

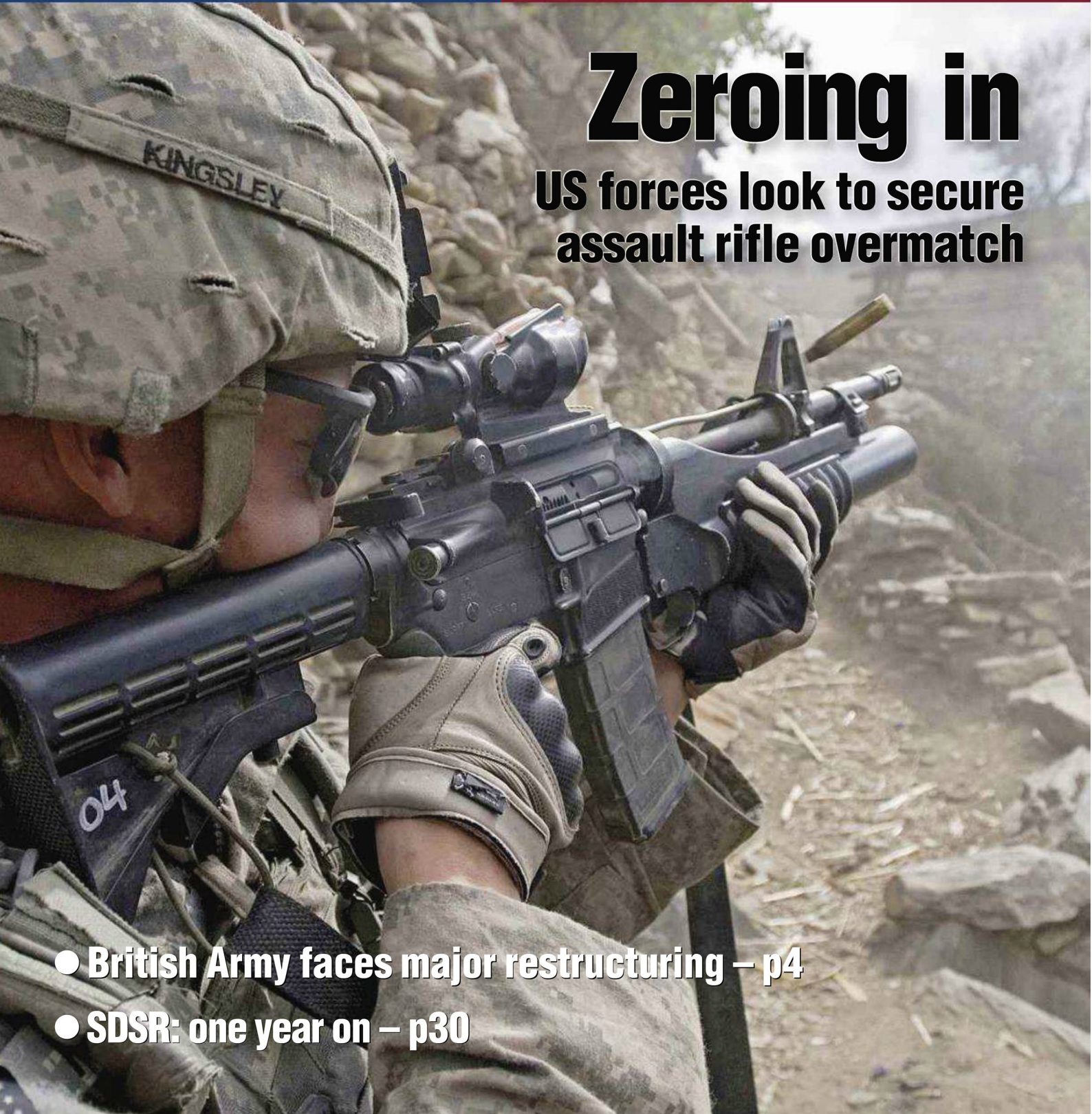
Jane's

DPA Publisher of the Year 2010

DEFENCE WEEKLY

Zeroing in

**US forces look to secure
assault rifle overmatch**

- 
- A close-up photograph of a soldier in camouflage gear aiming an assault rifle. The soldier's helmet has the name 'KINGSLEY' and the number '04' on it. The rifle is a modern assault rifle with a scope and a magazine. The background is a rocky, outdoor environment.
- **British Army faces major restructuring – p4**
 - **SDSR: one year on – p30**

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On the cover

A US Army specialist fires an M4 carbine equipped with an M203 underslung grenade launcher in Afghanistan (see pages 24-29).

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IHS Jane's/Patrick Allen: 1311743

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HEADLINES

British Army review may cut deeper than SDSR

TIM RIPLEY *JDW Correspondent*
London

Options for a major restructuring of the British Army, involving extra swingeing reductions in the service's future force structure, equipment procurement plans, basing infrastructure and training areas, will be ready within weeks for consideration by senior officers.

As if to reflect the army's under-fire approach, one imbedded source drew comparisons between the review and Germany's desperate attempts to protect military expertise when denuded of manpower and equipment after the First World War.

Major General Nick Carter, the British Army's Director General, Land Warfare, is heading up the review, which will herald the service's biggest restructuring since the end of the Second World War, according to army officers familiar with its work.

It is expected Gen Carter's review will be presented to the Executive Committee of the Army Board (ECAB), the army's highest decision-making body, in "late 2011", according to a notice placed on the British Army website.

"This work seeks to deliver an integrated force of 82,000 regular [troops] and 30,000 reservists by 2020 and will report for decision by ECAB," said the notice. The headline figures for troop strength reductions were set by UK Defence Secretary Liam Fox in July.

Officers familiar with the work say that Gen Carter's review, which is also known as Army 2020 within the British Army, aims to provide detailed force structure options for senior army leaders that will be presented to government ministers for final approval early next year. "We want to get our ducks in a row ahead of next year's spending round, PR12, so the army is not forced by the bean counters to cut things piecemeal, with no long-term plan," said one officer.

- Restructuring options being examined for the British Army could involve cuts that go even further than those envisaged by the October 2010 SDSR
- The army is reviewing its options with a view to avoiding piecemeal cuts should further reductions become necessary

Gen Carter's review has a radical agenda and is reportedly considering reducing the army's force structure beyond the levels set out in last October's Strategic Defence and Security Review (SDSR) because of uncertainty about future levels of UK defence spending. A senior army officer told *Jane's* that the review was being conducted on a "close hold basis" because of the sensitivity of likely recommendations that army regiments be disbanded, bases closed down and that certain equipment programmes be terminated, delayed or scaled down.

The SDSR envisaged the future British Army being built around five so-called Multi-Role Brigades (MRBs) as well as the specialist early-theatre-entry 16 Air Assault Brigade. Under the SDSR each MRB was to be structured around an armoured regiment with BAE Systems Challenger 2 main battle tanks, a formation reconnaissance regiment with the General Dynamics UK Scout/Specialist Vehicle, an armoured infantry battalion with upgraded BAE Systems Warriors,

a mechanised infantry battalion with a vehicle, yet to be determined, and a dismounted light-role infantry battalion. Each of the brigades would contain an artillery regiment and other specialist support units.

Options being examined by Gen Carter's review include re-equipping all the Royal Artillery field regiments with BAE Systems 105 mm Light Guns while retaining just one regiment equipped with AS90 155 mm self-propelled guns. A possible purchase of a small number of BAE Systems M777 155 mm howitzers is also being examined.

The Royal Armoured Corps is also facing major changes, with the review studying options to go beyond the SDSR baseline because of the costs of sustaining the Challenger 2 fleet and buying new reconnaissance vehicles. The worse-case scenario is understood to involve the retention of just a single Challenger 2 regiment. This is the so-called 'seed corn' option, which aims to retain a minimal level of skills, expertise and equipment to allow regeneration at a later date.

The review is intended to be complemented by other efforts to develop future warfighting concepts that are grouped under the banners of 'Agile Warrior' and 'Urban Warrior' under the direction of Lieutenant General Paul Newton, Commander, Force Development and Training. This force development work has a longer-term horizon than that being carried out by Gen Carter's review team. ■

'SDSR: the aftermath', pages 30-32



The costs of sustaining the Challenger 2 main battle tank fleet is one of the areas being reviewed.

British Army: 1431315

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Congress criticises Obama over Taiwan F-16 sale decision

MARINA MALENIC *Jane's Aviation Reporter*
Washington, DC

Obama administration officials have come under fire from lawmakers of both major US political parties for a decision last month not to sell new F-16s to Taiwan.

"Taiwan needs our help," Ileana Ros-Lehtinen, a Republican and chairwoman of the House of Representatives Foreign Affairs Committee, said during a 4 October hearing on the issue. "China is on the march in Asia, and its primary target remains democratic Taiwan."

The administration approved a deal on 21 September that includes USD5.3 billion worth of upgrades for Taiwan's 145 existing F-16A/Bs; a USD500 million continuation of the Luke Air Force Base training programme; and USD52 million in spare parts for Taiwan's Northrop F-5 and F-CK-1 Indigenous Defence Fighter (IDF) fleets and Lockheed Martin C-130H transport aircraft.

The committee's senior Democrat, Howard Berman, said during the hearing that Taiwan needs late-model F-16s to defend itself from China.

- The Obama administration has been criticised by US Congress for its decision not to sell new F-16C/Ds to Taiwan
- The administration had decided instead to upgrade the Taiwanese air force's existing F-16A/B fleet

Representative Gerald Connolly, also a Democrat, asked Kurt Campbell, Assistant Secretary of State for East Asian and Pacific Affairs, whether Beijing's opposition influenced the decision not to sell the new F-16C/Ds.

"It did not," Campbell responded.

Further, Washington is still considering additional arms sales to the island nation, officials said.

"We are consulting with Taiwan on a full range of capabilities so they're aware of the threat and they can undertake the defensive preparations," Peter Lavoy, Acting Assistant Secretary of Defense for Asian and Pacific Security Affairs, told the committee.



Taiwan's 145 F-16A/Bs will be upgraded under a USD5.3 billion deal with the US.

PA Photos: 1116266

Lavoy said a future sale of 66 new F-16C/Ds remained an option. In the meantime, he said, the upgrade to the existing fleet would provide "real and immediate" capability and represents "the best bang for the buck at this time".

Campbell also criticised Beijing for failing to renounce the possible use of force against Taiwan and for its military build-up – involving short- and medium-range ballistic missiles, as well as land-attack cruise missiles – directly opposite the island.

The missile proliferation "contradicts Beijing's stated commitment to the peaceful handling of cross-strait relations", he said.

Ukrainian company unveils new fighter engine in China

Ukraine's Progress-Ivchenko design bureau has shown a completed design concept for a fighter engine as speculation grows that China is working on a lightweight, single-engine fighter to supplement the heavier Chengdu Machine 2001/J-20 fifth-generation fighter prototype.

Designated the AI-222-95F, the engine is a 9,500 kg afterburning derivative of the AI-222K-25F that powers the Hongdu L-15 Falcon jet trainer. The engine "is a completed design that can be developed into a prototype engine within three years", a Progress representative told *Jane's* at the biannual Aviation Expo China held in Beijing in late September. "The engine was developed with the idea of being fitted to a new lightweight fighter that could be designed and built either in Russia or in China."

The new engine design was displayed with an artist's concept of an advanced light fighter that appears to derive some of its platform from the Mikoyan Multi-Role Fighter (MFI) Project 1.42 programme. Mikoyan officials have denied accusations made earlier in the year that design materials, drawings and other technical data from the MFI programme had been illegally sold to Chinese industry.

Progress officials said that the aircraft depicted on their exhibition stand "is just a conceptual configuration of what a new-generation fighter might look like, but is not meant to be indicative of any concrete design study currently under way". However, the Ukrainian representatives admitted that "there are negotiations and discussions under way with the Chinese about the possible use of this engine in a future design".

In contrast with past sale-only deals signed with China and Russia's aeroengine industry, Ukrainian officials said they might consider a licence-production agreement with Chinese industry "provided that the Chinese would sign up to a certain minimum number of units to be produced at their plant".

Reuben F Johnson

JDW Correspondent, Beijing

AgustaWestland to axe up to 375 UK jobs

AgustaWestland has become the latest UK aerospace company to cut jobs in response to declining UK Ministry of Defence revenues, with up to 375 positions to go at its 3,400-strong Yeovil helicopter manufacturing facility.

The company said on 7 October that the decision was "necessary to prepare for the changing mix of activities in the UK business", adding that "revenues from the MoD are declining and shifting towards longer-term support solutions, while export orders that have slipped in the near term are projected to grow over time".

The redundancies will primarily affect management and corporate positions. The cuts amount to more than 10 per cent of AgustaWestland's 3,600 UK employees.

AgustaWestland's announcement came after BAE Systems revealed on 27 September that it is looking to lay off 2,942 workers across its UK aerospace operations. A lower-than-expected increase in F-35 production rates, slowed Typhoon production and decreased workload relating to the UK's Tornado and Harrier aircraft were all cited by the company as driving the cuts.

The Harrier was scrapped by the UK Strategic Defence and Security Review (SDSR) of 2010, while the UK also started slimming its Tornado inventory this year ahead of the fleet being retired in 2012.

AgustaWestland stressed that its redundancies were in response to the general trend in the UK.

As a result of the SDSR, UK defence spending to 2014 was cut

by eight per cent (or USD17 billion), prompting industry trade group ADS to warn earlier this year that up to 30,000 jobs could be lost from the UK's 400,000-strong defence industry base.

Falling military aerospace investment in the UK is being partially offset by the pick-up in commercial aerospace sales as companies that delayed and cancelled orders during the financial crisis of 2008 look to recapitalise inventories.

AgustaWestland also sounded a note of optimism for the future of its Yeovil site, arguing that the launch of its AW169 civil helicopter will increase the amount of civil design and manufacturing work undertaken at the Somerset plant.

Guy Anderson *Jane's Defence Industry Editor, London*

HEADLINES

US to forward-deploy Aegis ships to NS Rota

SAM LAGRONE *JDW Staff Reporter*
Washington, DC

US Defense Secretary Leon Panetta announced on 5 October that the US would forward-deploy four Aegis surface combatants to Naval Station Rota (NS Rota), Spain, as part of the Obama administration's European Phased Adaptive Approach (EPAA) for ballistic missile defence (BMD).

"With four Aegis ships at Rota, the alliance is significantly boosting combined naval capabilities in the Mediterranean and enhancing our ability to ensure the security of this vital region," Panetta said.

Panetta announced the deal along with Spanish Prime Minister José Luis Rodríguez Zapatero and NATO Secretary Anders Fogh Rasmussen as part of his first NATO meeting since becoming US Defense Secretary.

Zapatero was quoted in press

- The US is to forward-deploy four Aegis surface combatants to NS Rota, Spain, as part of the Obama administration's European Phased Adaptive Approach for ballistic missile defence
- The ships will also be available to project power around Africa

reports as saying that the ships would arrive by 2013, although when asked by *Jane's* on 5 October, spokesmen for the US Office of the Secretary of Defense (OSD) and the US Navy (USN) said there were not as yet plans for deployment schedules or which ships would transit to NS Rota.

Panetta said the Aegis ships would have other missions in the region but did not specify what those were.

The deal follows the November 2010 NATO Lisbon Summit, where

the EPAA strategy was approved, and the first BMD deployment of USS *Monterey* (CG 61) in March.

The USN currently has 24 BMD-capable Aegis combatants split between five Ticonderoga (CG 47)-class cruisers and 19 Arleigh Burke (DDG 51)-class destroyers. The deployment of the four Aegis ships will be the largest new forward-deployed force in the European theatre in recent memory. NS Rota currently has no forward-deployed surface combatants, according to US Naval Surface Forces.

The EPAA's initial phase, slated to have full operational capability (FOC) by the end of the year, calls for Aegis ships equipped with Standard Missile 3 (SM-3) interceptors. Notionally the patrols will involve three Aegis ships in the Mediterranean and the North Sea with additional ships on call. Phase Two will upgrade the ships' missiles to upgraded SM-3 Block II missiles and add a land-based SM-3 capability, called Aegis Ashore, by 2015. ■

ANALYSIS

Spain's announcement on 5 October that it will host US Aegis destroyers not only slots one more piece into the puzzle of NATO's designs for developing missile defence (MD) but will significantly boost the US naval presence along the waters of Africa and in the Mediterranean basin.

"This is not just about MD but NATO's need for power projection and defensive measures around Africa," an allied diplomat told *Jane's* on 6 October. "That's where a lot of the security problems [facing the alliance] are going to come from."

Spain is the fourth ally – after Poland, Romania and Turkey – to strike a bilateral agreement with the US in support of the roll-out of MD. The latter's interim operational capability is expected to be announced when NATO leaders hold their next summit in Chicago in May 2012.

Beyond their missile defence role, Panetta said the destroyers "will enable the United States to provide support to our US Africa and Central Commands as needed".

Brooks Tigner *JDW NATO and EU Affairs Correspondent, Brussels*

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EPAA radar to be deployed this year

An early-warning radar that is to be a key element of the US military's European Phased Adaptive Approach (EPAA) to missile defence is due to be deployed by the end of the year.

Turkey agreed in September to host an AN/TPY-2 radar site for the EPAA, which is intended to detect, track and discriminate ballistic missile threats from Iran, although Turkey has requested that its eastern neighbour not be identified as the specific threat.

A military installation in Kurecik has been chosen for the radar's location but details are still being worked out, Lieutenant General Mark Hertling, commander of US Army Europe and 7th Army, told reporters on 5 October.

Daniel Wasserbly *JDW Senior Americas Reporter, Washington, DC*
Go to jdw.janes.com for more

F-35B begins sea trials

Sea trials of the short take-off and vertical landing (STOVL)-variant Lockheed Martin F-35B Lightning II Joint Strike Fighter (JSF) have begun off the US east coast, with the first landing of the testbed aircraft BF-2 aboard a US Navy (USN) warship on 3 October.

The vertical landing aboard the amphibious assault vessel USS

Wasp (LHD-1) went "exactly like we predicted", US Marine Corps (USMC) test pilot Lieutenant Colonel Fred Schenk said afterwards.

As well as collecting data on the aircraft's ability to perform STOVL operations in a maritime environment, the two-week sea trials campaign will examine how the F-35B integrates with the ship's landing systems, as well as test-

Test aircraft BF-2 undertakes the first vertical landing of the F-35B on USS *Wasp*. The aircraft will undertake two weeks of sea trials to assess its ability to operate in a maritime environment.

US Marine Corps: 1398739



ing deck and hangar operations. In preparation for these sea trials, USS *Wasp* was fitted with specialist instrumentation to measure deck environmental effects, while the pilots have spent many hours of simulator time honing their procedures.

The USMC is set to replace its current fleet of McDonnell Douglas AV-8B Harrier II and Boeing F/A-18 Hornet combat aircraft with the F-35B. Italy will also operate the aircraft and Spain has expressed an interest in doing the same. Both Italy and Spain currently operate Harriers from their aircraft carriers and the F-35B is the only aircraft that will allow them to retain a fixed-wing carrier capability. The UK, which had originally selected the F-35B, has opted instead to field the carrier variant (CV) F-35C from its second Queen Elizabeth-class carrier, *Prince of Wales*, when it enters service around 2020.

Gareth Jennings *Jane's Aviation Desk Editor, London*

Strike on Awlaki silences major AQAP recruiting tool

ELLEN KNICKMEYER *JDW Correspondent*
Beirut

The ageing survivors of Osama bin Laden's generation in Al-Qaeda's offshoot within Yemen still hold the will to attack the West, but with the 30 September US unmanned aerial vehicle attack that killed Anwar al-Awlaki, they lost the younger, US-born militant who had been showing them the way.

Awlaki successfully wielded the internet as his chief recruiting tool for the largely Western-based attackers suspected in most of the recent attacks and attempts on the West by Al-Qaeda in the Arabian Peninsula (AQAP). Without him, AQAP is now deprived of much of the special overseas targeting ability that – in Awlaki's mere seven years with AQAP – had helped make it the world's most dangerous Al-Qaeda branch.

Some analysts, focused on what appears to have been Awlaki's lesser role in internal AQAP affairs within Yemen itself and on what until recently was his lack of a set title and position within the AQAP hierarchy, have incorrectly dismissed his importance. Factually, that argument is dubious.

One of the last editions of AQAP's English-language *Inspire* magazine, a pet project of Awlaki's, appeared to describe the 40-year-old as AQAP's head of foreign operations. Furthermore Al-Qaeda documents found after Bin Laden's assassination in Pakistan show that AQAP's leader, Nasir al-Wuhayshi, had asked Bin Laden to make Awlaki head of AQAP instead: an acknowledgment of Awlaki's driving role within AQAP, according to published accounts from a counter-terror official who saw the documents.

Bin Laden reportedly refused, preferring to keep the familiar figure of Wuhayshi, Bin Laden's colleague since before the 11 September 2001 attacks, as his main contact point in Yemen.

More importantly, Awlaki's prime targets – both intended recruits and intended victims – were never Yemenis. Awlaki's recruiting targets were Western-based, English-speaking, disaffected Muslims who were well-positioned to carry out attacks on fellow Westerners. It was in that arena that Awlaki's role, in his few years in Yemen, quickly became transformative for Al-Qaeda, and alarming for counter-terror officials in the United States and the UK.

Awlaki for years had used YouTube to post videos of what were his increasingly militant anti-Western sermons. He built a following which, in turn, allowed him to stay at home instead of having to roam the world seeking recruits; they came, instead, to him. Fort Hood

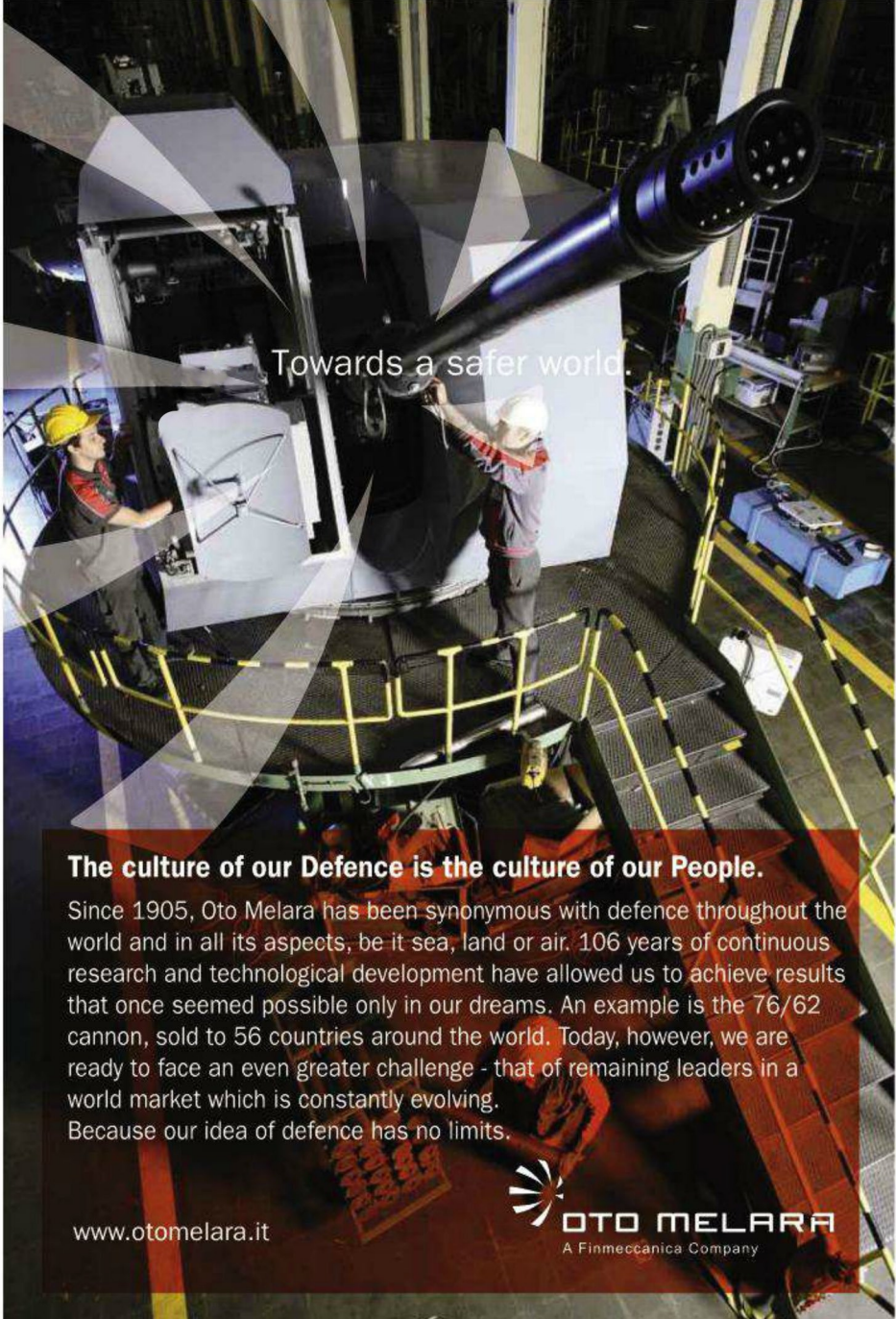
ANALYSIS

shooter Nidal Malik Hassan, Times Square bomber Faisal Shahzad and Umar Farouk Abdulmutallab, the Nigerian accused of trying to detonate a bomb that would have killed hun-

dreds on a Detroit-bound airliner in 2010, were among those who reached out to Awlaki.

Sometimes, Awlaki did not even have to make contact to inspire attacks on Westerners. Roshonara Choudhry, a 21-year-old non-Arabic-speaking student in London convicted of stabbing an MP in 2010, described to police interrogators being radicalised by semi-aimlessly flipping through Awlaki's videos on the Internet.

"I wasn't searching for him. I just came across him," Choudhry said in a transcript published by *The Guardian* newspaper. ■



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HEADLINES

US and Canadian Orions direct UK gunfire off Libya

TIM RIPLEY *JDW Correspondent*
London

British warships bombarding pro-Ghaddafi forces in Libya have been provided with targeting information by US Navy and Canadian Forces Lockheed P-3 Orion maritime patrol aircraft (MPA).

Details of the allied intelligence, surveillance, targeting, acquisition and reconnaissance (ISTAR) support for UK Royal Navy (RN) ships conducting naval gun fire missions along the Libyan coast were revealed

- Gunfire from RN warships targeting pro-Ghaddafi forces along the Libyan coast has been directed by US and Canadian Orion maritime patrol aircraft
- The most intense period of operations occurred in early August during the run-up to the fall of Tripoli

by senior UK officers familiar with the tactics used during NATO's Operation 'Unified Protector'.



HMS *Sutherland* in action off Libya. Gunfire from RN warships has been directed by US and Canadian Orion maritime patrol aircraft.

Royal Navy: 1440901

Up to 14 September the RN had fired some 270 4.5-inch (114 mm) high-explosive and illumination rounds against Libyan targets, according to UK Armed Forces Minister Nick Harvey. The majority of these have been fired by the Type 42 destroyer HMS *Liverpool*, except during a two-week period when *Liverpool* was relieved on station by the Type 23 frigates HMS *Iron Duke* and HMS *Sutherland*.

Liverpool carried out its first fire mission using high-explosive rounds in early May and has played an important role in the battle to lift the siege of Misrata, firing on pro-Ghaddafi forces operating around the city on more than 20 occasions.

RN officers said *Liverpool's* operations have been integrated with US Navy and Canadian MPA missions along the Libya coast. The aircraft, P-3C Orion AIP aircraft of US Navy and Canadian Forces CP-140 Auroras, maintained 24-hour surveillance of the Libyan coast and littoral hinterland using electro-optical sensors to detect concentrations of pro-Ghaddafi land forces and electronic intelligence equipment designed to detect radar emissions.

In an after-action report from *Liverpool* seen by *Jane's*, the most intense period of operations occurred in early August during the run-up to the fall of the Libyan capital, Tripoli, with almost 60 rounds being fired by the ship on a single day. A P-3 was engaged in trying to locate a pro-Ghaddafi artillery battery and ordered HMS *Liverpool* to fire illumination rounds over the target. The ship fired three rounds and the Libyan artillery ceased firing. Later on the same day another P-3 located a pro-Ghaddafi resupply convoy carrying ammunition and other equipment to frontline positions. Observers on the P-3 ordered

Liverpool to engage the target and 54 high-explosive rounds later several vehicles had been destroyed. The P-3 remained on station and then directed several coalition fast jets to continue the attack on the convoy.

The Libyan experience has led to RN to look again at providing organic maritime ISTAR for its warships, according to navy sources, although an RN spokesman approached by *Jane's* was unable to comment on ISTAR during the Libyan campaign.

The US Navy routinely rotates a P-3 squadron at its Sigonella airbase on the Italian island of Sicily. When the Libyan conflict began in March, the resident P-3 unit, Patrol Squadron 5 (VP-5), was augmented on occasions by additional aircraft and crews from VP-16, VP-26 and VP-40 to allow the US Navy to sustain 24/7 ISTAR coverage of the Libyan coast. About four to six US P-3s were usually operating at Sigonella throughout the Libyan crisis. In June VP-5 was replaced by VP-45 as the lead P-3 unit at Sigonella.

Within days of the start of the air operation against Libya on 19 March, the US Navy MPA crews had been reinforced by two Canadian CC-140s: one from 405 Long Range Patrol Squadron at 14 Wing Greenwood, Nova Scotia, and the other from 407 Long Range Patrol Squadron at 19 Wing Comox, British Columbia. The Canadian aircraft have also broadcast psychological messages to try to undermine the morale of pro-Ghaddafi forces. The CC-140s are fitted with the Overland Equipment Mission Suite (OEMS): a new addition to the Aurora that was acquired for the Canadian Forces' participation in security for the Vancouver Olympics in 2010. However, the suite does not have a real-time download capability.

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Sino-Russian relations strained by spy allegations

REUBEN F. JOHNSON *JDW Correspondent*
Kiev

An alleged increase in Chinese espionage activity in Russia has put a spotlight on the increasingly uneasy relationship between the two nations.

Since the beginning of September both Chinese and Russian nationals have been arrested on charges of industrial spying, just prior to an official visit to China by Russian Prime Minister and presumptive future president Vladimir Putin.

A good measure of the growing friction between the two nations centres on the evolving – some say deteriorating – relationship between Russia and China in terms of arms sales. Once the biggest customer for Russian fighter aircraft, surface ships and missile systems, Chinese orders for military items from Russia have dwindled to purchases of a few select technologies, the production of which Beijing has not yet mastered.

Two of the most important products that China still purchases from Russia are fighter jet engines and air defence systems. The two cases that have been publicised in the last month are linked to Russian air defence technologies, one specifically linked to the Almaz-Antei S-300 surface-to-air missile (SAM) system.

In early September it was announced that two professors, Yevgeniy Afanasyev and Svyatoslav Bobyshev, from the St Petersburg-based Baltic State Technical University 'Voyenmekh' had been implicated in a case dating back to June 2009. The two are accused of passing classified documents to Chinese military intelligence in exchange for cash payments while on a trip to China.

Voyenmekh is one of the largest military higher-learning institutions in Russia. Its structure contains four different institutes focused on technologies connected with weapon systems design, rocket and space systems, control and guidance systems and communications. They are divided into eight departments that train

engineering and technically specialised officers in 37 different disciplines. In July 2011 Voyenmekh signed an agreement for the creation of several joint programmes with technical learning institutions in China's northern Jilin province.

The second case, which was announced early in October, was the arrest of Chinese national Tun Shenyun. The Russian Federal Security Service (FSB) released a statement saying he was attempting "to purchase documents on the S-300 from Russian citizens" who were specialists with access to the programme. The FSB stated that Tun had no diplomatic status and was employed as a "translator for official delegations" visiting Russia. However, they claim that this job was a cover for his real function, which they allege was operating as an officer of China's Ministry of State Security: the nation's chief intelligence collection and espionage agency.

Sources in Moscow who are familiar with the case state that the increase in Chinese interest in obtaining materials related to the S-300 is "due to the fact that the S-300s that have been sold to China were a less-capable, export variant. Chinese intelligence services have been trying to determine just what the differences between the export version and the models used by Russia's armed forces are".

A report by the Stockholm International Peace Research Institute (SIPRI) projects that this deterioration of defence export ties with China – and China's overall interest in Russia – will continue and that the level of distrust will increase.

"There are strategic planners in Beijing and Moscow who view the other side as the ultimate strategic threat in the long term," the report reads. "In both countries, strategic planners warn that the present competition could escalate into a more pointed rivalry, entirely undermining the notion of a strategic partnership. Consequently, China and Russia will continue to be pragmatic partners of convenience, but not partners based on deeper shared world views and strategic interests." ■

US proposes limits on technology transfer to China

US Senator Jim Webb introduced legislation on 4 October to prevent US developed high-technologies being transferred to China.

The proposed legislation prohibits US companies from transferring technologies to countries that require "proprietary technology transfers as a matter of doing business". The law would be included as an amendment to the Currency Exchange Rate Oversight Reform Act of 2011, which is designed to put pressure on China to allow its currency to appreciate against the US dollar.

In introducing the bill to the Senate, Webb highlighted

an avionics joint venture (JV) proposed earlier this year between General Electric and state-owned Aviation Industry Corporation of China (AVIC). The JV is one of many partnerships that have been established between AVIC and US aerospace companies.

Webb said: "The transfer of publicly supported proprietary technologies by American firms to China ... clearly and unequivocally places the competitive advantage of the American economy at risk."

Jon Grevatt

Jane's Asia-Pacific Industry Reporter, Bangkok

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THE AMERICAS

New chairman of the Joint Chiefs is appointed

US Army General Martin Dempsey has taken over as the top uniformed officer in the armed services and the primary military adviser to President Barack Obama.

During a 30 September ceremony Gen Dempsey, the first army general to hold the post since before the beginning of operations in either Iraq or Afghanistan, took over as chairman of the Joint Chiefs of Staff from US Navy Admiral Mike Mullen, who is retiring.

The new chairman will face a litany of issues, including the looming drawdown of 45,000 US troops deployed in Iraq and continued operations in Afghanistan, where about 98,000 US troops are serving. He will also have to help usher the military into what is expected to become a new era in which the services may not see as much combat or as much funding, but will still need to pay for their new equipment, resetting old equipment and supporting wounded or retiring personnel.

In a 1 October letter to the military Gen Dempsey said his first priority was to "achieve our national objectives in the current conflicts".

While he stressed providing for the troops currently in theatre, the general also said it would be crucial to provide US political leadership with options for its future military.

Daniel Wasserbly *JDW Senior Americas Reporter, Washington, DC*

Pentagon moves forward with cheaper JLTV

DANIEL WASSERBLY *JDW Senior Americas Reporter Washington, DC*

The Pentagon appears to be moving towards a next phase for the Joint Light Tactical Vehicle (JLTV) programme as officials have altered the truck's requirements to accommodate a cheaper platform.

The US Department of Defense (DoD) on 3 October issued a draft request for proposals (RfP) for JLTV's next acquisition stage – engineering and manufacturing development (EMD) – that calls for an average unit manufacturing cost between USD230,000

- The JLTV programme has released a new set of requirements for the effort's next phase
- Vehicles are to meet a revised set of weight and mobility specifications

and USD270,000 across the JLTV family of vehicles.

JLTVs under the original requirements were estimated to cost about USD300,000 each before mission packages are integrated, which the US Army and

US Marine Corps (USMC) have said could limit the numbers they would be able to buy.

The programme's new requirements create some trade space for industry by easing weight and mobility constraints.

For example, all variants of the JLTV are to have a curb weight of no more than 14,000 lb (6,350 kg), according to the 'threshold' requirements in the RfP, whereas previously this was to be no more than 13,800 lb for EMD phase trucks.

Curb weight refers to an empty vehicle with basic issue items and a-kit structures, but no heavy armour or payloads.

Up to three contracts for the EMD phase are slated to be awarded in May 2012 following a competition that is open to any company.

In 2015 the Pentagon plans to solicit one firm fixed-price contract for the JLTV's initial production phase, consisting of a base three-year low-rate initial production award with an option for a five-year contract for full-rate production, the RfP added. ■

COMMENT

The JLTV programme faces some hurdles in the US Congress, where House and Senate armed services committees have each proposed cutting USD50 million from the Pentagon's Fiscal Year 2012 request.

Moreover, the Senate Appropriations Committee has recommended cutting

funding entirely for the project. All versions of the DoD budget legislation must be reconciled before they become law, but the different versions appear to favour taking at least some money from the JLTV programme and spending it on a programme to modernise Humvees, which is expected to be cheaper but provide less overall capability.

The Senate's appropriations legisla-

tion seeks to cut all JLTV money "due to excessive cost growth and constantly changing requirements". Committee members instead supported a Humvee upgrade and would add USD250 million for survivability upgrades to mine-resistant ambush-protected (MRAP) trucks.

Daniel Wasserbly *JDW Senior Americas Reporter, Washington, DC*

Rolls-Royce hits F-35B lift fan milestone

Rolls-Royce has assembled the first production-model lift fan for the F-35B Joint Strike Fighter at its new facility in Indianapolis, Indiana.

The company has delivered 11 lift fans, with this latest fan being the first to be completely assembled at the new factory built specifically for the effort.

Instead of employing lift engines or rotating nozzles on the engine like the legacy McDonnell Douglas AV-8B Harrier, which the F-35B will replace, Rolls-Royce's new lift system employs a shaft-driven lift

fan and a thrust vectoring nozzle for the main engine exhaust.

Reductions to the buy quantity could make the cost controls necessary to keep the F-35B alive more difficult, Gregg Pyers, Rolls-Royce's programme director for the lift fan, told visiting reporters.

The company has been implementing a "cost reduction plan" in concert with F-35 prime contractor Lockheed Martin. However, Pyers said, "it will be very challenging to remain cost neutral" in adjusting to the production slowdown.

Former US defense secretary

Robert Gates put the F-35B on a two-year 'probation' last year and reduced production quantities in the near term in order to give Lockheed Martin time to overcome the system's unique development challenges. There are indications that Congress could reduce production further when it decides funding levels for Fiscal Year 2012 (FY12).

Pyers said Rolls-Royce has approved solutions for all of the developmental difficulties with the lift fan identified in the 'probation' plan. He said the company is "driving for weight-neutral solutions on



Rolls-Royce employees work on the first fully assembled production-model F-35B lift fan at the company's factory in Plainfield, Indiana.

Rolls-Royce: 1390462

all the issues", given that weight is one of the overall challenges for the aircraft.

Marina Malenic *Jane's Aviation Reporter, Indianapolis*

Multi-intercept test success for THAAD

DANIEL WASSERBLY *JDW Senior Americas Reporter*
Washington, DC

Pentagon and industry officials conducted an operational test of the Terminal High Altitude Area Defense (THAAD) missile interceptor system on 5 October involving two different targets and two interceptors.

According to the US Missile Defense Agency (MDA), this was THAAD's first operational test and evaluation (IOT&E) event and US Army and Department of Defense (DoD) test administrators were on hand "to ensure the execution and results are representative of the fielded system".

The MDA said the endo- and exo-atmospheric missile defence system "engaged and simultaneously intercepted two short-range ballistic missiles".

Lockheed Martin, THAAD's prime contractor, said in a statement that during the test a first THAAD missile intercepted an air-launched short-range ballistic missile target before a second THAAD missile intercepted a sea-launched short-range ballistic missile target.

Soldiers from the first THAAD unit – Alpha Battery, 4th Air Defense Artillery Regiment, which was activated in 2008 – moved the systems in August from their base at Ft Bliss, Texas, and emplaced them at the Pacific Missile Range Facility test site in Hawaii.

The systems were operated under the control of the 94th Army Air and Missile Defense Command and, to create a realistic scenario, the soldiers were not told the time or date of the simulated attack, according to Lockheed Martin.

The MDA noted that the US Army Test and Evaluation Command (ATEC) and the Ballistic Missile Defense System (BMDS) Operational Test Agency are to review data collected from the event to formulate an operational assessment of THAAD.

Additionally, the Pentagon's director for operational test and evaluation will independently

- The THAAD missile-defence system underwent its first IOT&E event with a 'multiple-intercept scenario'
- During the test two THAAD missiles intercepted two short-range targets: one sea-launched and the other air-launched

study and report on THAAD's "operational effectiveness".

The most recent previous test of the THAAD system was a successful endoatmospheric intercept test on 29 June 2010. That event included intercepting a short-range unitary target within the earth's atmosphere, marking the lowest altitude for a THAAD intercept to date, the MDA said at the time.

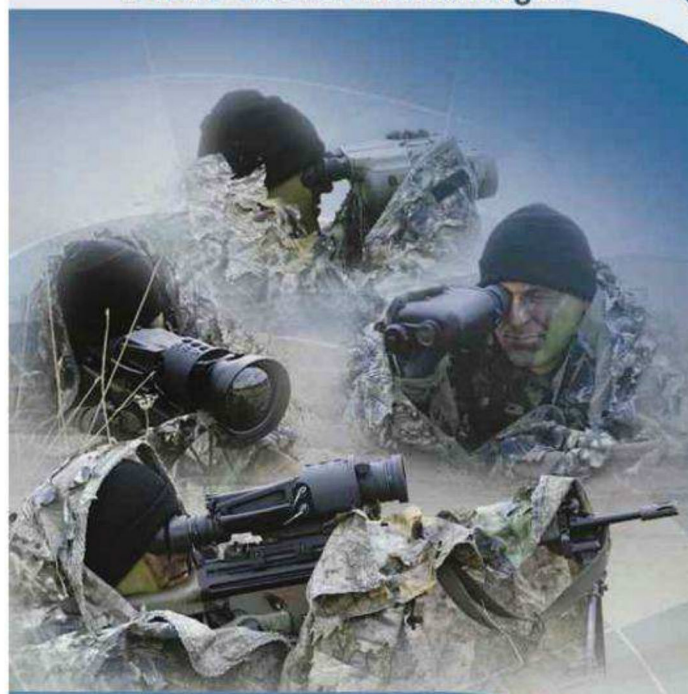
The June 2010 intercept was also the first use of the ground segment hardware and software from THAAD's production programme and was the first live mission to automatically co-ordinate between THAAD and the Patriot missile defence system.



The THAAD system's 5 October 'multiple-intercept scenario' test saw two interceptors engage two short-range ballistic missile targets.

Lockheed Martin: 1403943

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THE AMERICAS

P-8A flies in ASuW trials

GARETH JENNINGS *Jane's Aviation Desk Editor*
London

The US Navy (USN) has flown the Boeing P-8A Poseidon maritime multimission aircraft in a co-ordinated test evaluation and training exercise with a surface vessel for the first time, the US Naval Air Systems Command (NAVAIR) announced on 3 October.

The trial, which took place off the US east coast on 15 September, saw a testbed P-8A undertake a series of anti-surface vessel warfare (ASuW) exercises with the guided-missile destroyer USS Laboon (DDG-58).

According to NAVAIR, the exercise lasted for four hours and saw the P-8A perform low-level surveillance passes at 500 ft and 300 kt. The aim of the testing was to establish the maximum target detection



The **P-8A Poseidon** will replace the Lockheed Martin P-3 Orion as the US Navy's maritime patrol and anti-submarine warfare platform.

US Navy: 1398269

range of the aircraft's various radar modes against a surface vessel.

The Poseidon used in this trial was operated by the Naval Air Test

and Evaluation Squadron (VX)-20 and Boeing contractors out of Naval Air Station (NAS) Patuxent River, Maryland. Throughout the exercise the P-8A was directed by tactical air controllers aboard the USS Laboon as a safety measure.

The USN is due to begin the initial operational test and evaluation (IOT&E) campaign for the P-8A in mid-2012. With three test aircraft now at NAS Patuxent River, the navy has begun training its IOT&E crews on the fourth aircraft (T4). The final two trial aircraft (T5 and T6) are undergoing systems integration and certification at the company's Puget Sound facility near Seattle, Washington.

The USN programme of record is for 117 P-8s to replace its 1960s-era Lockheed Martin P-3 Orion maritime patrol aircraft. Initial operating capability for the type is due to be declared in 2013.

Chile set to buy French dock landing ship

The Chilean government has finalised negotiations with France to procure the dock landing ship (LSD) *Foudre* to replace a Newport-class ship that Chile retired in 2010, sources in Santiago have told *Jane's*.

Chile is expected to pay about USD80 million for the amphibious assault ship, which the French Navy is set to decommission in April 2012.

In service since 1990, the 168 m-long *Foudre* has a full-load displacement of 12,400 tons and can accommodate and support 1,200 troops during 10-day deployments with a supply load of 1,800 tons as well as 80 vehicles.

Acquisition of the LSD is expected to generate related requirements, such as the need to procure troop transport helicopters and armoured vehicles.

José Higuera

JDW Correspondent, Santiago

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EUROPE

British Army withdraws from CBRN Regiment

TIM RIPLEY *JDW Correspondent*
London

Budget pressures have forced the British Army to withdraw its personnel from the Joint Chemical Biological Radiological and Nuclear (Jt CBRN) Regiment, leaving the Royal Air Force (RAF) Regiment as the UK's sole specialist active-duty military unit in this field.

The decision by UK Defence Secretary Liam Fox was made in July but was not formally announced at the time.

Furious debate about the ending of the British Army's participation in the Jt CBRN Regiment took place within the Ministry of Defence (MoD) as part of its PR11 spending round process, with many army officers, including the unit's commanding officer, lobbying hard against the proposals.

Members of the 1st Royal Tank Regiment (1 RTR), which formed the army element of the regiment, were told about the decision at a parade at their base at RAF Honington in Suffolk on 5 August.

In an announcement on the 1 RTR website, it said that the unit's

- The British Army is to withdraw its personnel from the Joint CBRN Regiment
- The decision will leave the Royal Air Force Regiment as the UK's only CBRN specialists

"specialist capabilities within the Jt CBRN Regiment" are being transferred to the RAF Regiment's newly formed Defence CBRN Wing. Reservists from the Territorial Army Royal Yeomanry will augment the new unit. It is expected that the full handover will be

complete by 16 December.

Army sources said the decision centred on generating cost savings from withdrawing 11 Rheinmetall Landsysteme Fuchs armoured CBRN reconnaissance vehicles from service and not purchasing a replacement for the vehicles. "It was decided to take the withdrawal of the Fuchs and the capability to undertake CBRN survey under armour on risk," said the source. "In future, this will be carried out by operators in other types of protected mobility vehicles, but not ones specially designed for that role."

The Jt CBRN Regiment was formed in 1999 as a result of the Labour government's Strategic Defence Review and saw 1 RTR and the RAF Regiment's 27 Squadron being brought together to provide the UK armed forces with specialist capabilities and expertise to conduct collective CBRN defensive operations.

According to its website, after the 16 December handover, 1 RTR will become a divisional asset within 3 (UK) Division.

Go to jdw.janes.com for more



An RAF Regiment Leyland DAF 4x4 truck of the RAF Regiment, mounting a 14ft container housing an Integrated Biological Detection System. The RAF Regiment will soon be the UK's sole active-duty CBRN reconnaissance unit.

Russian satellite launch completes new global navigation system

Russia launched its 24th Glonass-M satellite on 3 October, providing the country with a global navigation and positioning satellite system (GNPS) for the first time in 15 years.

The announcement was made by the Russian Space Forces (RSF) via state news service RIA Novosti.

The system will reportedly cover 100 per cent of Russian territory and 99.5 per cent of the globe.

"Since that moment [of the launch], the national GNPS is fully completed," said Anatoly Shilov, the deputy head of Roscosmos, the federal space agency.

According to the federal operating agency for the Glonass family, the signal from the launched satellite will be available in early November.

Glonass-M is the second generation of Russia's GNPS satellite system and is designed for both military and civilian use. Each satellite can operate for nearly seven years. The system has a weight of 1,415 kg, while its positioning accuracy is about 5 m horizontally and 3.3 m vertically.

According to manufacturer Information Satellites Systems, by the end of the year the RSF will launch four more Glonass-M satellites.

In three years time the company plans to produce the entire range of the Glonass-K family: a third-generation Russian navigation satellite. These satellites will have a weight of 800-900 kg each, will function for 10-12 years and will have a positional accuracy of 1 m. The first one of the type, Glonass-K1, was launched from Plesetsk Space Centre on 26 February 2011. It is expected that the second Glonass-K satellite, known as Glonass-K2, will be launched in 2013-14.

The Soviet/Russian GNPS history dates back to the 1980s: Moscow put in orbit its first Glonass satellite in November 1982. In 2001 Russia's Glonass family had diminished to six satellites, mainly due to a lack of funding. Russia also lost three Glonass satellites in December 2010 when the rocket launching them deviated from its course and burnt out.

Peter Kazimiroff

JDW Correspondent, Moscow

Ukraine uses air exercise to plan future

The Ukrainian military recently used an extensive air defence exercise to help plot the future development of its ageing aircraft inventory and give pilots much-needed flight time.

With most of the upgraded Soviet-era fighters in the Ukrainian Air Force (Povitryani Sily – PS) approaching the end of their service lives, and Ukrainian pilots flying less than half the required number of hours per year, the armed forces embarked on Exercise 'Adequate

Response 2011' to inform PS regeneration plans up to 2017.

During the exercise, which was held in the Crimea between 19-24 September, almost 10,000 servicemen from the country's radar, surface-to-air missile, electronic warfare units and aviation brigades undertook a series of wargames. In all, some 70 simulated air-to-air and air-to-surface missions were flown during 240 sorties over five different ranges. Types involved included seven Sukhoi Su-27 'Flanker', 12

MiG-29 'Fulcrum', four Su-25 'Frogfoot' and three Su-24 'Fencer' combat aircraft.

Many of the PS's airframes will need to be replaced from about 2015. With these problems in mind, the Ukrainian military will use data gathered from 'Adequate Response 2011' as a basis for the Ukraine Air Force Staff's Reform and Development of the Armed Forces in 2012-17 programme.

René van Woezik

JDW Correspondent, Kiev

ASIA PACIFIC

India claims PLA presence on Kashmir border

Indian Army chief General V K Singh claimed on 5 October that People's Liberation Army (PLA) combat engineers are among 4,000 Chinese construction workers in Pakistan-occupied Kashmir (PoK).

"There are certain construction working teams [in PoK]. Around 3,000 to 4,000 of these people are present, including some for security purposes," Singh said. "Like our engineers, they are also combatants. And there are certain people for their security. In some way, they are part of the PLA."

Chinese engineers are involved in the construction of and upgrades to road, bridge and hydropower projects in Gilgit-Baltistan, part of PoK that borders Indian-controlled Kashmir. In September Masood Khan, Pakistan's ambassador to China, denied there were any PLA troops in the area.

Indian Northern Army commander Lieutenant General K T Parinaik has said that, as a result of the "Beijing-Islamabad military nexus", India could face a two-pronged threat from PLA troops along the 4,057 km undefined line of actual control (LoAC) and the 778 km line of control with Pakistan.

Non-military and government sources say the publication of comments by senior military officers is timed to sabotage diplomatic efforts between New Delhi and Beijing.

The comments also followed reports that Chinese helicopters had "intruded" into Indian territory in July, which officials said was probably a "misperception" of the LoAC.

India's Ministry of External Affairs is reportedly working on a joint diplomatic mechanism to monitor such border intrusions.

India's Cabinet Committee on Security is also evaluating a proposal to increase military capabilities in the Ladakh region of Jammu and Kashmir. The proposal includes upgrading airfields at Kargil and Nyoma for fighter and transport aircraft, including Ilyushin Il-76s, Boeing C-17s and the special operations Lockheed Martin C-130J-30 aircraft currently being acquired from the US.

J Michael Cole *JDW Correspondent, Taipei*

IAF announces Pilatus deal and raft of updates

RAHUL BEDI *JDW Correspondent & JAMES HARDY* *JDW Asia-Pacific Editor*
New Delhi & London

The Indian Air Force (IAF) is on a procurement and modernisation drive to become a strategic force capable of extended out-of-area operations to protect national interests globally, Air Chief Marshal Norman A K Browne said in New Delhi on 3 October.

Addressing the media ahead of the IAF's 79th anniversary on 8 October, ACM Browne said the long-postponed deal to acquire the Swiss-made Pilatus PC-7 tandem-seat turbo-trainer would be signed by the end of October, with deliveries starting by mid-2013.

India will acquire 75 Pilatus PC-7s in 'fly-away' condition. A further 106 will be licence-built locally in a deal estimated to be worth USD1 billion.

"Pilot training is an area of great concern for us and over the past few months this [acquiring basic trainers] has been our main focus," said ACM Browne.

The PC-7 fleet will replace 180-200 Hindustan Piston Trainer (HPT)-32s inducted into service

in the mid-1980s and grounded in July 2009 following a series of fatal accidents in which 23 pilots died.

ACM Browne's press conference was accompanied by a slew of announcements on recent acquisitions and future plans:

- From 2017 the IAF will induct 214 Fifth-Generation Fighter Aircraft (FGFA) – 166 single-seat and 48 twin-seat versions – jointly developed by India and Russia. ACM Browne added that the negotiations for the design phase of the FGFA, which is based on the Sukhoi T-50 PAK-FA prototype, will start in 2012.

- In September the IAF received the

first four of 80 Russian Mi-17V-5 weaponised helicopters acquired in 2008 for USD1.35 billion; the remainder will arrive by 2014.

- The IAF is close to signing for a further 59 Mi-17V-5s for special operations, transportation of troops and materiel, search-and-rescue missions and casualty evacuation and counter-insurgency duties.

- User trials to procure 22 attack and 15 heavy-lift helicopters to replace retiring Soviet and Russian platforms have been completed and an announcement on selection is imminent.

- ACM Browne confirmed that the IAF is buying six more Lockheed Martin-built C-130J-30 military transport aircraft configured for special forces use. They will be based in eastern India.

- Of the previous six C-130Js acquired in 2008 via Foreign Military Sales, five have already arrived and the sixth is due in November, months ahead of schedule.

ACM Browne also announced that initial operational clearance for the locally developed 'Tejas' Light Combat Aircraft (LCA), granted provisionally in January 2011, has now been postponed to the end of 2012.



The IAF has finalised a deal to procure the Pilatus PC-7, seen here in South African colours.

IHS Jane's/Patrick Allen: 1432012

COMMENT

ACM Browne's announcements offer a compelling snapshot of the state and breadth of India's procurement of air assets.

The Pilatus PC-7 deal will provide a major lift to the IAF's training programme, which has been without a basic trainer since the HPT-32 fleet was grounded in August 2009. However, the PC-7 deal is a defeat of sorts for HAL, which had hoped to develop a similar airframe dubbed the HTT-40 that *Jane's* understands is now going to be put on the backburner.

Jane's also understands that HAL's HJT-

36 Sitara Intermediate Jet Trainer, which made its first flight in 2003 but has only entered limited production due to a crash in 2007, is also close to being shelved as the IAF is unhappy with its performance.

While India's relationship with long-time supplier Russia remains healthy, the US is making inroads. Lockheed Martin's success in delivering C-130Js ahead of schedule and under budget will have done the reputation of US firms no harm and may be reflected in the outcome of the attack and heavy-lift helicopter contests. Boeing's AH-64D Apache Longbow is ranged against Russia's Mi-28N 'Havoc' for the former contest, while the

heavy-lift tender features Boeing's CH-47F Chinook and Mil's Mi-26.

The news that India will buy only 48 twin-seat versions of the FGFA is a departure from previous statements, which had envisioned an initial procurement of 200 twin-seat aircraft following the operational doctrine set by the IAF's Su-30MKI fighters, in which one pilot flies the aircraft while the other operates its sensors and weaponry.

ACM Browne offered no explanation for the change in plans but it is expected that the 214 units mentioned are only a starting point for a much larger acquisition.

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Australia grounds CH-47D Chinook fleet

GARETH JENNINGS *Jane's Aviation Desk Editor*
London

The Australian Department of Defence (DoD) has suspended flying operations of its five Boeing CH-47D Chinook heavy-lift transport helicopters after identifying possible issues relating to the operation of the aircraft's Advanced Flight Control System (AFCS) in certain flight conditions, it announced on 5 October.

According to the statement, the precautionary suspension will remain in place pending technical analysis of flight data by the DoD and Boeing. A DoD spokesperson declined to divulge further details as to the nature of the problem, its impact on operations, or how and when it might be rectified.

Boeing told *Jane's*: "The flight safety record of the Chinook is well proven. Boeing is supporting the [Australian Army] and the Australian Department of Defence to complete its analysis of [the] flight data." The company did not disclose if the reported problem with the helicopter's AFCS affects other operators of the type, including the US Army.

The Australian Army's Rotary Wing Group currently has two CH-47Ds stationed at Kandahar Air Field in southern Afghanistan, both of which are subject to this grounding order. As these helicopters are attached to the US Army's 101st Combat Aviation Brigade, the suspension of flying operations should have little knock-on effect on the overall provision of air mobility in theatre.

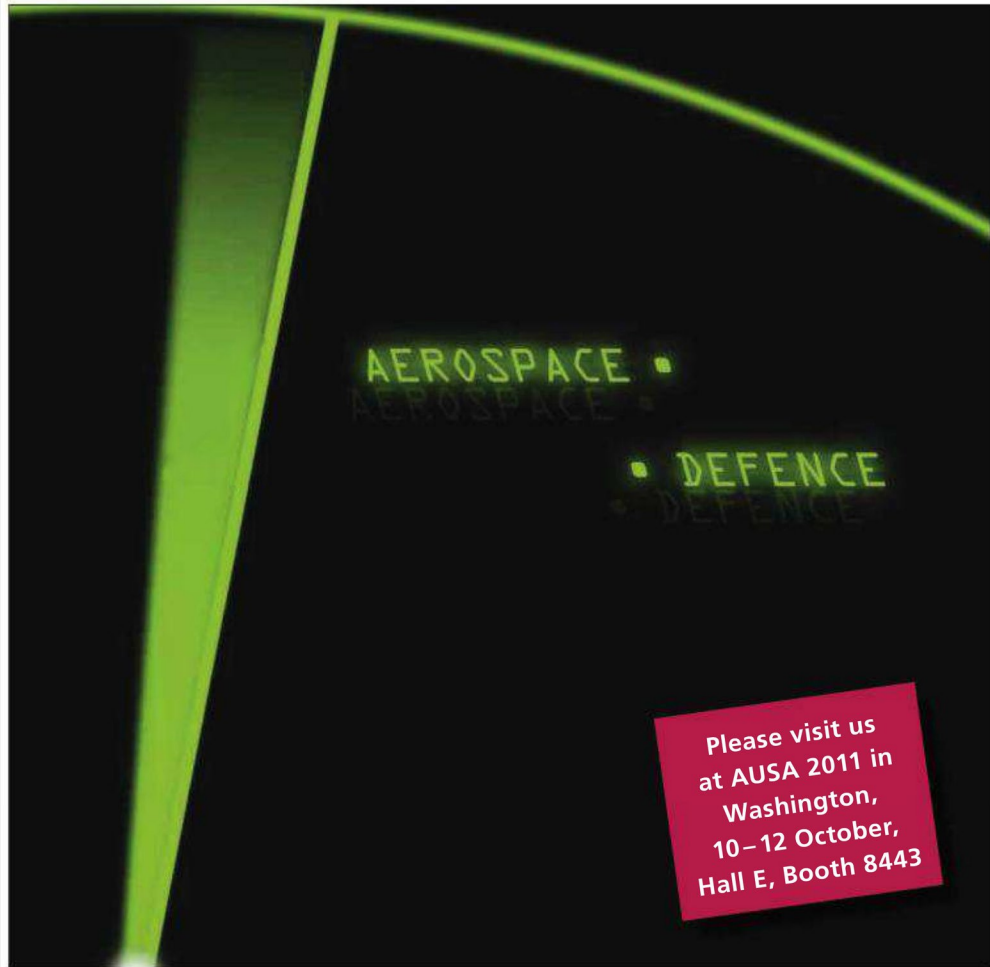
"Centralisation of aviation assets into the US Combat Aviation Brigades allows greater redundancy, synchronisation of maintenance and improved mission planning," the DoD statement said, adding: "The grounding of the aircraft is not expected to have an impact on the conduct of operations [in Afghanistan]."

Of the five remaining CH-47Ds in Australian service (one was lost on operations in Afghanistan in May), two are deployed to Afghanistan,

one is deployed to Papua New Guinea; one is on Horn Island in northern Queensland; and the remaining aircraft is in Townsville, Queensland, where the Chinook fleet is based and operated by the 5th Aviation Regiment's C Squadron.

In March 2010 the DoD announced it had

signed a AUD513.5 million (USD490 million) contract with the US Army to acquire seven of the latest-variant CH-47F Chinook. These aircraft will replace the CH-47Ds in service and are set to begin being fielded in 2014. All seven helicopters should be operational by 2017. ■



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The Australian Army currently has two CH-47D Chinook helicopters in operation in Afghanistan. The grounding order should not affect the ongoing mission in that country, the DoD said.

ASIA PACIFIC

Japan agrees to air refuelling of US forces

KOSUKE TAKAHASHI *JDW Correspondent*

JAMES HARDY *JDW Asia-Pacific Editor*

Tokyo & London

Japan has signed an agreement with the US to allow Japan Air Self-Defence Force (JASDF) aircraft to carry out air-to-air refuelling of US military aircraft, Chief Cabinet Secretary Osamu Fujimura said on 3 October.

"In the past there had been no agreement on the refuelling of US forces by JASDF aircraft, making it operationally impossible," Fujimura said. "Air refuelling during past

exercises was 'one-sided', from US planes to Japanese aircraft, but the memorandum we've signed means the JASDF can now conduct it."

The JASDF and US Pacific Air Forces exchanged a memorandum of understanding (MoU) on aerial refuelling in October 2010. The MoU is based on an acquisition and cross-servicing agreement that governs the exchange of military goods and services, such as food and fuel, during joint drills or interna-

COMMENT

The agreement to refuel US military aircraft does not commit Tokyo to supporting US military operations outside Japan and so avoids the political and constitutional issues that eventually ended Japan's maritime refuelling support of the US-led campaign in Afghanistan.

However, it does follow the recent trend of Tokyo increasing its support of strategic partners: Japan signed an acquisition and cross-servicing agreement with Australia in May 2010.

The new government of Prime Minister Yoshihiko Noda is also considering Japan's long-standing ban on the export of materiel and in June Tokyo said it would allow the export of the Standard Missile 3 (SM-3) Block IIA ballistic missile interceptor that it jointly developed with the US.

tional humanitarian operations.

Fujimura dismissed concerns that refuelling US aircraft could conflict with Japan's constitution, which does not permit the use of force beyond its own defence. ■

Lockheed Martin pledges industry support for F-X

Lockheed Martin reiterated its offer of final assembly of the F-35A Lightning II Joint Strike Fighter (JSF) to Japanese companies on 6 October, a day after Japanese Defence Minister Yasuo Ichikawa said support for Japanese industry would be a major factor in Tokyo's choice in its F-X fighter competition.

Lockheed Martin used a press briefing in Tokyo to highlight its support for Japanese firms.

As well as final assembly, John Balderston, director of the Japan F-35 Campaign, said Japanese companies would take part in major component manufacture, engine assembly and final checkout.

Kosuke Takahashi

JDW Correspondent, Tokyo

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Jane's

MIDDLE EAST/AFRICA

Somalia bomb marks escalation of Shabab threat

A suicide truck bomb killed at least 70 people in the Somali capital on 4 October, illustrating the escalation of guerrilla attacks that the extremist insurgent Shabab movement vowed would occur after its militant cells were pushed out of Mogadishu by African Union peacekeepers.

The Al-Qaeda-linked militancy vowed that attacks of this nature would increase "day by day" until the "infidels" left Somalia.

Shabab spokesman Ali Mohamud Rage made a series of public statements on 5 October via the group's radio station, Al-Andulus, claiming responsibility for the bombing and warning that "the campaign against infidels will be back to back and by God's grace will increase day by day and will increase in the coming hours," according to a translation of his remarks released by the Associated Press.

The attack was the first major blow to the fragile security that had settled over the capital since the August decision by Shabab to withdraw its forces in the face of the better-equipped 9,000-strong AU peacekeeping force, AMISOM.

Lauren Gelfand *JDW Middle East/Africa Editor, Nairobi*

US seeks to deter Israeli action against Iran

YAAKOV KATZ *JDW Correspondent*
Tel Aviv

United States Secretary of Defense Leon Panetta visited Israel on 3 October to head off any possibility of unilateral military action against Iran's nuclear facilities.

Panetta's first visit to Israel since his appointment in July also included talks with Prime Minister Benjamin Netanyahu and Panetta's counterpart, Ehud Barak, on steps to resume negotiations with the Palestinian Authority.

Israel should be working in co-operation with the international efforts already under way to stall Iran's pursuit of a nuclear programme that the Islamic Republic maintains is civilian only, despite mounting evidence of a military component, Panetta said.

"The best approach for dealing with this threat is for all of us to make it clear to them that they cannot proceed on the path that they are on," Panetta said. "We will work together to do whatever is neces-

- **US Defense Secretary Leon Panetta has visited Israel to deter any possibility of unilateral military action against Iran**
- **He urged Israel to work in co-operation with international efforts already under way to stall Iran's pursuit of a nuclear programme**

sary to make sure that they do not represent a threat to this region and it depends on countries working together."

Israeli defence officials acknowledged that Panetta's use of the word "together" and an earlier warning he issued that Israel was increasingly isolated in the Middle East sought to deter unilateral Israeli action against Tehran's nuclear facilities – without at least co-ordinating with the US.

"The idea is for Israel to understand that it can only rely on the US now with the upheaval in the

region," one Israeli government official told *Jane's*.

Panetta's last trip to Israel, in 2009 when he was the director of the Central Intelligence Agency, focused on a similar message.

Some analysts have warned that the window of opportunity for a strike against Iran is closing as it expands its enrichment capabilities to additional facilities.

However, others have insisted that there is still time to stop Iran with other means than military action. Former Mossad head Meir Dagan said on 3 October that, by ascribing a greater degree of preparation and acumen to the Iranian nuclear programme than may be the case, Israel was undermining its own efforts to garner international support for diplomatic intervention.

"Iran is still far from the point of no return," Dagan said.

Discussions between the two defence chiefs also touched on continued US security assistance for Israel, with Panetta offering assurances that Washington remained committed to ensuring Israel's qualitative military edge. ■

Rastan revolution opens new front in Syrian conflict

The central city of Rastan has emerged as the epicentre for a new, armed phase in the months-long Syrian demonstrations in demand of reform and could mark a turning point for the protests, which have been largely peaceful since they began in March.

Five days of intense fighting between Syrian troops and former comrades who had defected to the opposition ended on 1 October after tanks and helicopters led a thrust into the town, which had become a haven for hundreds of defectors.

State-run news agency SANA said that the loyalist troops had put down the "terrorists", arresting an unknown number of individuals and restoring peace to the town, which is in the central Homs province – itself a key region in the reformist movement.

The armed response to the government crackdown on Rastan marks a major shift away from the non-violent demonstrations employed by the protesters in the face of an onslaught by

the forces of President Bashar al-Assad. The demonstrations were initially promoted as non-violent protests in order to limit the legitimacy of the forceful crackdown, but the battalion of renegade soldiers ignored the opposition edict to mount its own response.

Explosions and machine-gun fire could be heard in Rastan for five days as Assad's forces battled for control of the city; the number of civilian casualties there is unknown and impossible to confirm as Syria has imposed a virtual blackout on foreign media.

The dissident Bin al-Walid battalion commands its own fleet of armoured vehicles and its numbers are increasing daily as regime soldiers abandon their positions and refuse to fire on their fellow citizens.

Russia and China's veto of a 5 October UN Security Council vote to endorse a resolution that could have paved the way for possible targeted sanctions against the Syrian regime has

caused tensions within the organisation.

US Ambassador to the UN Susan Rice walked out of the vote after calling the opposition by the veto-wielding permanent Council members a "cheap ruse by those who would rather sell arms to the Syrian regime than stand with the Syrian people". Russian military contracts with Syria are estimated to total some USD4 billion.

Syria's former ally and northern neighbour Turkey has said that it will not be deterred in its own decision to impose targeted sanctions against the Assad regime, including an arms embargo. "Oppressed, defenceless people are dying in serious numbers," Turkish Prime Minister Recep Tayyip Erdogan said during a visit to South Africa. "We cannot say 'Let these deaths continue'." UN estimates suggest more than 2,700 civilians have died since March in the government actions.

Lauren Gelfand *JDW Middle East/Africa Editor, Nairobi*

MIDDLE EAST/AFRICA

Kidnappings highlight Kenya Navy shortcomings

LAUREN GELFAND *JDW Middle East/Africa Editor*
 Nairobi

Kidnappings of French and UK nationals from Kenyan coastal resorts in recent weeks have highlighted shortcomings in the training, procurement and overall operational capabilities of the Kenya Navy.

French national Marie Dedieu was abducted on 1 October by suspected former members of the Somalia-based insurgent Shabab movement.

Travelling in small skiffs and armed with sophisticated radar and communications equipment, as well as an arsenal of small arms,

rocket-propelled grenades and other man-portable weapons, about 10 attackers invaded Dedieu's home on Manda Island. Kenyan Internal Security Minister George Saitoti has said that there is information to suggest she has been taken to the Shabab-controlled port city of Kisumu in southern Somalia.

A UK tourist also remains in Shabab custody after being kidnapped less than two weeks earlier in an attack that left her husband dead.

The Kenyan military confirmed that two militants were killed in a first rescue attempt for Dedieu. It

acknowledged that the mission was unsuccessful, primarily due to the Kenya Navy's shortage of appropriate vessels and communications and surveillance equipment. Two Kenya Navy officers drowned in the rescue attempt because they were not properly outfitted with survival and buoyancy gear.

Another two Kenya Navy force officers were kidnapped and remain in the hands of Shabab, Saitoti confirmed on 4 October.

Kenya's defence and security establishment continues to scramble to respond to the two abductions, which could adversely affect the country's vital tourism industry.

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Saudi Arabia vows reprisals for protest attack

Saudi Arabia will respond to unrest in the kingdom with "an iron fist" and vowed reprisals against those responsible for the 3 October attack on security forces in Awwamiya, a statement on 5 October from the official Saudi Press Agency warned.

Still-unidentified assailants on motorcycles used machine guns and threw Molotov cocktails at the security headquarters in the eastern town: a minority Shia stronghold. At least 14 members of the security forces were injured, as well as a number of civilians.

Protests in the Qatif region, in which Awwamiya is located, have been put down by Saudi security forces. One security source cited on 5 October by *Gulf News* said that "the situation [was] now under full control of the forces".

Lauren Gelfand *JDW Middle East/Africa Editor, Nairobi*

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Sirte battle will end Libya conflict, interim leaders say

LAUREN GELFAND *JDW Middle East/Africa Editor*
Nairobi

The Libyan interim government has vowed that a coming offensive against the hometown of deposed leader Moammar Ghadaffi will be the last, decisive push to bring the entire country under its control and begin the process of rehabilitation in anticipation of elections.

Speaking to reporters in Tripoli, Defence Ministry spokesman Colonel Ahmed Bani vowed on 5 October that the revolutionary forces "will be able to completely dominate Sirte in the next few days".

Corroborating the assessment, the *Los Angeles Times* quoted Libyan Deputy Defence Minister

- The Libyan interim government believes revolutionary forces will be able to completely dominate Sirte "in the next few days"
- Moammar Ghadaffi is believed to be hiding either in Sirte or Bani Walid

Fawzy Abu Kataf as saying it would take "two days of heavy shelling" to oust the remaining Ghadaffi loyalists from Sirte.

Commanders of forces loyal to the ruling National Transitional Council (NTC) have struggled to maintain the security gains around the town of Sirte, losing their grip after weeks of artillery and rocket

fire on its eastern edges to pro-Ghadaffi forces that have slowly regained momentum and moved to capture strategic outposts, including the 3 October taking of the southern district of Bouhadi.

The whereabouts of Ghadaffi and several of his sons remains unknown, but they are believed to be hiding either in Sirte or Bani Walid: the last remaining loyalist outposts. Rumours that the family had escaped to Niger have been debunked.

The inability of the NTC to conclusively claim victory has hampered the 28-member NATO alliance in making its own decisions as to the end of its aerial mission over Libya. Airstrikes continue to target Sirte to facilitate the ground movements of NTC troops,

but have decreased in scale since September, when the mission was renewed for an additional 90 days.

Acknowledging the inconclusiveness of the ground battle in statements before he met his NATO counterparts on 5 October, US Defense Secretary Leon Panetta said that the fighting in Sirte and the mystery over Ghadaffi's whereabouts have left the end of the NATO air operation in question, while also preventing the NTC from moving on to rehabilitation- and rebuilding-focused issues. "As long as there's fighting in Libya, I suspect that the NATO mission would continue," Panetta told reporters in Cairo.

NATO aircraft and their coalition allies – including Qatar and the United Arab Emirates – have flown nearly 25,000 sorties, which include more than 9,000 strike missions, since March when UN Security Council Resolution 1973 mandated an international effort to protect civilians. Closed-door meetings of the NATO council about Libya were ongoing on 6 October. ■

 **RHEINMETALL**
DEFENCE



BUSINESS

Taiwan starts offset negotiations over F-16

JON GREVATT *Jane's Asia-Pacific Industry Reporter*
Bangkok

Taiwan aims to secure enhanced local aerospace and defence industry capabilities through defence offset clauses attached to its recently announced arms deal with the United States, a senior official in Taipei has told *Jane's*.

The multibillion dollar deal – outlined by the US Defence Security Co-operation Agency on 21 September – includes a USD5.3 billion upgrade for Taiwan's 145 F-16A/Bs, a USD500 million continuation of the Luke Air Force Base training programme and USD52 million in spare parts for Taiwan's Northrop F-5 and F-CK-1 Indigenous Defence Fighter (IDF) fleets and Lockheed Martin C-130H transport aircraft.

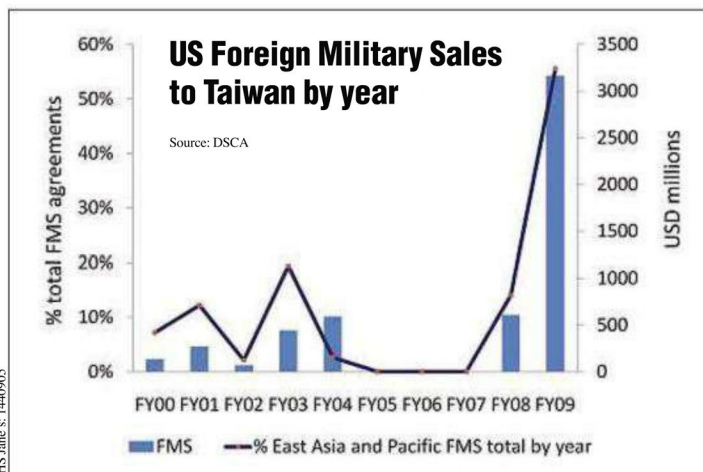
Gary Chow, director of the Industrial Co-operation Program (ICP) Office – the body that implements defence offsets on behalf of the government – told *Jane's* on 4 October that the contract will provide Taiwan with another opportunity to develop the state-owned Aerospace

- Taiwan is looking to offset clauses attached to its recent arms deal with the US to enhance local aerospace and defence industry capabilities
- The offset ratio will be "at least 40 per cent"

Industrial Development Corporation (AIDC): the company that manufactured the Taiwan air force's F-CK-1 IDFs.

"We are starting the offset project now; we are just beginning negotiations," said Chow, "but we will look to secure technologies that might enable us to build a dedicated maintenance centre in Taiwan, or we will look at other technologies and seek to secure a training programme."

Chow said it was too early in the negotiations to state what offset ratio will accompany the deal, although he insisted that it will be "at least 40 per cent" to comply with Taiwan's offset guidelines. ■



ANALYSIS

Taiwan's ICP policy calls for all defence contracts worth more than USD5 million to include industrial offsets worth at least 40 per cent of the value of the deal. However, the value of the industrial offsets have gradually risen over the past two decades.

In December 2008 a report on defence offsets published by the US Department of Commerce's Bureau of Industry and Security said that between 1993 and 1999 Taiwan called for offsets worth an average of 18.4 per cent of the value of a defence deal, while from 2000 to 2006 the offset requirement more than doubled to 48.7 per cent.

In 2009 *Jane's* revealed that Lockheed Martin's deal to supply 12 refurbished P-3C Orion maritime patrol aircraft to Taiwan was accompanied by an offset requirement of 70 per cent, which equated to a value of about USD465 million to local industry.

The ICP guidelines are overseen by the Industrial Development Bureau of the Ministry of Economic Affairs, although in 2010 the offset policy was refocused to enable Taiwan's Ministry of National Defense (MND) to play a more integral role in shaping foreign primes' technology transfer obligations. The move is intended to promote industrial development in areas deemed critical by the MND.

Indonesia confirms 36% boost to defence budget

Indonesian President Susilo Bambang Yudhoyono has confirmed that the country's defence ministry will receive a budget increase of 36 per cent for Fiscal Year 2012 (FY12).

In comments reported by state news agency Antara, Yudhoyono – who was speaking at an event in Jakarta on 5 October to mark the 66th anniversary of the Indonesian armed forces (the Tentara Nasional Indonesia, TNI) – said that military expenditure will reach IDR64.4 trillion (USD7.2 billion) under recent decisions made by the government.

The budget in FY11 was originally IDR45.2 trillion, but received an additional IDR2 trillion mid-way through the fiscal cycle.

Jon Grevatt *Jane's Asia-Pacific Industry Reporter*,
Bangkok

Go to jdw.janes.com for more of this article

Airbus Military outlines recovery plan with PTDI

Airbus Military and PT Dirgantara Indonesia (PTDI) have extended their relationship into a full teaming agreement aimed at rescuing the troubled Indonesian aerospace company, it was announced on 5 October.

An 18-month plan will see Airbus Military transfer technology and engineering expertise to PTDI in an effort to upgrade the company's capabilities and processes.

In July Indonesia's House of Representatives authorised a IDR2 trillion (USD225 million) cash injection into PTDI as part of a wider package providing state capital and government aid

to the Indonesian defence industry, valued at IDR7.8 trillion, plus a further IDR54 trillion to other industries.

EADS, Airbus Military's parent company, has targeted Indonesia as a launchpad for expansion into the Asia-Pacific market. Commenting on the agreement, Domingo Urena Raso, chief executive of Airbus Military, said: "I see a great future in this co-operation with the Indonesian aerospace industry."

The agreement also grants co-production and marketing options for the C-295 if the Indonesian Air Force commits to the replacement of its existing Fokker F-27 transport aircraft. The announcement follows *Jane's* reports in March that the two companies were negotiating a production agreement for the C-295.

Airbus Military and PTDI signed a strategic collaboration agreement on 6 July, while Eurocopter signed a similar agreement on 1 July.

Nicholas de Larrinaga *Jane's Industry Reporter*, London

BUSINESS ANALYSIS

Malaysia outlines new offset policy

Following years of dependency on foreign materiel, Malaysia is upgrading its offset policies to boost self-reliance and industry development. Jon Grevatt reports

Malaysia has introduced an updated defence offset policy designed to bring greater emphasis to indigenous defence industry development.

The policy, an update to the original procedures published in 2005, was recently introduced to maximise opportunities under the Tenth Malaysia Plan, which allocates MYR23 billion (USD7.2 billion) to defence and security spending between 2011 and 2016.

Captain Mansor Nazri, an executive from the offset unit attached to the policy's administrative body – the Malaysian Industry Council for Defence, Enforcement and Security (MIDES) – told *Jane's* on 5 October that the policy will provide local industry with a significant boost.

“Our priority is to help Malaysia's defence and security industry,” he said. “Our focus is acquiring new technologies to develop our defence industry. Under the old policy we did not see much effect on the development of industry; we hope that the new policy will be better.”

Nurturing self-reliance

As with all offset policies, the ultimate objective behind the strategy is to increase self-reliance and reduce dependency on imports. To this end, the offset policy is also guided by Malaysia's Vision 2020 and the 2010 New Economic Policy (NEP), which – in essence – call for the Southeast Asian country to become a self-sufficient industrialised nation by the end of the decade.

In a bid to ensure that self-sufficiency (Malaysia currently looks abroad for 90 per cent of materiel) is being adequately nurtured, Capt Nazri said that an underlying focus of the updated policy will be oversight. MIDES intends to frequently evaluate the impact of the offset policy on local industry to test whether key technologies are actually being transferred per industrial agreements and – crucially – whether they are being absorbed. Such an emphasis is intended to gradually lead to greater indigenous input into domestic acquisition programmes.

The offset evaluations will be undertaken by the newly established Malaysian Offset Executive Committee (MOEC), which has been established

under the Ministry of Finance to provide oversight and strategic direction as well as to review and approve foreign companies' offset proposals and ensure alignment with economic goals.

Under the updated defence offset policy major changes appear under “offset stipulations”, which include guidelines related to threshold, offset credit, multipliers and offset banking. The threshold for offsets has been stabilised at MYR50 million (about EUR12 million); it was previously set at EUR10 million. The move reflects the fall in value of the European currency.

In terms of credit, the updated policy states that the value of offsets should be 100 per cent of the main procurement contract value, with the total offset credit value subject to approval from the MOEC. The minimum offset requirement is 50 per cent of the value of the deal. Such a quota is ostensibly a continuation of the previous requirement but with more emphasis on higher returns.

There is also a change to what constitutes offset credit. Malaysia still accepts both direct and indirect offsets but now allows foreign vendors to invest directly as a means of fulfilling requirements under the latter.

Such an emphasis reflects Malaysia's promotion of joint ventures (JVs). Malaysian defence officials have previously told *Jane's* that a JV created in 2009 between DCNS of France and Boustead Heavy Industries' defence unit stands as a model for future JV activity. The JV was created in May 2009 to support the country's two Scorpene submarines.

Despite the promotion of investment, a principal focus of the clauses related to offset credit remains the transfer of technologies and know-

‘Our focus is acquiring new technologies to develop our defence industry’



Mikhail Metzel: 1440904

One small step for man, one giant leap for Malaysian defence technologies: Malaysia's 2003 Sukhoi fighter procurement included the training of two Malaysians as astronauts. **Dr Sheikh Muszaphar Shukor**, the first Malaysian in space, is pictured before the launch.

how to enable the licensed production and maintenance of military platforms.

Exports and banking

The updated policy also has a notable emphasis on exports as well as an apparent lack of prominence for counter-trade, which in the past has been a key feature of indirect offsets involving commodities such as palm oil, cocoa and rubber products. The 2011 policy encourages, for instance, Malaysian manufacturers to contribute goods to be integrated into the production of the military platform as well as provide access to the global supply chains of foreign prime contractors.

While the offset policy makes no clear reference to counter-trade, the method is unlikely to be completely suspended. Indeed, the policy leaves some room for potential counter-trade activities, which are usually favoured by governments when under economic pressure.

Malaysian offset programmes have occasionally been rather unorthodox. The 2003 Sukhoi SU-30MK procurement, for example, included the training of two Malaysian astronauts.

Other notable changes to the policy discontinue the use of multipliers and permit offset banking under certain conditions. The use of offset multipliers was previously considered on a case-by-case basis, although under new provisions they will be favoured when the procurement programme in question leads to Malaysia's acquisition of “high-end technologies” or the “maximisation of FDI”.

Provisions related to offset banking, meanwhile, have been updated to allow foreign companies a degree of flexibility. Previously not applied, banking will be permissible – to a limit of 50 per cent to a new obligation – when the offset provider has undertaken surplus workload or “extra effort”. The credit will be available for five years.

Jon Grevatt is the *Jane's Asia-Pacific Industry Analyst*, based in Bangkok.

ANALYSIS

UK looks to partnerships to secure export future

The changing model of export trade means the UK will have to work more closely with foreign suppliers to maintain its global sales share. Gerrard Cowan reports

According to a recent report by the Aerospace, Defence and Security (ADS) trade body, the UK was second only to the US in defence exports over the last decade, generating almost USD100 billion in trade. However, if the UK is to retain that position over the next 10 years it must fundamentally change the way in which it does business, according to senior figures in the UK Trade and Investment Defence and Security Organisation (UKTI DSO).

The traditional model of direct sales of completed platforms is disappearing, to be replaced by a world in which partnerships, joint ventures (JVs), offsets and technology transfer are of increasing importance. According to Keith Smith, UKTI DSO's regional director for the Far East and Australasia, the market is becoming increasingly complex, with major British companies such as BAE Systems operating from several international 'home markets'.

"You will see the shape of industry changing; in fact you already are," he told *Jane's* in a 26 September interview. "This whole idea of what an export is will actually be very complex in 10

years' time, because you will find that these JVs and subsidiaries will end up with technology that can come back this way. The problem with having a dialogue about exports is that it all sounds one-way: I hate the word 'exportability' because it sounds like the UK has got all this kit and we want this person or that person to have it. I can assure you the person on the other end doesn't see it that way."

Two of the largest individual markets for the UK are Saudi Arabia and India, according to the ADS report. With the global economy still in the throes of an economic crisis, both nations are aggressively investing in their technological bases to improve their prospects as exporters in their own right and to diversify their economies. Rather than representing a long-term threat, this provides massive opportunities for UK companies, according to Alan Malpas, UKTI DSO's regional director for Africa, the Middle East and Central and South Asia.

"Saudi Arabia has vast wealth, as we all know, but they've also got a young population, a very well-educated population, and the amount of investment King Abdullah is putting into education for his people is abso-

lutely tremendous. That's a country where we ought to be thinking about joint projects," he explained. "India, too, is a massive market and has a reasonably strong economy if you compare it to many in the world today: about USD50 billion at least over the next 10 years to invest in defence modernisation. A K Antony [the Indian defence minister] has said he wants to see a largely self-reliant defence industry in the next 10 years: that's where the opportunities are for UK industry, I believe, to work with Indian partners to help them develop that."

Typhoon technology

The UK's single largest prospect in India, and arguably the world, is the Eurofighter Typhoon's bid for the Medium Multi-Role Combat Aircraft (MMRCA) contract. Malpas said the Cassidian-led Eurofighter Typhoon Team in India is offering a comprehensive technology transfer and industrial participation package as part of its efforts to beat the Dassault Rafale to the deal. It would also provide India with potentially broad access to the European market, he added.

"Typhoon represents a huge opportunity in terms of technology transfer and industrial participation, as well as political partnership with four major European governments; access for India to the European markets is as important to India as European access to the Indian market," he said.

"A lot of British companies are going into this on the basis that it is genuinely win-win," said Geoff Gladding, the organisation's regional director for Europe and the Americas. "A company has absolutely got to go into these kinds of partnerships with its eyes open and be aware of the potential pitfalls. However, the smart companies, and there are a lot of



While the UK sold South Korea the Hawk jet trainer in 1992, the Asian country is now competing in the market with the KAI T-50.

KAI: 1300564

them, are developing relationships around the local industry with a possibility of indigenous manufacture and such like, so there is genuine win-win to be had here."

With the nurturing of relationships of growing importance, government has a key role to play, Malpas said.

"I think government-to-government is going to become even more important as we go forward, both for the inception but also for the longer-term relationship. That also feeds into a desire from a mutual defence point of view for interoperability," he said. "So there are two strands: government-to-government assurance around a long-term strategic relationship and selling kit and capabilities, but also the interoperability and the mutual support that can provide against potential common threats."

In the effort to secure lucrative deals through JVs and promises of technology transfer, is there a danger that the UK will aid the development of future rivals in the global market?

"I think the answer is yes, but it's a reality," said Smith. "If you take Korea, probably 20 years ago we sold them the Hawk [advanced jet trainer]. Now you're seeing the Koreans developing their own fast jet and competing with us in the market with the [KAI] T-50. It is inevitable, and it means that you have got to keep investing in R&D [research and development] so that you have a technological lead to give you technology that you can transfer to others."

That may be so, but the UK government's investment in defence research and technology (R&T), the stage before R&D, has dropped by about 20 per cent since 2007-08, from GBP540 million (USD834 million) in that year to just over GBP400 million in 2010. This cut has come under criticism from industry leaders, who fear that it will affect export prospects in the coming years. According to Malpas, it will mean the industry will have to narrow its focus on technologies in which the UK can excel.

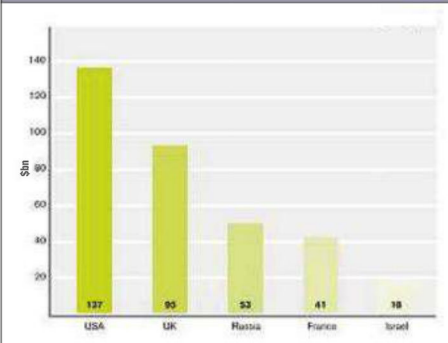
"Industry will always argue for higher spending on R&D," he said. "We've got to accept the fact that we haven't got a bottomless pit; we've got to make sure we focus on those technologies where we want to maintain a leading edge. UCAV [unmanned combat air vehicles] is one that springs to mind, where we have some interesting capabilities; ASW [anti-submarine warfare] is another where we've led the world for a long, long time. You've got to specialise to survive."

Predicting the future development of the market is a difficult process. South America, and particularly Brazil, is today one of the major hopes for European and American exporters: Brazil's fighter aircraft competition is second only to India's in terms of size, while the defence ministry also has a range of naval requirements on its desk. However, this was not the case until relatively recently.

"It's fair to say that when I took this job a

Top five defence exporters 2001-2010 (cumulative USD bn)

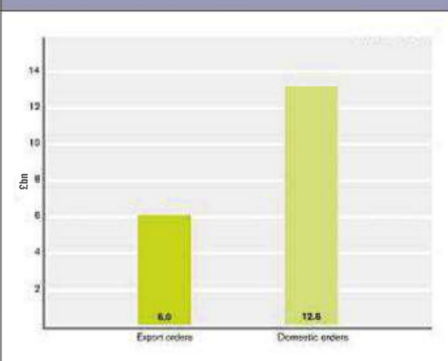
Source: UKTI



Export results over the last 10 years confirm that the US remains well ahead of other countries, but with the UK in second place.

Total UK defence orders 2010 (GBP bn)

Source: UKTI, ADS



The UK won GBP6 billion of new defence export orders, increasing its share of the global defence market to 22 per cent.

few years ago, South America was generally an area of not too much interest for the UK defence industry," said Gladding. "In fact, I remember being asked to justify the amount of people I had working on South America, and I said 'Stick with it, this will all come good', and indeed it absolutely has. It's an area that's very strong in terms of natural resources, hasn't been hit quite so hard by the recession and where the countries are seeking to enhance

the quality of their armed forces. We're currently active in countries as diverse as Brazil, Chile and Colombia."

Turkey is another country where UKTI DSO sees a positive future for both sides.

"There are great opportunities for UK companies in Turkey and it is very clear that partnership must be the model for success," Gladding said. "Turkey is producing high numbers of engineers and is rapidly enhancing its indigenous capabilities ... we are already seeing benefit due to both our governments' efforts and we hope this will provide encouragement for yet more innovative approaches, leading to real success not only in the UK and Turkey, but also in third-country markets."

The unpredictable nature of the market means the UK must not limit its focus to the current big economic players, said Smith.

"In the long term, picking 'winners' is an extremely dangerous strategy; we will have some priority markets internally, but there are other markets where their economies are on fire, where they're looking seriously at having an indigenous security capability and who will want help," he said. "That's why it's really important not to turn your back on country 'X' because you've got your hands full with country 'Y' because people remember it. If you take Indonesia, for example, that's a huge country with huge security challenges and an increasing budget. We did a lot with them 15 years ago but relatively little [since then]; that's beginning to change."

Aerospace dominates UK exports, accounting for 75 per cent of contracts won in 2010, according to ADS. Naval sales represented the smallest chunk, at just 8 per cent. This is likely to change in favour of the maritime sector in the coming years, said Smith, with major platforms such as the Global Combat Ship and a range of offerings in the subsystems arena holding particular potential.

"I can see us being long-term strong in maritime," he said. "I can see us selling some ships to the right markets and large amounts of maritime technology in other markets where the emphasis is on local build. I think technology is teaching us a lesson: if you look at fast jets, there is Typhoon, after that it's JSF [the F-35 Joint Strike Fighter]. Then we will not be in airborne platforms, other than the specialist ones, significantly."

The land sector stood at 17 per cent of total sales in 2010, a figure that was unlikely to change, said Gladding.

"It's more challenging for us [than maritime]," he said. "If you look at the UK's offering in the land sector, there are C4I opportunities and there are subsystem opportunities, so the land systems market I'm sure is going to hold up around the world and I'd like to think that the UK contribution to that is also going to hold up."

Gerrard Cowan is the JDW Europe Editor, based in London.

'Smart companies are developing relationships around the local industry'

BRIEFING

US ASSAULT RIFLES AND SIGHTING SYSTEMS

A view to a kill

The US military is striving to enhance or develop new assault rifles that provide its soldiers with an 'overmatch advantage'.

Daniel Wasserbly reports

US military assault weapons have undergone many changes and upgrades over the past few years, but the primary individual weapon in the armed forces is still based on the Colt M16 assault rifle that first entered service in the 1960s.

Operations in Iraq, where troops of all specialities were often functioning as mechanised infantry, led the military – and in particular the US Army – to shift toward the M16's carbine variant, the M4. The carbine was considered advantageous as its shorter barrel was better for moving in and out of vehicles and manoeuvring around urban infrastructure.

Now the army has found itself at a crossroads where it is considering replacing its M16s and M4s with either a modernised system or an entirely new weapon altogether.

The service's deliberations on a new carbine are likely to draw widespread participation from the small arms industry and significant attention from enthusiasts, former military personnel and the US Congress.

Personal weapons, like body armour, are often a contentious issue as their success or failure directly affects the safety of troops. Past controversies have focused on calibre, with some inside and outside the military having criticised the army's current main weapon – the 5.56 mm chambered M4 carbine – for having inferior stopping power compared with a 7.62 mm weapon,

and for the M4's gas-impingement system having a propensity to foul or jam the weapon.

For its part, the army stresses that while calibre, the operating system and a host of other components are key to the effectiveness of any weapon, the most important element is the individual who aims, fires and maintains it.

In an August 2011 White Paper on 'Soldier Battlefield Effectiveness', the army's Program Executive Office for Soldier Systems (PEO Soldier) explained that it believes there is "no one factor affecting accuracy more than the human element".

The quality of the weapon and its peripherals, combined with the shooting proficiency of the operator, are intended to provide soldiers with what the army terms an 'overmatch advantage'. Troops are to use this advantage by opening fire on the enemy from a range that exceeds the enemy's ability to effectively shoot back.

PEO Soldier's paper explained: "Optimally, friendly forces will engage as the enemy enters the range overmatch area. This advantage is short lived however, since a quickly approaching enemy can move through this area in seconds."

The army estimates that an AK-47 Kalashnikov operated in semi-automatic mode can be effective out to 400 m, whereas the M4 can be effective out to 500 m. The 100 m difference represents an 'overmatch advantage' if the M4 operators are skilled enough to hit targets out between 400 m and 500 m.

PEO Soldier noted that training and skill with a weapon are more important factors than some technical items such as calibre. For example, a rifle chambered for 5.56 mm ammunition has an effective range of about 500 m for point targets and one chambered for 7.62 mm has an effective range of 800 m. However, both maximum ranges often far exceed the average shooter's marksmanship ability.

Form factor can also play a role in a soldier's effectiveness with their weapon. PEO Soldier explained that troops need to be able to easily operate the gun while manoeuvring through confined spaces or through a vehicle door.

Similarly, a lighter weapon is less of a burden and typically has less recoil, which can help a shooter keep his or her sights trained on the target while firing rapidly. Advances in the optics can also help bolster accuracy, although this requires intensive training in how to estimate range and zero one's sights.

Another significant factor in soldier marksmanship is the ammunition. Currently the army fires 5.56 mm rounds for its M16s, M4s and M249 squad automatic weapons (SAWs) and the larger calibre 7.62 mm rounds are employed for the M240 machine gun, some sniper rifles and the M14 Enhanced Battle Rifle (EBR).



The army recently began a shift toward a new standard 5.56 mm round when in mid-2010 it started to field stocks of the M855A1 Enhanced Performance Round (EPR) to units in Afghanistan. The intention is to eventually replace the legacy M855 5.56 mm cartridge that has been in use with the US military since the 1980s.

The M855A1 carries the same weight as its predecessor but contains an 'environmentally friendly' projectile that eliminates up to 2,000 tonnes of lead from the manufacturing process each year and improves the bullet's hard-target capability. According to the army the M855A1 also provides more consistency at varying distances, reduces muzzle flash and increases reliability, velocity and accuracy.

For the carbine competition, any submissions chambered for 5.56 mm will have to shoot the EPR, any chambered for 7.62 mm will shoot NATO's standard ball ammunition and bidders that submit another calibre will have to bring their own ammunition.

New carbines

The army has decided to take a 'dual-path' strategy whereby it will continue to enhance the M4 carbine with a Product Improvement



An army specialist aims with an **RCO sight** and fires a round from his **M4 carbine** in Iraq.

US Army: 1403938

Program (PIP) while also conducting a full competition that could potentially lead to it fielding a new carbine.

The much-anticipated individual carbine competition is expected to draw bids from many small arms producers and will include a three-

phase down-select process that is slated to run for about two years.

Service officials will first ensure that prospective competitors are able to meet the army's requirements and will then start testing the weapons. The three bids that perform best during testing would then be awarded indefinite delivery/indefinite quantity (ID/IQ) contracts before the army starts limited user experiments.

A single winner would be selected from these experiments but would not necessarily become the future producer of all carbines. The weapon that emerges from the carbine competition must first prove itself more effective than the weapon that comes out of from the PIP.

Moreover, the army will buy and own the rights to the technical data package (TDP) of any new carbine. This will allow the service to hold another competition to find the manufacturer that can build the system for the lowest cost.

According to Colonel Scott Armstrong, PEO project manager for soldier weapons, the army could open the final production awards to as many contractors as it wants, but the current acquisition strategy calls for awards to the carbine competition's winner plus up to three more production contracts, for a possible total of four manufacturers.

"If the decision is made by the army to go with the carbine that won the competition, then in order to get the best value out of that we'd want to have government data rights [TDP] so that we can then go back to industry and get a better value for the quantities that we'd want to procure," Col Armstrong told *Jane's*.

The idea is to get the new weapons produced as quickly and as cost-effectively as possible, he added. The army expects the unit price of the new carbine to be close to that of the M4: about USD1,300 per unit.

Acquisition planners have not yet determined whether the army should ultimately emerge from its dual-path strategy with a 'pure fleet' of only new carbines, a fleet comprised solely of PIP carbines or a mixture of the two.

"We're going to do a cost benefit analysis at the end of that [individual carbine] competition to determine whether we want to proceed with the winner of that competition to replace the current M4A1 or replace the M16s ... there's a whole range of solutions," Col Armstrong said.

Under the PIP effort the army plans to purchase 24,000 new M4A1s. It could also upgrade about 65,000 M4s to the A1 configuration, although the number of upgrades has not yet been finalised as the service is waiting to see if it will have a pure fleet of carbines and what resources might be available for an upgrade project, explained Col Armstrong.

However, he noted that "if we end up with



US soldiers still train with **iron sights** as seen here with a staff sergeant in Afghanistan practising marksmanship on a fully automatic **M4 rifle**.

US Army: 1403939

BRIEFING

a mixed fleet [of old and new carbines], we're going to end up upgrading all the M4s to M4A1s".

The PIP is planned to progress in several stages. First it will consider potential improvements to the M4A1's various bolt and bolt-carrier assemblies and then evaluate options to upgrade the weapon's forward rail.

Originally the PIP would have also evaluated the M4's gas-impingement operating system against other operating systems, but this now appears unlikely.

Lieutenant Colonel Shawn Lucas, product manager for individual weapons, told *Jane's* that the resources required to change out the operating system on so many weapons with an updated or different mechanism might be too costly for a potentially marginal change in performance, especially since all carbines might be replaced with a new weapon.

The army has about 500,000 M4s and most combat troops in theatre use this carbine. The service also has about 600,000 of the longer-barrelled M16s that are used by non-brigade combat teams such as combat support/combat service support (CS/CSS) units. The future of the M16s is uncertain and depends on how the army's carbine competition and the PIP unfolds.

More firepower

The army is also buying 9,700 lighter-weight M240Ls to replace its legacy M240B in certain formation such as light infantry and special operations forces, Lieutenant Colonel Thomas Ryan, product manager for crew-served weapons, told *Jane's*.

The M240L replaces much of the original model's steel parts with titanium. The new gun will weigh 10 kg with a regular barrel or 9.3 kg

Soldiers with a Provincial Reconstruction Team provide security in Kandahar City. Their M4s are fitted with 40 mm M203 single-shot grenade launchers.

Chief Master Sgt. Richard Simonsen: 1403940



with a short barrel and retain the same reliability and durability requirements as the B model. Both variants of the machine gun are issued with the M145 Machine Gun Optic.

The army does not have a requirement to upgrade or replace the 5.56 mm M249 SAW, but

an overhaul programme at Anniston Army Depot is incorporating some new components based on feedback from soldiers. These include a more durable bipod, a feed box support kit, 100- and 200-round ammunition soft packs and a lighter-weight top cover, said Col Ryan.

A SAW with a short barrel and collapsible butt stock weighs about 17 lb (7.7 kg), which saves about 1 lb. Developers working on the army's Lightweight Small Arms Technologies (LSAT) programme are looking to reduce this further with a notional replacement for the SAW that is 8 lb lighter and reduces the ammunition's weight by nearly half.

'Cased telescoped ammunition' is the key technology that LSAT engineers are working with; it swaps the round's traditional brass case with a strong plastic case and then accordingly tweaks the weapon's firing mechanisms.

The US Marine Corps (USMC) is taking a different route, swapping its SAWs with the new 5.56 mm M27 Infantry Automatic Rifle (IAR), an initial fielding of which went to several battalions in December 2010.

The IAR programme is intended to provide an automatic, lightweight and portable weapon



The USMC is participating in the army's individual carbine competition and helped draft the project's requirements, but currently plans to use the **M16A4** as its main armament. USMC: 1169056



has not been an impediment in combat operations. We have observed favourable operational impacts now that the automatic rifleman carries common ammunition and a common ammunition source [the 30-round magazine] with the rest of the marine rifle squad," Hamby said.

Therefore, USMC planners have decided to employ the IAR as the primary weapon system for marines tasked as 'automatic riflemen'.

According to Hamby, 84 IARs will be fielded to each infantry battalion and 72 IARs to each Light Armored Reconnaissance (LAR) battalion. The new rifle will be a one-for-one replacement

for the SAW in infantry rifle companies and LAR battalions.

Infantry Rifle Companies are to retain six SAWs as 'organisational equipment' that can be used at the company commander's discretion.

As for the USMC's main individual weapon, the M16A4 remains the marine's service rifle and the M4 carbine is fielded primarily to marines in leadership billets and to those whose mission may be impeded by a longer rifle, such as vehicle crew.

Nevertheless, marine combat developers participated in drafting the army's individual

with greater accuracy than the SAW. Heckler & Koch's HK416 was selected for the initial testing and fielding.

Feedback from the preliminary fielding of the rifle has been positive and USMC officials said the M27 is performing well with regard to target suppression, ammunition usage, reload times and stoppage rates.

Before the initial fielding, some critics, including then USMC Commandant General James Conway, had expressed concern about fielding the lighter-weight IAR because it lacks the firepower that an M249 SAW with a 200-round magazine can provide.

The IARs can be loaded with 100-round magazines and accept the in-service M16A4's 30-round magazine. Some argue that fighting with lower-capacity magazines might alter infantry squad tactics as marines would have to stop more frequently to reload.

Barbara Hamby, a spokesperson for US Marine Corps Systems Command (MCSC), said that developmental and operational testing, and combat operations in Afghanistan, have shown the M27 "is significantly more accurate than the M249" and "improves automatic rifleman and small unit lethality, mobility and survivability".

She noted that the IAR's improved accuracy is capable of achieving greater effects on target than the M249 with substantially fewer rounds.

"While tactics, techniques and procedures continue to evolve, the M27's 30-round magazine

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BRIEFING



The USMC's IAR programme is now fielding Heckler & Koch's **HK416** assault rifle to automatic riflemen as a replacement for the M249 SAW.

Heckler & Koch: 1332660

carbine 'capabilities development document' and they remain engaged with the army through quarterly working groups, Hamby told *Jane's*.

The USMC will participate in selecting the winning bidders for the army's carbine competition, but Hamby noted that the MCSC has not adopted or funded the carbine requirement.

Similarly, the corps has not adopted the army's M240L specifically, but it is working to develop requirements and pursue new technology and materials that can reduce the weight of its small arms and crew-served weapons.

In a somewhat divergent path from the army and USMC, the US Special Operations Command (SOCOM) has decided to field a family of weapons based on the Special Operations Forces Combat Assault Rifle (SCAR) built by FNH USA.

By October 2010 SOCOM had approved full-rate production for all SCAR models, which include the 5.56 mm Mk 16 rifle, 7.62 mm Mk 17 rifle, the 40 mm Mk 13 grenade launcher and the 7.62 mm Mk 20 sniper variant.

Although the Mk 16 has been approved for full-rate production and could be purchased by SOCOM or other US military organisations, the command decided

in 2010 not to purchase any additional 5.56 mm Mk 16 SCAR variants for budgetary reasons and will instead continuing using its models of the M4 and similar weapons.

The SCAR programme was intended to develop a single weapon chassis capable of accommodating multiple calibres. This is being facilitated with a calibre conversion kit that can be integrated on the SCAR's common receiver, which is based on the Mk 17 variant.

SOCOM proceeded with SCAR in part because operators preferred the flexibility of choosing from a family of weapons, as combinations of longer barrels or larger calibres can be selected based on their merits for a particular mission.

Optics

Since beginning operations in Iraq and Afghanistan the US military has steadily moved away from iron sights and toward fielding all main armaments with more advanced red-dot sights and magnified optics.

The army has been using a variant of the M68 Close Combat Optic (CCO) since the 1990s to simplify the target acquisition proc-

ess for soldiers, but began fielding them in earnest as operations were ramped up in Iraq and Afghanistan. In 2010 the one millionth M68 was purchased by the service.

Ross Powers, a product manager for optics at PEO Soldier, said the advantage of using the CCO is that soldiers do not have to line up iron sights and, instead of focusing their eyes on the front sight post, can have a better view of their target with a red dot for aiming.

CCOs allow troops to engage targets at up to 300 m with both eyes open. The device can be used with night-vision attachments and it has no magnification.

The M68 has undergone some improvements to bolster the inner tube to mitigate damage in the field and a new LED is used to enhance the life of its AA batteries. The army still trains recruits on iron sights during basic training and fields back-up irons in the event that the CCO or other sights are damaged, Powers said.

Since troops in Afghanistan must often engage targets at ranges beyond 300 m, the army has fielded about 150,000 M150 Rifle Combat Optics (RCOs). The M150 does not require batteries and is employed on M4s, M16s and M249 weapons. The device's illuminated reticle is powered by an external fibre-optic rail or an internal tritium lamp. If used properly, the four-power magnified RCOs can facilitate accurate engagements of targets out to 800 m.

Powers said that the army fields RCOs to its squad-designated marksmen and certain leadership positions, but some units in combat in



The 7.62 mm **M240L** machine gun, a lighter variant of the M240B, was selected by a panel of combat veterans as one of the US services' greatest inventions this year.

US Army: 1403937

Afghanistan are using all RCOs. He explained that the unit commander makes the decision on whether to carry CCOs, RCOs or a mix of the two based on the mission.

The army's future requirements for multifunction rifle or carbine optics are currently being developed. A 'sources sought' notice has been released and the army hopes to use industry's responses to gain a better idea of what will be possible technologically.

Meanwhile, the USMC is using a variant of the RCO on all of its M4s and M16A4s. Late in 2008 the corps began allowing all marines to conduct their annual rifle training with RCOs instead of iron sights since they now typically deploy with the optics. The marine's RCO, called the AN/PVQ-31, varies only slightly from the army's M150, employing different reticles and a few other minor alterations, Hamby said.

She added that the USMC uses the SU-258/PVQ Squad Day Optic on its M249 SAWs and the SU-260/P Machinegun Day Optic on its M240s.

Even with the simpler and more advanced optics, training and proper use are crucial to accuracy.

A bullet flies along an arched ballistic trajectory and compensating for this requires troops

that are trained in marksmanship and range estimation, PEO Soldier noted in its white paper.

Laser rangefinders are issued to squads and carried by grenadiers along with their M320 launcher, but with proper training troops can use an RCO to determine a range estimate as well, the office said.

The ballistic trajectory of a bullet fired from the M4 or M16 generally matches the height indicated by an optic's reticle at two points and, therefore, when the sights are zeroed they are usually set for this match at 25 m and 300 m, according to the document. Crosswinds also factor into longer shots.

One-Shot technology

The US Defense Advanced Research Projects Agency's (DARPA's) 'One-Shot' programme is working to further simplify the aiming process with technologies that can measure and compensate for distance and crosswinds that are blowing down-range.

One-Shot technology is intended to compensate for the direction and velocity of wind by measuring movements of 'turbulence' caused by the temperature differential between the ground and atmosphere.

DARPA said the One-Shot systems, still in a

development stage, are designed to collate the relevant physical influences on a bullet's trajectory and then calculate and display the aim point offset in a rifle scope.

Meanwhile, the US is fielding and incrementally modernising individual thermal weapon sights (TWSs).

The army's standard thermal sights are centred on the AN/PAS-13 TWS family of equipment. The optics can be hand-held when detached from a weapon or mounted on a wide range of individual and crew-served weapons with a Picatinny rail.

TWSs are based on uncooled forward-looking infrared technology to increase surveillance and target acquisition ranges. The devices are procured in three main variants to accommodate various weapons and ranges.

A PEO Soldier factsheet indicates the Light TWS fits on M16 and M4 weapons and has a target recognition range out to 550 m; the Medium TWS fits the M249 and M240 machine guns and provides a target recognition range of 1,110 m; and the Heavy TWS is used with a squad leader's M16 or M4, as well as sniper rifles and grenade machine guns, to provide target recognition out to 2,200 m.

Daniel Wasserbly is the JDW Senior Americas Reporter, based in Washington, DC.

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BRIEFING

THE UK STRATEGIC DEFENCE AND SECURITY REVIEW: ONE YEAR ON

Twelve months have passed since UK Defence Secretary Liam Fox published the UK Strategic Defence and Security Review (SDSR): a study that cemented the deepest cuts to UK military investment and equipment programmes for almost 40 years.

The SDSR, and the related Comprehensive Spending Review (CSR), mandated immediate spending cuts of eight per cent to 2014, shaving USD17 billion from previously foreseen spending; cancelled a series of flagship programmes (including the BAE Systems Nimrod MRA.4 maritime patrol aircraft); and brought forward the retirement of others (such as the BAE Systems Harrier GR.9 jump jets and 40 per cent of the UK's heavy armoured vehicle fleet).

Equipment cuts alone were intended to remove GBP20 billion (USD30.8 billion) from future procurement and related costs over a decade: a third of the envisaged pre-2009 spending plan for the period. Meanwhile, future procurement will begin with the assumption, outlined in the SDSR, that 'off-the-shelf' solutions will be the default position.

Beyond the broad equipment programme outlined in the report, manpower cuts which equated to around 17,000 uniformed personnel and 25,000 civilian positions, pointed to long-term entrenched contractions, while a glimmer of hope was provided through enhanced cyber security investment with an initial sum of GBP650 million being pledged over four years.

Hopes of offsetting core spending cuts through a privatisation programme with an aim to raise about GBP500 million and accelerated government-led export efforts were also raised.

SDSR: the aftermath

A year after the announcement of a raft of far-reaching investment and equipment cuts, Guy Anderson surveys the reshaped UK defence industry landscape

Industry was presented with four principal issues by the SDSR and CSR: subjects that have developed with greater clarity – and arguably greater reasons for pessimism – over the last 12 months. These are the potential for further funding cuts; the impact of programme retirement; job losses and capability retention; and

export mitigation efforts.

Firstly, it has become clear that the SDSR was a starting point and the cuts outlined were not exhaustive. The threat of further cuts became evident during 2011 as further programme curtailments and reductions began to emerge.

Secondly, the accelerated retirement of



The decision to withdraw BAE Systems Harrier GR.9 jump jets from service is one of a number of controversial cuts following the publication of the SDSR.

programmes arguably had as devastating an effect on business strategies as the procurement cuts. For example, the early retirement of the Harrier aircraft led to more than 800 UK job losses within BAE Systems. The effect of the planned retirement of the Raytheon Sentinel R.1 Airborne Stand-Off Radar system (potentially seven years after introduction into service at a cost of GBP850 million) was summed up succinctly by the company's director of strategy and government relations, Brooke Hoskins. "Suddenly we were facing a world where all the mid-life upgrades, our revenue stream for the next five to 10 years, had disappeared," Hoskins said in July.

A third issue has related to company payrolls and capabilities. Job losses were an inevitable consequence of reduced opportunities in the UK, with an estimate that up to 10 per cent of the defence industrial workforce could be lost. Delays to a series of UK defence strategy papers, such as the UK Defence Technology White Paper, which is to provide guidance on capabilities to be defended onshore, meant business development and investment strategies inevitably suffered.

A fourth issue concerns accelerated export efforts. The SDSR included the reiteration of the UK government's broad commitment to assist materiel export efforts and tangible efforts such as ministerial visits to key markets such as India have followed.

It remains to be seen to what extent foreign sales can offset domestic spending falls; whether UK export protocols will be wholly compatible with industrial export drives; and whether the trend towards the sale of surplus government materiel in world markets will dilute corporate efforts.

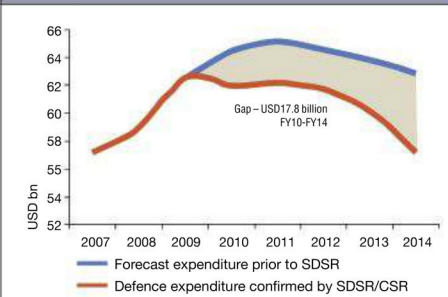
Redundancy fears

Warnings emerged in mid-2011 that the UK was facing an 'unemployment mess' as a result of the SDSR. Ian Godden, the chairman of UK defence industry association ADS, said in July that redundancies could reach about 30,000 from an estimated workforce of 300,000-400,000 in the near term.

The government recognised the risk of deep job cuts, although it is debatable whether the immediate post-SDSR measures (including the formation of a Skills and Jobs Retention Group to divert redundant defence industry workers to adjacent sectors) have made any difference.

Tangible losses have been apparent, with UK market leader BAE Systems having slashed positions across the UK in the immediate aftermath of the SDSR amounting to about 1,000 jobs in late 2010 alone. In total, BAE Systems has announced redundancies of about 20 per cent of its UK workforce since the start of 2009.

UK defence spending: outlook before and after publication of CSR (2010)



Other pillars of the industrial establishment have been forced to follow this strategy, with companies such as Selex Galileo (a division of UK number two Finmeccanica) and pan-European missile systems house MBDA announcing policies of UK cuts.

The current financial impact of the SDSR on UK industry is difficult to quantify after just 12 months, although it is notable that five per cent (or roughly USD1 billion) was wiped from procurement spending between 2011 and 2015. The UK National Audit Office's view that GBP20 billion will be removed from UK equipment investment over the coming decade, or roughly

a third of the pre-SDSR expectation, provides an indication of the scale of the longer-term cuts.

Near-term assessments are also complicated by the compensation payments paid to industry as a result of early contract terminations and efforts to renegotiate existing contracts immediately after the SDSR. *Jane's* had previously reported that 900 contracts valued at a combined GBP2 billion were put under review from late 2010, although the specific resolutions have not been disclosed.

Were the cuts outlined by the SDSR, CSR and programme reviews of 2011 taking place in isolation, then a natural consequence would be an exodus from the country's shores.

The reality is, of course, that the austerity measures being undertaken are being replicated across the Western world. It remains the view of *Jane's* that top-line defence spending across the European Union and the US as a whole will decline by at least USD100 billion (or roughly 15 per cent) by 2015.

However, the UK is in a relatively unusual position among major European markets in that both a comprehensive spending review and a strategic review have taken place in the current era of austerity. The depth of cuts is clearer than elsewhere in the EU, although no less deep.

Strategies to cope with declining core market



BRIEFING

The Anglo-French MALE UAS requirement will be based on the **BAE Systems Mantis** platform.

BAE Systems: 1398577



spending in the UK and elsewhere have followed three principal paths: the acceleration of export efforts; diversification into adjacent markets; and positioning to grasp remaining opportunities.

Efforts to accelerate exports and indeed to maintain the UK's position as a top-three supplier to world markets are common to virtually all upper-tier contractors operating in the UK.

However, reliance on foreign sales as a survival strategy has proved partially flawed for a number of reasons. Firstly, it is a strategy that is common to industrial bases across the West

and therefore competition in priority regions such as Asia, the Middle East and South America is proving intense. Secondly, friction between export controls and export aspirations were inevitable. Beyond the issue of embargoed markets remaining out of reach, stringent export controls are applied to strategic technologies, such as UK counter-improvised explosive device solutions, while a dearth of domestic funding has hampered further sales and development.

Another issue, which is by no means exclusive to the UK, is the government's strategy of

diverting surplus military equipment to world markets. In theory, the offer of second-hand equipment could effectively put the government in competition with its own industry in some sectors such as surface ships.

Meanwhile, diversification strategies have led UK contractors into domains including public safety, the resurgent commercial aerospace market and commercial network and data security solutions. An example is provided by BAE Systems, which became a major provider of financial-sector counter-fraud services through the January 2011 acquisition of Ireland's Norkom Group in a deal worth EUR217 million (USD292 million).

A stated preference for off-the-shelf solutions beyond the yet-to-be-fully-defined core capability domains has led to offerings of existing, lower-cost solutions and an increase in private-venture development efforts, while the remaining new development programmes have attracted intense competition. The Anglo-French future medium-altitude long endurance (MALE) unmanned aerial systems (UAS) programme is one such example.

The MALE UAS requirement was arguably the highest-profile result of the 2010 Anglo-French defence co-operation treaty, which underpinned the SDSR's preference for bilateral partnerships with peer nations. So far the programme, the formal requirements of which have yet to be released, has spurred a partnership between Dassault Aviation and BAE Systems and the interest of both Finmeccanica and EADS.

Guy Anderson is *Chief Analyst and Jane's Defence Industry Editor, based in London.*

Privatisation – slow progress

The SDSR included an aim of realising GBP500 million through the sale of defence assets, including the privatisation of Ministry of Defence (MoD) ventures. Assets identified as eligible for sale included:

- the Defence Support Group (DSG, the UK state-owned maintenance support operation);
- the Marchwood Sea Mounting Centre (the home port of the Royal Fleet Auxiliaries and army vessels of the Royal Logistics Corps);
- elements of the MoD's 30 per cent share of the UK telecommunications spectrum;

Progress so far has been limited, indicating that gains may too fall short of expectations. A firm decision has yet to be taken on the sale of DSG, while studies into the strategic implications of the sale of the Marchwood facility are ongoing. The possible break-up and partial sale of the MoD Joint Supply Chain Services Group (including the British Forces Post Office and the Disposal Services Authority) was also raised, but no known progress has been made as of September 2011.

UK MoD reforms

Following the publication of the SDSR, the UK government commenced a series of studies to further refine procurement processes and strategies. These were:

■ A UK White Paper on defence technology, equipment and support. Publication of the White Paper is expected in October or November 2011. It builds on the Green Paper consultation document of December 2010 that itself was a result of the SDSR. Key themes are:

- an emphasis on the parameters of off-the-shelf procurement;
- the UK approach to open competition in the national defence market;
- support for small and medium enterprises (SMEs);
- the scope of bilateral development and procurement with NATO allies.

■ Examining sole-source procurement. A review to look at the pricing rules that apply to contract awards where only one company is invited to bid. The exercise was announced in January and is intended to identify opportunities to cut costs and improve competitiveness in the UK's defence industry. The new system will be designed to help SMEs become more involved in defence contracting. Publication was scheduled for October 2011.

■ A report on the restructuring of the MoD procurement arm, Defence Equipment & Support (DE&S). Scheduled for publication in November or December 2011, the report will outline the future function, structure and size of DE&S.

■ A review entitled 'Defence Reform: Structure and Management of the Ministry of Defence'. The UK's first fundamental review of the structure of the MoD since the Central Organisation for Defence White Paper of 1984 was published in June 2011. It contained 53 recommendations including:

- the creation of a new and smaller Defence Board (the highest non-ministerial committee within the MoD) chaired by the defence secretary;
- the development of a "smaller and more strategic" MoD head office;
- the clarification of senior leaders' responsibilities;
- the delegation of greater financial powers to service chiefs;
- the creation of a single defence infrastructure and defence business services organisations.

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INTERVIEW

DAVID VAN BUREN

UNITED STATES AIR FORCE SERVICE ACQUISITION EXECUTIVE

According to the US Air Force's (USAF's) top acquisition official, David Van Buren, the service has come a long way since 2008 when it lost the authority to manage one of its largest acquisitions: the purchase of 179 aerial refuelling tankers under the KC-X programme.

Van Buren became the USAF's Service Acquisition Executive in April 2009, assuming responsibility for a USD70 billion enterprise that includes the USAF's 130,000-plus contractual obligations ranging from lawn-mowing services to aircraft purchases.

The service's acquisition apparatus was experiencing difficulties when Van Buren came on board. The US Department of Defense (DoD) took over the USAF's "milestone decision authority" – the ability to make big decisions about contracts below a certain dollar value – for space programmes in 2005. Then, in 2008, the Pentagon cancelled the USAF's plans to award a USD35 billion tanker contract to Northrop Grumman and EADS after the US Government Accountability Office (GAO) ruled that the USAF's award decision was flawed. The Pentagon also cancelled the USAF's Combat Search-and-Rescue (CSAR) helicopter replacement programme in 2009 after industry protests.

Van Buren says his staff have worked hard to restore the USAF's reputation in acquisition. Their gradual success is evident in the DoD's decision in 2010 to return to Van Buren the milestone decision authority for space. The Pentagon has also returned to the USAF the acquisition authority for the C-130J Hercules, the HC/MC-130 special mission Hercules, Joint Direct Attack Munitions (JDAMs), the Advanced Medium-Range Air-to-Air Missile (AMRAAM), and the radar modernisation for the Northrop Grumman B-2 bomber. "We've got a team here that is world class and they are as good as any industrial team I have known," said Van Buren, who previously managed private-sector enterprises, including the B-2 programme.

However, despite the progress in USAF acquisition, it remains under considerable scrutiny. Even today, the USAF is still not managing its own tanker acquisition. Van Buren said there is a system in place, known as the Acquisition Improvement Process (AIP), to continue building the confidence of senior defence officials in the USAF's ability to buy its own equipment. Through the AIP, Van Buren said the USAF has been able to boost the size and skill of the USAF's acquisition workforce, define requirements for purchases, award contracts fairly and instil "financial discipline" in procurement plans. The acquisition process has "had issues, let's be honest", said Van Buren. "We're making up for some of these issues."

The USAF's acquisition workforce grew from about 24,000 in Fiscal

Year 2008 (FY08) to 31,500 in FY11, according to Van Buren, and the number of programme executive officers overseeing major acquisition projects has increased from just a handful to 17.

Defining clear requirements for new USAF purchases is another major focus area. Making sure contractors clearly understand requirements has helped to curb industry protests, Van Buren said. Since 2010 the GAO has sustained just one protest against the USAF for a small government services contract, he said, representing a considerable improvement over the situation six or seven years ago. "We worked very hard on the selection process," said Van Buren. "We have done that with transparency, so that companies would know what they would be graded on and that it would be fair and reasonable."

Budget and fiscal discipline has also been a focus for Van Buren. The Obama administration has asked the Pentagon to cut USD400 billion from its budget up to 2023 and the US Congress is mulling further cuts. Van Buren said one way to cut costs has been to adjust acquisition timelines. Instead of spreading out costs by buying low quantities over an extended period, Van Buren has increased yearly buys and shortened production

periods to save money in the long run. One example is the National Aerospace System, an air traffic control radar, which had an acquisition plan scheduled to be drawn out over several years. "We brought it in three or four years and the production cost came down significantly," he said.

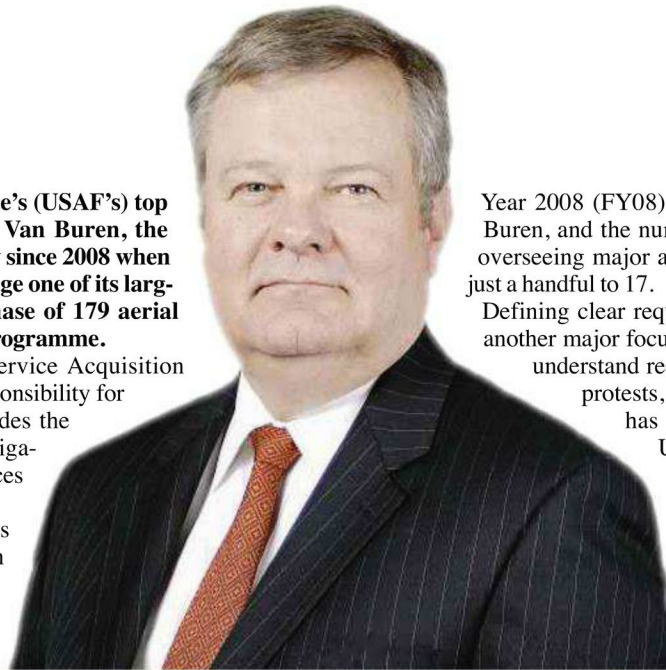
Van Buren said he is also monitoring the Pentagon's largest acquisition: the Lockheed Martin F-35 Lightning II Joint Strike Fighter. The USAF plans to order 1,763 of the aircraft. Van Buren said that he is currently involved in a government evaluation to determine how much the next F-35 contract, for low-rate initial production (LRIP) Lot 5, should cost.

Asked about the cost overruns and schedule slips in the F-35 programme, he noted that there is bound to be a period of discovery – when issues have to be fixed – in any flight-test programme. He added that he and other Pentagon officials are carefully watching software and mission systems development and that those programmes seem to be fairly stable now. "This is something we follow every day," he said.

Van Buren is also the co-chair of the Joint Strike Fighter Executive Steering Board: a position he shares with another rotating co-chair filled by a representative from one of the eight partner nations in the F-35 programme. He said that when he undertakes F-35 monitoring activities he keeps the financial interests of international partners in mind.

"These are critical allies for us," he said. "We have a really important responsibility to do the best job for them as well."

Caitlin Harrington Lee *JDW Correspondent, Eielson AFB, Alaska*



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