

# PREMIUM EDITION

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## Major ADF payload on Intelsat's newest satellite

**With the launch this week of Intelsat's newest satellite, IS-22, the ADF will enjoy virtually limitless UHF satellite communications in the MEAO from the satellite's payload, more than 30 per cent of which is owned by Defence. Currently the ADF has limited use of US' satellites in this region.**

Back in 2009 Defence had been negotiating with Intelsat to purchase part of the satellite's UHF payload (reserved for the ADF and the US military) under JP 2008 Phase 5A, but then announced in May 2010 that it would exercise an option to acquire all the UHF payload. Under an MOU for the sharing of narrowband resources, the USA will now be able to use IS-22 for additional communications capacity over the Middle East (including Afghanistan) and in return Australia will have access to US satellites over the Pacific.

Built by Boeing Space and Intelligence Systems, IS-22 uses the same Boeing 702B bus used in the WGS constellation. Positioned at 72° East longitude to cover the Middle East and Indian Ocean region, the satellite has 48 C-band and 24 Ku-band transponders for commercial use, together with the Defence-owned 18 25-kHz transponders. High level security measures, including data encryption, will protect ADF communications links. The UHF band is widely deployed for military use because of its adaptability to small, mobile terminals used by ground, sea and air forces.

In an announcement this week Defence Materiel Minister Jason Clare said the successful launch of the new satellite from Kazakhstan would improve communication abilities for ADF personnel operating in the Middle East. He said that the UHF band allowed troops to communicate on the move better than other frequency bands.

"Satellite communications provide the backbone of the communications capability of most military equipment platforms and are vital to the effective conduct of ADF operations," Clare said. "This new satellite will help our ground troops and Tactical Forces communicate better with each other and Headquarters.

He said it would allow more effective communication in all types of terrain including desert and jungle environments. This satellite means we will be able to transmit voice and data anywhere between the west coast of Africa and the east coast of Australia. "It will make it easier for commanders in Australia to provide troops on the ground with information faster and more effectively. It will also mean that troops can provide intelligence and information back to Headquarters."

Clare said that the \$269 million program had delivered the project on time and within budget. Intelsat is contracted to operate the satellite for 15 years after launch.

### End note

**According to the Defence Capability Plan recent and planned phases of JP 2008 are providing a comprehensive satellite communications capability to support ADF operations, with IS-22 the latest development. One additional phase is being considered (after 2016) to deliver a UHF satellite communications capability providing coverage in the Pacific Ocean region. This narrowband satcom capability will complement the wideband coverage of the Wideband Global System (WGS) in the region.**

**Narrowband systems provide for small terminal equipment and tactical satellite radio systems, which supports the high mobility requirements of land forces and air platforms. The UHF spec-**

trum used in narrowband systems remains important because of its utility in complex physical terrain.

However the information exchange requirements of deployed forces in all environments continues to increase, therefore enhanced bandwidth in wideband communications remains essential to meet this increasing need.

## ADF to tailor IS-22 system to operational scenarios

In addition to the UHF hosted payload Intelsat is also providing the ADF with a UHF Comms Monitoring System (CSM) and an In-Orbit Testing (IOT) system.

This system is being installed at naval base HMAS Stirling, WA, where it will confirm RF performance and integrity of the UHF payload, both during the hosted payload's initial In-Orbit Testing phase and throughout its operation.

The system is also equipped to confirm the performance and integrity of other UHF legacy payloads on satellites operating over the geostationary arc as seen from Perth. The CSM-IOT system will allow the ADF to tailor the system to fit any of their operational scenarios once deployed.

## Delivering the goods: the ADF's future battlefield airlifter

There's recently been a flurry of activity as Airbus has attempted to sell the virtues of its C-295 aircraft for the ADF's future battlefield airlifter. This ASPI Policy Analysis, written by Tom Savage and Andrew Davies, examines both the Airbus solution and its rival, Alenia's C-27J Spartan.

The authors say that the Pentagon's cited reason for the planned divestment of the C-27J are worth noting: "The C-27J was developed and procured to provide a niche capability to directly support Army urgent needs in difficult environments such as Afghanistan, where we thought the C-130 might not be able to operate effectively.

"However, in practice, we did not experience the anticipated airfield constraints for C-130 operations in Afghanistan and expect these constraints to be marginal in future scenarios. Since we have ample inventory of C-130s and the current cost to own and operate them is lower, we no longer need nor can we afford a niche capability like the C-27J."

The obvious question is whether this reasoning also applies to the ADF—would it be better to not acquire a BFA at all and make do with the C-130 fleet, thus avoiding the fixed costs of introducing another type?

For the answer, download this Policy Analysis at [www.aspi.org.au](http://www.aspi.org.au).

## Cocos Islands as US base?

*The Washington Post* reported this week that the US was eyeing the Cocos Islands, 2,700 kilometres east of Diego Garcia, as "an ideal site not only for manned US surveillance aircraft but for Global Hawks, an unarmed, high-altitude surveillance drone".

"Aircraft based in the Cocos would be well positioned to launch spy flights over the South China Sea," the Post reported, suggesting that US military aircraft, including drones undertaking surveillance operations over the South China Sea, could be based on Australia's Cocos and Keeling Islands in the Indian Ocean.

As part of enhanced US-Australian military co-operation announced in November by Julia Gillard and US President, Barack Obama, the islands would replace the US's present Indian Ocean base of Diego Garcia, which the US leases from the British and is due

to be mothballed in 2016. However in a media interview this week Defence Minister Stephen Smith said people had to be very careful not to get ahead of themselves here, whether they're officials or whether they're commentators.

"I made it clear last year in the run-up to the announcement by the Prime Minister and President Obama about a rotation of some marine task force group members through Darwin that we were looking really at three priorities: the task force presence in Darwin on a rotational basis, then greater air traffic or air movement through northern Australia, and thirdly in the longer term, greater access to our Indian Ocean port HMAS Stirling in my own state of Western Australia.

"I also indicated that down the track Cocos was a possibility but there have been no discussions that I've had with my counterparts, whether that's Bob Gates or Leon Panetta, about any of the detail of that. It's a long term prospect and should be treated as such."

## Choules conducts first amphibious exercises

**The Royal Australian Navy's new Bay-class dock landing ship has passed its first capability test after three weeks of amphibious exercises off North Queensland.**

Having been transferred from the UK Royal Fleet Auxiliary (RFA) and commissioned into RAN service in December 2011, *HMAS Choules* (formerly RFA Largs Bay) completed a range of training tasks with army and navy personnel during Exercise 'Squadex' and Exercise 'Sealion', which concluded in mid-March. —JDW

## INTERNATIONAL

### Contender for SEA 1180 design?

**On March 19, the French Navy commissioned the experimental patrol vessel *L'Adroit*. Fitted with a significant number of technical innovations, the ship was handed over to the navy on October 21, 2011 for a three-year trial period, during which she will carry out a wide variety of naval missions such as fisheries inspection and protection, anti-drugs operations, environmental protection, humanitarian assistance, and search and rescue at sea.**

Designed by DCNS under a self-funded program, the vessel is crewed by two full crews which alternate every four months, and is designed to remain at sea for extended periods. The superstructure of the ship has a pyramidal shape with flat geometric panels. It provides shelter for a 5t helicopter and landing facility for a 10t helicopter. It can carry two rigid-hulled inflatable boats (RHIBs) and also has full provisions for UAV operations—DCNS and Defpro.com

Following are among the SEA 1180 OCV Initial Capability Description assumptions:

- OCV will have a maximum displacement of up to 2000 tonnes;
- OCV may embark helicopter/UAV to allow a surge in surveillance and response capabilities.

### Pentagon wants to test before buying

**The Pentagon is asking Congress for new authority enabling a key defense agency to inspect or test critical items - such as those required for safety - during manufacturing or assembly, prior to the award of procurement contracts.**

The proposed legislative change would enable the Defense Contract Management

Agency to be reimbursed by a manufacturer or assembler of critical items - before a DOD procurement contract is awarded - when inspection or testing of the items during manufacturing or assembly is a precondition to government acceptance of the goods under a future contract.

The request is contained in the Defense Department's first package of fiscal year 2013 legislative proposals. Under current law, the agency's authority to inspect and test items and applications is "limited to instances where a procurement contract has been awarded by the military departments or defense agencies for delivery of the related end product," DOD writes, noting the services have "expressed a need for these inspection and test services in support of their acquisition programs even prior to the award of such contracts—Insider

## Russia offers closed-cycle sub technology to India

**Russia has offered to help India build air-independent (closed cycle) propulsion systems for installation in Amur 1650 class submarines and also to equip future possible joint Indian-Russian built vessels, Viktor Komardin, the deputy head of Rosoboronexport's delegation said at the Defexpo Indian defense show on Tuesday.**

The Amur 1650 is one of several contenders, including the Scorpene (France), Type 214 (Germany) and S-80 (Spain) in a tender for the Indian Navy for six submarines with a total value of \$11.8 billion.

"Russia is currently completing tests of a new air-independent propulsion system, which could be installed not only on the Amur 1650 but on jointly developed boats," Komardin said. "This is a critical factor for the Indians. So our chances here are good," he added.

Rosoboronexport, Russia's defense sales holding, has already offered India its Amur 1650 boat, which started trials with the Russian navy in 2010. The Amur has an armament of multirole torpedos and Klub anti-ship missiles, and can also strike land-targets with advanced cruise missiles, which may include the India-Russian Brahmos.

The Amur 1650 has a good chance of winning the tender, Komardin claimed, thanks to its ability to remain submerged for over 25 days using its air-independent propulsion, and also its long-range weaponry. Similar foreign boats can only stay submerged for 15-20 days.

Russia is currently evaluating the Lada class air-independent submarine, a derivative of the Amur 1650. In 2010 the Lada class submarine St Petersburg entered service with the Russian Fleet—*Defpro.com*

## USN progresses program to arm Fire Scout

**The US Navy (USN) has conducted a series of land-based hardware trials to gauge how an armed Northrop Grumman MQ-8B Fire Scout unmanned helicopter would operate in a shipborne environment, NAVAIR announced on March 21.**

The trials, which took place at Webster Field Annex near NAS Patuxent River in Maryland on March 7, are the latest steps in the USN's plans to integrate the BAE Systems Advanced Precision Kill Weapon System II (APKWS II) onto the Fire Scout under an urgent operational requirement (UOR).

## Babcock's £350m sub refit contract

**Babcock has been awarded a contract by the MoD for a £350 million, three-and-a-half year refit of the Trident missile carrying submarine HMS Vengeance, to be undertaken at Babcock's Devonport Royal Dockyard.**

*HMS Vengeance* is the fourth and last of the Vanguard class submarines to undergo a Long Overhaul Period and Refuel (LOP(R)). The submarine is now at Devonport ready to dock down this month, and will remain in dry dock until flood up in late 2014.

The contracting agreement between Babcock and the MoD to undertake the LOP(R) on *Vengeance* reflects the successful ground-breaking arrangement established on *Vigilant*, with a focus on joint working and fully embedded partnering, greater transparency of information including financial data, cost-reduction while improving safety and quality standards, and incentives to achieve or better the agreed schedule.

Work to be undertaken during the LOP(R) includes fitting *Vengeance* with the latest reactor core, as used in the new *Astute* class submarines, fuelling the submarine for life, and a number of updates and upgrades to her tactical and strategic weapons systems, as well as surveys, hull & structure preservation and overhaul of all the submarine's major components, systems and equipment.

Building on lessons learnt from the three previous Vanguard class LOP(R)s, a number of components in systems such as hydraulic systems, pressurised gas systems and trim, bilge and ballast system valves and pipework will be removed and overhauled without requiring initial survey or test, saving time and enabling advance planning. — Babcock/DefPro.com

## Aloha to USAF KC-135 aircrew training

**CAE USA recently relocated a KC-135 operational flight trainer (OFT) and associated training media from Grand Forks AFB in North Dakota to a new training facility at Hickam AFB, Hawaii.**

The new KC-135 training facility was officially inaugurated recently during a ribbon cutting ceremony. The KC-135 ATS program, led by CAE USA as the prime contractor, delivers initial qualification, requalification, continuation and upgrade training for KC-135 aircrews, including pilots, co-pilots, and boom operators. CAE USA and its small business subcontractor, Delaware Resource Group (DRG), are responsible for providing program management, academic and simulator instruction, maintenance and logistics services, training device upgrades, relocation services, and a Training Systems Support Center. Hickam AFB is now one of 13 USAF bases in the US and internationally where KC-135 training is delivered by CAE USA.

## Rolls-Royce to provide support services for US Armed Services

**Rolls-Royce will provide Mission Care service support for AE 1007C, AE 2100 and T56 engines which power a variety of US aircraft, including the V-22, C-130, P-3 and C-2 in operation with the US Air Force, Navy and Marines.**

Recent contracts announced by the US Department of Defense include:

US Air Force – \$112.2 Million services contract for AE 2100 engines and propeller systems for C-130J aircraft.

US Marine Corps – three contracts, totalling \$84.7 Million, for maintenance services on AE 1107C engines for V-22 aircraft; \$45.2 Million contract for logistics and technical engineering services for AE 2100 engines for KC-130J aircraft.

US Navy – \$33.8 Million contract for repair of T56 engines in P-3, C-130 and C-2 aircraft. The contracts cover work to be delivered in 2012 and 2013. ★