither it nor the other direct fire weapons in service are designed for the Force Protection capability offered by the XM-25 if acquired by the ADF and introduced as an organic element of infantry combat teams—*Tom Muir*



Importance of Force Protection measures

Defence Materiel Minister Jason Clare announced recently that two new Counter Rocket Artillery and Mortar (C-RAM) Giraffe radars had been delivered and were currently in operation at the multi national base Tarin Kot in Uruzgan Province, Afghanistan.

"The Giraffe radars provide our troops with early detection of attacks from enemy rockets, artillery and mortars, protecting Australian and ISAF forces," Mr

Clare said.

"This early warning system has been a proven force protection capability for our troops, giving them vital seconds of advanced warning so they can take shelter."

Australia assumed responsibility for early detection against rocket, artillery and mortar attacks at Tarin Kot from 28 December 2010. The new Giraffe radars have replaced leased radars and were manufactured in Sweden by **SAAB AB** under an \$86.2 million contract, which includes support services.

A third Giraffe radar will be delivered to Australia in January 2013 and will be used as a training support system.

Australia's C-RAM Sense and Warn capability consists of Giraffe radars, a number of lightweight counter mortar radars and Command and Control and warning equipment.



The deployment of the new radars is the latest in a range of Force Protection initiatives that over the past few years has delivered \$1 billion in equipment to protect our troops in Afghanistan including:

- Up-armouring the **Bushmasters**;
- New combat body armour;
- Heavier calibre (50mm) weapons; and
- New ground penetrating radar trucks to clear roads of IEDs before troops travel on them.

More blimp-based surveillance systems

Logos Technologies has been awarded \$111.8 million by Naval Air Systems Command (NAVAIR) to develop an additional 22 Kestrel wide-area persistent surveillance systems to support US forces in the field.

Designed for use on a tethered blimp, the **Kestrel** surveillance system is the only technology of its kind that can scan a city-sized area at once — both day and night. This provides a heightened level of security for troops, particularly at forward operating bases.

“Since the first units were deployed in Afghanistan, Kestrel has saved the lives of countless warfighters by preventing **improvised explosive device** (IED) attacks and providing our forces with greater situational awareness,” said **Greg Poe, CEO of Logos Technologies**.

“This new contract will extend that protection to more bases, and ultimately, more troops.”

The **NAVAIR** contract calls for the delivery of 20 Kestrel systems and spare parts, as well as two units for testing and upgrading. In addition, Logos Technologies will provide operational, logistical and analytical support for the Kestrel system through 2013.

With its 360-degree field of view, Kestrel allows operators to simultaneously track and record multiple targets in medium-resolution over many kilometers. Kestrel can also cue full motion video (FMV) sensors for higher resolution imaging. Kestrel can also be programmed for autonomous monitoring.

Kestrel is currently employed on both the Persistent Threat Detection System and Persistence Ground Surveillance System in Afghanistan. It also has applications for border patrol, counter-trafficking and other homeland security missions.

ADM Comment: Concerned about the safety of Australian personnel from IED attack and similar threats in counter insurgency operations, through the RPDE program FOB EYE Defence has been seeking a persistent surveillance capability for its forward operating bases that is able to establish and record ‘patterns of life’ from the surveilled area.

There is no shortage of systems available to provide the type of elevated fixed surveillance the ADF seeks for FOB protection and generally improved situational awareness. Some years ago the ADF acquired three TCOM Aerostat airships to trial at the ACT’s Majura Range as concept demonstrators for sensor and communications range extensions. Basically tethered blimps, TCOM aerostats and their ground support equipment have evolved into the present state-of-the-art systems over more than three decades of on-station operations, but over the last five years, towers have become more mobile and grown taller and can be easily taken apart or erected by troops.

ADM suspect that the Ultra Electronics Base Protection System, widely employed for FOB protection, has been or will be a likely contender as the basis for the RPDE’s FOB Eye system—*Tom Muir*



ADM Online: Weekly News 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 Australian submarine and shipbuilding company **ASC** was awarded the **2012 Engineering Excellence Award** in the category of Innovation Research and Development by the Engineers Australia South Australia Division for the Submarine Structural Life Validation (SLV) Project.

Minister for Defence Materiel Jason Clare released the latest **Skills Australia report** 'Building Australia's Defence Supply Capabilities' which is the main report for the Defence Industry Workforce Strategy at **ADM's Defence Workforce Participation Summit** in Canberra.

Also, **Quickstep** secured their largest aerospace production order to date. The purchase order covers the manufacture and delivery of composite carbon fibre wing flaps for 24 Lockheed Martin **C-130J 'Hercules'** aircraft.

International



Brits choose QinetiQ for ISTAR research package

UK-based science and technology group QinetiQ has been awarded a GBP6.4 million (USD10.4 million) contract by the UK Ministry of Defence's (MoD's) Defence Science and Technology Laboratory

(Dstl) to manage a four-year Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) Concepts and Solutions (ICS) program.

This task-based framework arrangement, which includes an industry-led collaborative environment known colloquially as the 'ICS Engine Room', is intended to develop and validate credible ISTAR concepts across the Direct, Collect, Process and Disseminate cycle—*Janes*.

ADM Congress 2013

ADM 2013
AUSTRALIAN DEFENCE MAGAZINE
SERVING THE BUSINESS OF DEFENCE

Date: 12-13 February 2013, Hyatt Hotel Canberra

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The annual ADM Congress returns in 2013! This major Defence/Industry Conference has evolved into a pivotal event in the Defence calendar, attracting over 250 delegates each year and bringing together senior officials from all areas of the ADF, DMO and Defence Industry.





Go-ahead for WIN-T increment 2

The Pentagon's acquisition chief recently approved the Army's Warfighter Information Network Tactical Increment 2 battlefield communications

system for a third lot of low-rate initial production, but only under the condition that contractor General Dynamics C4 Systems correct certain "deficiencies" in its performance.

It is reported that the WIN-T Increment 2 program completed its initial operational test and evaluation in May 2012 with results indicating moderate risk to entering full-rate production in light of deficiencies related to effectiveness and suitability and it is understood that the program manager has been directed to correct the deficiencies.

WIN-T forms much of the basis for the bid by Raytheon Australia with General Dynamics C4 Systems for JP2072 Phase 2B's Battlefield Telecommunications Network. Raytheon believes it to be the most viable MOTS solution for Phase 2B insofar it is fielded and in service with the US Army, it has the form and size requirements sought by the Australian Army and has a publicly declared growth path.

Increment 2 adds mobility with a communications network down to the Company level and tactical communication nodes were the first step to providing a mobile infrastructure on the battlefield. This increment has also seen the delivery of an initial on-the-move broadband networking capability using satellite and radio links—*Inside Defense*



INVITATION

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AND TOP 20 SMEs
IN AUSTRALIA AND NEW ZEALAND**

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Contractors
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Defence SMEs



TOP
40
DEFENCE
CONTRACTORS



TOP
20
DEFENCE SMEs

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Selected portions of F-35 for competition



According to Inside Defense, the Pentagon next month will begin publicly exploring ways to open up select portions of the Joint Strike Fighter program to competition, which could create opportunities for other defence contractors to grab a small slice of the estimated \$1.1 trillion cost to sustain the new fighter fleet.

On 14 and 15 November the **F-35 joint program** office will host an industry event “to identify potential business sources, capabilities, and experience to successfully deliver a wide range of hardware and infrastructure services in support for F-35 JPO sustainment,” the **Pentagon** announced in a 28 September notice published in *Federal Business Opportunities*.

The Pentagon is eyeing four areas for potential competition: supply chain management, the Autonomic Logistics Information System, training systems, and support equipment, according to the notice.

“The results of this industry day will be used to assess tradeoffs and alternatives available for determining how to proceed in the acquisition process,” it adds—*Inside Defense*

Pentagon pinpoints industrial base concerns

An “aggressive” Pentagon analytical effort to identify critical and fragile niches in the defence industrial base has turned up several areas of concern for senior military acquisition officials, who have developed plans to intervene if necessary, according to a new government report.

The “sector-by-sector, tier-by-tier” evaluation of the industrial base, begun at the direction of the deputy defense secretary in March 2011, has pinpointed “at-risk” sectors of the nation’s shipbuilding, munitions and missiles business, according to the Pentagon’s annual industrial capabilities report to Congress, dated August 2012.

The report was prepared by the office of the deputy assistant secretary of defense for manufacturing and industrial base policy in the Pentagon’s acquisition shop.

Pentagon leaders used early insights from the evaluation during the final weeks of crafting the military’s fiscal year 2013 budget proposal last year, making “some adjustments” to prop up an unnamed “supplier considered at risk,” according to the report—*Inside Defense*





Fighter aircraft market: OK for now but...

While the military fighter aircraft market is set for a period of great activity over the coming decade, as the demand for 5th generation fighter jet capability continues among the world's leading military nations, there are concerns in the United States (and surely elsewhere) that unless planning for

the next generation fighter begins in the 'near term' the US could lose its current technological advantage over European manufacturers.

Budget restraints and spiralling costs related to fighter aircraft programs are seen as acting as a drag on the market; however the advent of major projects such as the F-35 Joint Strike Fighter (JSF), coupled with increased procurement from emerging nations, will drive the military fighter aircraft market, valued by market researcher Visiongain at \$34.37bn in 2012.

Visiongain's latest defence report values the market for fighter jets at \$34.37 billion in 2012. Fighter jets are the crown jewels of any military; both expensive and highly desirable. All major armed forces around the world are expected to invest in some way into their fighter aircraft capability over the coming decade, meaning that although the F-35 will grab the most headlines, significant procurement of both 4th and 5th generation platforms will drive what is truly a global defense market.



Saab to upgrade Thai frigates combat systems

Defence and security company Saab has received an order from the Royal Thai Navy for the upgrading of the Combat Systems on the frigates HTMS Naresuan and HTMS Taksin.

The contract is a continuation of an on-going program contracted to Saab by the Royal Thai Navy in 2011. The contract adds additional sights and communications equipment to complete the combat suite on the two frigates.

"Saab will further strengthen its position as supplier to the Royal Thai Navy through the upgrade of the Combat System on the frigates *HTMS Naresuan* and *HTMS Taksin*. Saab is now on the Navy's three major vessels and with data links to the Royal Thai Air Force's Gripen and Erieye, capabilities and resources can be used more efficiently," says **Gunilla Fransson**, Head of Saab's Business Area Security and Defence Solutions.

Saab is the main contractor to the Royal Thai Navy, and the order, apart from containing supply of Saab's systems, also covers delivery of third party systems as well as responsibility for integration of all existing and new systems. The contract will run between 2012 and 2015--*Defpro*



US Army seeks counter-UAS capabilities

The US Army is seeking counter-unmanned aerial system capabilities that could be included in next year's Black Dart exercise, designed to allow officials to test systems against drone threats, according to a Sept. 19 request for information.

The service wants to evaluate capabilities in the areas of "Battle Command and sensor systems that facilitate rapid detection, identification and classification of UAS targets; electronic systems that can interdict, defeat or deny enemy use of UAS; and systems providing the capability to intercept and destroy hostile UAS," the request states.

The information gathered will be used to decide on systems for inclusion in Black Dart 2013. It will also guide the future development of **C-UAS** requirements and capabilities, the document notes—*Inside Defense*

Russia's second Su-30SM makes flight debut



The Su-30SM multirole fighter, developed by JSC Sukhoi Design Bureau and designed for the Russian Ministry of Defence, is undertaking a series of test flights at the Irkutsk Aviation Plant's airfield.

The first **Su-30SM** aircraft performed its maiden flight on 21 September and the second Su-30SM aircraft joined the flight test program four days later. According to the Sukhoi Design Bureau the latest flight, lasting for 1 hour 40 minutes, passed flawlessly.

The Su-30SM multirole fighter is the further development of the Su-30MK combat aircraft family. JSC Sukhoi Design Bureau' specialists designed the fighter in accordance with the requirements of the Russian Air Force in terms of radar system, radio and recognition system, ejection seats and a number of support systems. The weaponry configuration was changed as well.

The contract on 30 multirole fighters' delivery by 2015 was signed between the Russian Ministry of Defence and JSC IRKUT Corporation in March 2012.



Russian Army tests future soldier equipment

The Russian Army is testing a future high-tech soldier equipment system and plans to stage exercises with the equipment as part of state trials, Defense Ministry ground forces spokesman Lt. Col. Nikolai Donyushkin said.

"Soldiers have started intensive trials of elements of the equipment, including for riflemen, scouts, mechanic-drivers, as part of military trials exercises. We also intend to carry out unit trials based on these systems," he said.

Donyushkin said that the equipment, being tested by the **27th motor rifle brigade** at the Alabino firing range near Moscow, contains around 40 different elements.

"The system has protection against environmental threats from weapons of mass destruction and non-lethal weapons, command and information systems, communications, sensors, navigation systems, life support systems, protective eye-wear, sound-protection, thermal wear, water filtration, and body armor," he said.

An army commission will study the results of the tests and pick out the best elements for further testing, Donyushkin added.

In December 2011, then-First Deputy Defense Minister **Vladimir Popovkin** said Russia was in talks with France over purchase of an evaluation batch of its **FELIN future infantry system**. Chief of the General Staff General **Nikolai Makarov** later said Russia would produce its own **Soldier Military Equipment** (BES) program—*RIA Novosti*



Affordable precision kits for 'dumb' bombs?

Ukrainian defence electronics enterprise Adron has developed a precision-guidance kit for Soviet-designed 'dumb' bombs.

Unveiling the kit - known as the **Blok Aerodynamicheskovo Upravleniya** (Aerodynamic Trajectory Control Module or BAU-01KT) retrofit module - Adron representative said the kits make the hardware they are fitted with near mirror images of what is used by current day western military establishments, but at a much lower cost. – *Janes*

KIWIs seeking land C4ISR system

New Zealand has announced plans on 20 September to buy a range of land-based C4ISR systems to support its development of a network-enabled army.

A request for information (RFI) issued by the government's tender service said the acquisition covers land-based command-and-control systems together with computers, communications, and intelligence, surveillance, and reconnaissance sensor networks to support land forces.

(More details can be found by looking at ADM's tender document)



More use of Russian aircraft by NATO



Moscow hopes that the North Atlantic Treaty Organization (NATO) will be using Russian aircraft for its cargo deliveries to and from Afghanistan via the Ulyanovsk transit base in the Volga area, Deputy Foreign Minister Alexander Grushko said.

“There is Volga-Dnepr air carrier company in the Vostochny airport [in Ulyanovsk], which has all types of aircraft capable of safely delivering any kind of cargo to **Afghanistan**,” Grushko said.

Earlier in the week, NATO’s Moscow office spokesman **Robert Pshel** said that the alliance was looking forward to signing the first commercial contracts with Russia to use the transit hub in Ulyanovsk in the next few months.

He also said that there was a high chance **NATO** would use Russian aircraft to carry cargo from Afghanistan to the transit hub. NATO (including Australia) already uses Russian-owned **Ilyushin Il-76** and **Antonov An-124** cargo aircraft operated by commercial airlines—*RIA Novosti*

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FORTHCOMING EVENTS

For a full list of defence and industry events, head to **ADM's** online events page at www.australiandefence.com.au

New Zealand Defence Industry Association Forum

DATE: 16-17 October 2012, Wellington New Zealand

ENQUIRIES: Sue Peck Email: sue@spconferences.co.nz www.nzdia.co.nz

At the forum you can join with other defence industry companies from New Zealand and overseas, and with key members of the New Zealand Defence Force and Ministry of Defence to gain greater understanding of the defence procurement processes and hear about future defence procurement plans.

Land Warfare Conference 2012

DATE: 29 October – 2 November 2012, Melbourne Convention and Exhibition Centre, Melbourne

ENQUIRIES: Land Warfare Conference Admin Support Office, Phone: 08 7389 5455; Fax: 08 7389 5196; Email: lwcc@dsto.defence.gov.au Web: <http://www.dsto.defence.gov.au/lwc2012/>

The Land Warfare 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. Academics, commercial organisations, defence research institutions, and military are encouraged to attend and/or offer papers in the field of Land Warfare and related disciplines. An Exhibitor Booth Registration Form and Floor Plan are now available online.

MilCIS 2012

DATE: 6 – 8 November 2012, National Convention Centre, Canberra

ENQUIRIES: Consec – Conference Management, Phone: 02 6251 0675; Fax: 02 6251 0672; Email: milcis2012@consec.com.au; Web: <http://www.milcis.com.au/>

MilCIS is an annual conference aimed at attendees from military and government organisations, academia, and defence industry, who contribute to key decisions in investments in communications and information systems. In addition to keynote presentations, technical presentations, panel discussions and tutorials, MilCIS features an exposition that provides an opportunity for exhibitors to demonstrate new technologies and promote their products and services to attendees. MilCIS is the only Australian conference focussing directly on the crucial technologies, products, systems and services associated with military communications and information systems.

6th Submarine Institute of Australia (SIA) Biennial Conference 2012

DATE: 14-15 November 2012, The Shine Dome, Canberra

ENQUIRIES: Mr David Nicholls (Executive Manager), Email execmgr@submarineinstitute.com Phone: +61 413 133 391 Fax: +61 2 6260 5416

2012 will be a pivotal year for decisions concerning submarines. With the recent announcement of \$214m in funding for the Future Submarine Program and a significant boost in Sustainment funding for the Collins class, the SIA is grasping the



opportunity to present powerful arguments to contribute to the development of the 2013 Defence White Paper against the most challenging budgetary circumstances for Defence since 1938. Delegates to the 6th Biennial Conference will hear from a range of influential speakers from Government, overseas and both the Public and Private sectors as they discuss the pivotal considerations for Australia's submarine capability.

ADM's Social Media in the Defence Environment

DATE: 5-6 December 2012, Hotel Realm, Canberra

ENQUIRIES: ADM Events - Jamie Burrage, Ph: 02 9080 4321;

Email: jamie.burrage@informa.com.au **Web:** www.admevents.com.au

Social media in the private sector has been a bumpy journey, where companies tread a fine line between credibility and ridicule whilst getting their policies right. In the public sector, and Defence in particular, the evolution of social media has created opportunities, whilst also highlighting the need for social media policies. This inaugural conference will examine the opportunities that social media can bring to the Australian Defence Force and the Department of Defence. By mitigating the dangers of misuse, social media can be an excellent tool for announcements, for recruitment, for connecting and for selling. There is no denying the place of social media in the modern workforce. Hear speakers discuss what tools and policies can help harness social media into an essential part of the Defence workplace.

ADM2013: 10th Annual ADM Defence/Industry Congress

DATE: 12 – 13 February 2013, Hyatt Hotel, Canberra

ENQUIRIES: ADM Events - Jamie Burrage, Ph: 02 9080 4321;

Email: Jamie.burrage@informa.com.au **Web:** www.admevents.com.au

The annual ADM Congress has evolved into a pivotal event in the Defence calendar, attracting senior officials from all areas of the Defence Force and Defence Industry. It is a critical forum for any organisation operating within the defence business sector. Also do not miss the ADM Awards Dinner. The dinner is the perfect opportunity for you to continue networking with colleagues and new contacts made at the Congress. More details to be released closer to the date

Avalon 2013: Australian International Airshow and Aerospace & Defence Exposition

DATE: 26 February - 03 March 2013, Avalon Airport, Geelong

ENQUIRIES: Aerospace Maritime Defence Association Ph 03 5282 0500;

Email: airshow@amda.com.au; **Web:** <http://www.airshow.net.au>

The Australian International Airshow and Aerospace & Defence Exposition is the essential aviation, aerospace and defence event for the Asia Pacific. Industry-only trade sessions will be held Tuesday to Thursday (all day) and Friday will be both a trade and public day. The exposition will open each day from 9am until 5pm. Associated industry and technology conferences, seminars and symposia will be held at Avalon and in Melbourne and Geelong during show week.