

desider

Oct 11 Issue 41



MINISTRY OF DEFENCE

the magazine for defence equipment and support



A front line cutting edge

Land vehicles in focus – successes on Operation Herrick [See inside](#)



Range rovers



London calling



More Chinooks on the way



Ammunition deal backed



Abbey Wood pedal power

10,000 WAYS TO BUILD A MORE SECURE U.K.



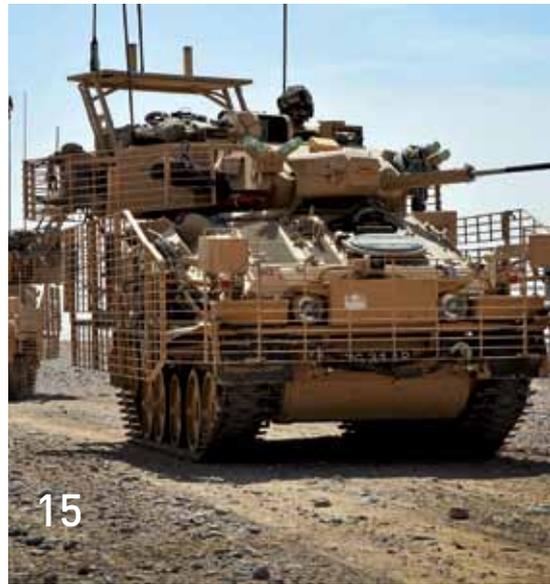
THIS IS HOW

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cover image

Upgrades to the Combat Vehicle Reconnaissance (Tracked) family of vehicles have gone down well on the front line, with the introduction of the first of the vehicles on Operation Herrick

Picture: PO (Phot) Hamish Burke

OCTOBER 2011

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Bernard Gray

Chief of Defence Materiel

‘Many countries face similar issues to those that challenge us, and they want to take the benefit of the hard work we have already done’



The DSEi exhibition in London has just closed, and by general acclamation, the show was a great success. A huge array of capabilities was on display, in a truly impressive and highly professional event that showed the British defence and security industry to great advantage. I was struck by how far the exhibition, and the industry, has come in a decade. Sometimes we are heavily swayed by the difficulties and problems that beset us in these challenging times, but DSEi was a demonstration of how well our companies are doing.

Innovation is strong in companies large and small, and I was struck by how much use of novel materials has moved on in the last ten years, and how pervasive the use of integrated information technology has become in all systems. It is our job to find ways to be able to harness these innovations, and there is little doubt that the industry is able to provide much of the fresh thinking our Armed Forces need to solve today's defence and security challenges.

Showcases such as DSEi are vital in setting out the capabilities of UK industry to the global market, and I am certain that the vibrant success and professionalism of the display will make a real contribution to increasing Britain's standing in this area. The very large number of international delegations touring the exhibition bears witness to that. Even more importantly, the strongly positive endorsements of the show that were spontaneously offered by the heads of the delegations make clear the impact of the event.

The record number of visitors

to the show also underlines the increasing importance of the show, and helps bolster further the UK's position. In a highly competitive market, Britain has shown the world what it can do, and that can only help the prospects for exports. I would like to congratulate all of the exhibitors, and the organisers, for putting on a world class showcase for our talent.

Two other thoughts strike me about the show. First, the agility, innovation and determination of our Small and Medium-sized Enterprises shone through. The MOD often finds it hard to work with smaller companies: our scale, timetables and bureaucracy do not sit easily with the fragile and rapidly moving fortunes of many smaller firms. We also do not understand the challenges many small companies face because these issues are alien to us. Driving cash flow, for example, is a critical issue for all small companies, yet it is something we find hard to factor into our consideration. We must find ways to allow these companies to grow. Some of them will be the great oaks of the 21st century.

Secondly, I was struck by how much foreign delegations were interested in what we are doing in acquisition reform and how keen they are to learn from our experience. Many countries face similar issues to those that challenge us, and they want to take the benefit of the hard work we have already done, and to understand more of what we will do next.

This will be an issue that we will spend much time on over the next few months, and I will return to write about it in *desider* in coming issues.

Minister takes on Goliath at Rosyth



Picture: Peter Devlin

Tyne yard joins put carriers in

WORKERS AT one of the six yards building sections of the future aircraft carriers have completed their part of the construction – on budget and five weeks ahead of schedule.

As preparations for keel-laying of *Queen Elizabeth*, the first of the two 65,000-tonne carriers, took place at Rosyth as *desider* went to press, A&P Group at Hebburn on the Tyne dispatched its handiwork to Scotland.

Centre Block 03 forms part of the flight deck and hangar and is included in a £55 million order to build parts of *Queen Elizabeth* and *Prince of Wales*. The work brought shipbuilding back to the river where the last carrier, *HMS Ark Royal*, was built 30 years ago.

Among the workforce are some of the same men who helped build *HMS Ark Royal*. A&P Tyne project director Darren Brown responsible for over-seeing the new carrier section, was a teenage apprentice with Swan Hunter in Hebburn when *HMS Ark Royal* was built.

He said: “I never thought I'd be involved in another aircraft carrier, particularly the size of this one.

“It's the biggest warship ever built in the UK and it's brought shipbuilding back to the Tyne.

“It's been great for the yard, the workforce and the community. The yard has been buzzing; it reminds you of the old days when shipbuilding was the main industry on the Tyne.”



Queen Elizabeth closes in on her assembly date

PREPARATIONS HAVE begun for assembly of *Queen Elizabeth*, the first of the two new aircraft carriers for the Royal Navy.

Minister for Defence Equipment, Support and Technology, Peter Luff, visited Babcock's yard in Rosyth on 20 September as work began which will see the first two major sections joined together, marking a major milestone in the build programme.

"This is an exciting week for the carrier programme and it is a great privilege to witness what can only be described as history in the making," said Mr Luff, who was shown the huge Goliath crane which will be lifting may parts of the vessels over the next few years.

"The job of building these truly formidable carriers is a big challenge. We are very fortunate to have such a dedicated and skilled workforce able to rise to this challenge."

The carriers are being delivered by the Aircraft Carrier Alliance – DE&S, Babcock, BAE Systems and Thales – and are being built in large individual blocks at six shipyards around the UK, which are then transported to Rosyth for final assembly.

The huge mid hull section, known as Lower Block 03, arrived at Rosyth in August, having been shipped from Govan where it was built by BAE Systems. This was followed by the arrival last month of the four sections making up Centre Block 03, from Hebburn, Newcastle, where they were built by A&P Tyne.

The sponsons for this section, which form part of the ship structure to provide a wider flight deck, were constructed by Babcock and are already in Rosyth following delivery of the components from Babcock's Appledore yard in Devon.

DE&S' Head of Capital Ships, Commodore Steve Brunton, said: "We are now entering the assembly phase of this project, with some of the major blocks for *Queen Elizabeth* now at Rosyth ready to be joined using the recently commissioned Goliath crane.

"This will be a visible sign that assembly has started and *Queen Elizabeth* will rapidly become a recognisable ship over the next 18 months."

Director Ships at DE&S, Tony Graham, added: "Building an aircraft carrier is a

race to the water

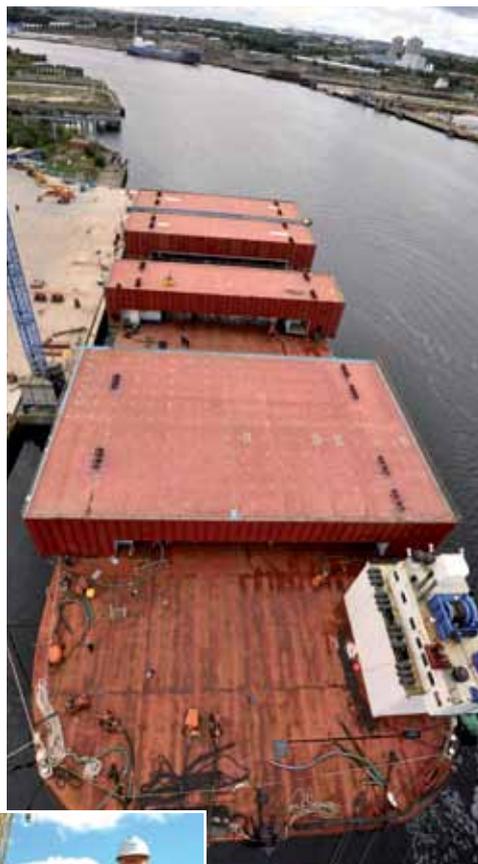
The project, which went into production in 2009 and is due to last up to five years, has provided job security for hundreds of workers.

Mr Brown, 47, added: "To know you've been part of building something this impressive fills everyone at the yard with a sense of pride. It's been a real boost to morale."

The section built at the Hebburn yard is 63 metres long, 40 metres wide and six metres deep and the total weight of the modules when moved to Rosyth by barge was 3,000 tons.

Right: the *AMT Commander* barge tied up alongside the West Quay at A&P Tyne with modules for Rosyth.

Below: proud workers at A&P Tyne, many of whom worked on earlier carriers on the Tyne.



Pictures:
Paul
Kingston,
North
News &
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'Construction is symbolic of our national strength in shipbuilding and our unity of purpose as the Aircraft Carrier Alliance'
– Tony Graham, DE&S

national endeavour. The carrier project brings together blocks from the north, south, east and west and welds them together.

"Her construction is symbolic of our national strength in shipbuilding and our unity of purpose as the Aircraft Carrier Alliance.

"We believe the *Queen Elizabeth* class build reflects many best practices for a project of this scale and complexity. Everyone takes great pride in building the ship and we look forward to seeing her sailing from the Firth of Forth when fully commissioned."

NEWSREEL



Gerry joins the Board

GERRY Grimstone, above, Chairman of Standard Life plc, has been appointed the new Lead Non-Executive for Defence. He will become a key member of the new Defence Board, providing an independent and objective perspective on Board business. He will work closely with the Defence Secretary, the Permanent Secretary and the other members of the Board to ensure that it provides clear and effective leadership for the MOD.

IET steps in to help

EUROPE'S largest engineers' organisation is launching a scheme to help those leaving the Armed Forces to gain new qualifications, access training and find alternative jobs. The Institution of Engineering and Technology (IET) will help former servicemen and women to work towards professional qualifications along with access to the latest engineering and technology jobs. The IET has a long relationship with the MOD and an agreement with the Career Transition Partnership, which helps approximately 15,000 service leavers each year to prepare for resettlement.

Team's pride as personal kit proves a life-saver again

'Our sole reason to exist is to offer the best equipment we can'



Above: Highlander Steven O'Neill, left, and Lance Corporal Jamie Mackenzie

TWO SOLDIERS have escaped serious injury in Afghanistan, thanks to their protective equipment.

Lance Corporal Jamie Mckenzie and Highlander Steven O'Neill came under fire while on patrol with 4th Battalion The Royal Regiment of Scotland north of Lashkar Gah.

One of the platoon was shot in his pelvis. His pelvic protection and ballistic underwear slowed down the bullet although he needed immediate hospital treatment.

It was only when they were back at base that Jamie and Steven realised how close they had come to being injured too.

Jamie's Osprey body armour had a hole in the shoulder where a round had hit him and been deflected and Steven's knee pad had also been hit by a bullet that had been stopped before entering his leg. Jamie's Osprey also had an extra bullet lodged in it, which he only found later.

For soldiers serving in temperatures above 50 degrees, wearing protective kit can sometimes be the last thing they want to do. However, Steven says he now appreciates it even more and won't be moaning about being too hot in future.

"The kit is really good; it may be heavy to wear on patrol in the heat and the sun but seeing how well the body armour works I'm glad I've got it," he said.

Colonel Peter Rafferty, leader of DE&S' Personal Combat Equipment

team, said: "It is immensely satisfying for the team to learn of yet another occasion where the protective equipment that we develop, procure and field, including body armour and pelvic protection systems, has saved lives.

"Our sole reason to exist is to offer the best equipment we can and L/Cpl Mckenzie and Highlander O'Neill can rest assured that this and the many other incidents of this nature prompt us to redouble our efforts to improve the kit, not least to make it lighter, less bulky and reduce its physical impact on those who stand in harm's way on the nation's behalf.

"We wish their injured colleague a speedy recovery and wish 4 Scots a safe return at the end of their deployment."

Contract supplies infra-red shells for the UK Light Gun

BAE SYSTEMS has been awarded a £10 million contract for a 105mm infra-red illuminating artillery shell.

Production of LUMA Infra-Red starts immediately and the 8,000 rounds will be delivered next year.

Final assembly will be at BAE Systems' Weapons business facilities in Karlskoga in Sweden. The contract follows one worth £5.5 million for LUMA IR last November. Orders for further quantities could follow.

LUMA IR can be fired from the 105mm Light Gun, currently in service with UK forces in Afghanistan.

This order is separate from the MASS long-term partnering contract for the supply of munitions signed between BAE Systems and the MOD in 2008.

BAE Systems also supplies an 81mm mortar infra-red round to UK Forces.

MASS review: pages 24 and 25

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Photo courtesy of BAE Systems

NEWSREEL

White Paper to help SMEs

THE forthcoming White Paper on Equipment, Support and Technology for UK defence will encourage and enable small and medium sized companies to participate more fully in supplying goods and services to the Government, Armed Forces Minister Nick Harvey has confirmed. The MOD let around 22,000 contracts last year and uses more than 30,000 suppliers, ranging in size from large multi-nationals to micro-enterprises.

MRA4 deals ended

THE decision not to bring Nimrod MRA4 into service is expected to save around £2 billion over the next ten years, Peter Luff, Minister for Defence Equipment, Support and Technology, has said in a written parliamentary answer. A settlement has been reached with BAE Systems for terminating Nimrod MRA4 contracts. But it is not yet possible to estimate what the final costs or receipts will be for dismantling and disposing of the MRA4 aircraft.

DSA sales

THE Disposal Services Authority, part of DE&S, achieved £84 million in gross sales during 2010-11, according to the latest Parliamentary figures. This includes £4 million of repayment sales generated through the sale of stock items to other governments holding the same type of equipment.

Mighty Mastiff chalks up another success

Engineers and their vehicle survive Helmand IED blast

Right: Sapper Gareth Addy in front of one of his squadron's Mastiff protected patrol vehicles



HOW WELL-PROTECTED is Mastiff? Just ask a team of engineers whose vehicle survived an explosion during a summer patrol in Helmand Province, Afghanistan.

The soldiers of 32 Engineer Regiment were clearing a main route through the province when their Mastiff struck an improvised explosive device.

Sapper Gareth Addy, 31, said: "There was a massive explosion that seriously rocked the vehicle. It was the biggest I've ever experienced. Immediately afterwards, it went very quiet and then you worry if everyone is

OK." Despite the size of the bomb and the force of the blast, no-one in the Mastiff was hurt and there was only minor damage.

Spr Addy, a Mastiff driver and gunner, said it was only when they returned to Camp Bastion they realised how lucky they had been.

"The vehicles we use really do work and everyone now knows that, should the worst happen, they will do a good job of protecting us," he said.

"In a strange way, that incident increased everyone's morale and confidence for the remainder of the tour."

The continuing performance of Mastiff has delighted the Protected Mobility team, part of DE&S' Combat Wheels Group.

"We continue to be extremely pleased with the way in which Mastiff and its Ridgback sibling have been able to cope with the worst of the enemy attacks," said support manager Major Alan Paramore.

"As a project team we have put huge effort into considerably improving the exterior armour and the internal crew protection features of the US-supplied base vehicles and we are continually reviewing that extra protection in the light of changing theatre user requirements and the enemy's tactics."

He added: "We are fiercely proud of the Mastiff and Ridgback fleet protection record and will continue to work to keep the fleet supported and doing what it does best."

'The vehicles we use really do work and everyone now knows that, should the worst happen, they will do a good job protecting us'

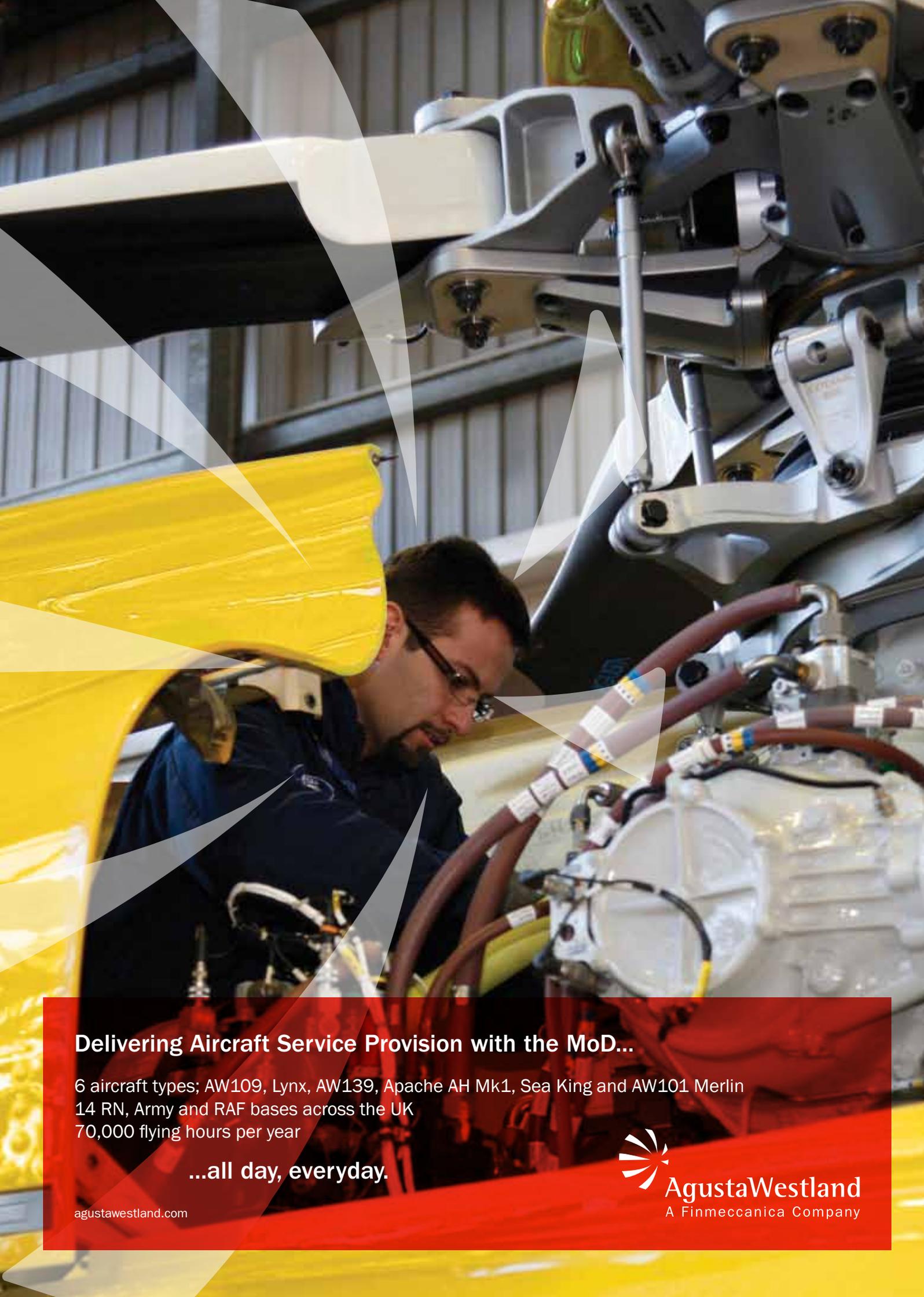


Minister welcomed back to Abbey Wood

MINISTER FOR Defence Equipment, Support and Technology Peter Luff was welcomed back to Abbey Wood on 12 September to meet more DE&S teams and gain a deeper understanding of their work.

Mr Luff spent time with Chief of Defence Materiel Bernard Gray, far left, and received updates from the Commercial and Materiel Strategy teams, as well as visiting project teams.

Mr Luff said: "As always, I was pleased to come to Abbey Wood and spend time with CDM and DE&S staff. Such visits give me a much better understanding of current project activity and what the key issues and developments are. They also highlight how hard DE&S staff continue to work; both in coming up with ideas about how DE&S can develop and in supporting the front line."



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NEWSREEL

Indra supports Lynx Wildcat

INDRA has moved into partnership with AgustaWestland for design and development of equipment to train pilots on the new AW159 Wildcat helicopter. Indra will provide synthetic training technology including two Full Mission Simulators, a Flight Training Device and Cockpit Procedures Trainer. All will be capable of delivering Army or Royal Navy conversion and mission training.

Luff lecture

PETER Luff, Minister for Defence Equipment, Support and Technology, is the speaker at a Defence Academy lunchtime seminar on 15 November. Jon Thompson, the MOD's head of finance, will speak on 24 November. Seminars are in the Abbey Wood lecture theatre from 1-2pm, bookings to admin.hq@defenceacademy.mod.uk or on 961614828

New command

AIR Marshal Sir Stuart Peach, Chief of Joint Operations, will become the first Commander Joint Forces Command. Creation of the Command was a recommendation of Lord Levene's Defence Reform.

Asset sale

SALES of assets such as the Defence Support Group, Marchwood military port and the defence stake in the telecommunications spectrum, should generate more than £500 million over the spending review period, Defence Equipment, Support and Technology Minister Peter Luff has told Parliament.



Above: Adrian Baguley, centre, joins Ray Edwards of AgustaWestland to congratulate the joint DE&S/AW team for returning Merlin ZJ133 to operational condition

Right: ZJ133 in unhappier times



Merlin brought back to life

A MERLIN Mk3 helicopter – badly damaged in a training accident – is ready for front line service again well ahead of schedule.

Merlin ZJ133 was damaged during pre-deployment training in the USA and has since undergone a major rebuild inside nine months at the AgustaWestland factory in Yeovil.

DE&S' Director Helicopters

DE&S joins industry in weaving magic on big repair job

Adrian Baguley said: "I am delighted to see ZJ133 ready to be returned to front line service ahead of schedule.

"This has been an outstanding

effort by the MOD and AW team. The return of this aircraft to the front line provides the Joint Helicopter Command with increased flexibility to support operations in Afghanistan."

Mr Baguley joined AW Managing Director Ray Edwards in praising the effort in recovering ZJ133 and they applauded constructive joint-working that had been a key factor in the success of the repair.

Apache helicopter handed renewed bite

LIGHTWEIGHT 30mm ammunition for the UK fleet of Apache attack helicopters has been guaranteed by a contract with US firm ATK.

Ammunition will include the M788 TP (target practice) training round and the M789 High Explosive Dual Purpose (HEDP) tactical round – to support the AH64 helicopter which has been on operations in Afghanistan and Libya.

These two rounds make up ATK's family of LW30mm ammunition and were originally developed and fielded for the M230 automatic

cannon and the AH-64 attack helicopter.

The M789 HEDP round provides the accuracy and armor penetration capabilities necessary to defeat today's threats.

And the cost-effective, ballistically-matched M788 training round enables improved warfighter performance in active theatres around the globe.

ATK has produced more than 14 million LW30mm cartridges rounds since 1977.

"Lightweight 30mm ammunition provides superior

multi-role, multi-target defeat capabilities," said Dan Olson, general manager of ATK Integrated Weapons Systems.

"We are proud to provide forces worldwide with the medium-calibre munitions necessary to prevail in mission-critical scenarios."

ATK's Arizona-based division was awarded the contract.

Production of the rounds will take place at the company's facilities in Virginia and West Virginia. Delivery to the UK is expected to begin early next year.

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tImNEXUS has been using this approach with many elements of the Typhoon project team, working in partnership to unlock key information.



Warthog worth the weight

Vehicle proves a UOR success

WARTHOG, THE multi-terrain vehicle which has seen 10 months' front line service, has made a lasting impression on the men of The Royal Scots Dragoon Guards in Afghanistan.

So far it has proved a successful product of the Urgent Operational Requirement process. The regiment's D Squadron will be the first to complete

a full tour of Afghanistan on the new vehicle.

Warthog commander David Toughill said: "There have been a few hairy moments but so far it's been a good tour. The vehicles are very agile and can carry a lot which means we can stay in the desert for weeks."

The Warthog Group is constantly in

demand as the vehicles can operate from the dense vegetation of the Green Zone to the arid plains of the Afghan desert.

Its high mobility allows Task Force Helmand to reach previously inaccessible areas of enemy activity and deny insurgents safe havens from which to regroup and launch operations.

From seeking out insurgents in their hide-outs to providing security for protected communities the Warthog Group continues to extend security in support of Afghan National Forces.

Corporal Brett Wade of the Royal Electrical and Mechanical Engineers, said: "Warthog is a new vehicle to me but I've got round it quickly. It's enjoyable to command and drive and we certainly see a lot of the country."

Major Jonnie Williamson, the group's commanding officer, praised the vehicle's versatility. "Firepower, mobility, and protection allow us to close with the enemy in areas where he previously moved with impunity," he said.

"We're also able to spend weeks at a time out and about living out of our vehicles and reassuring local people and deterring insurgents. These are tasks traditionally delegated to Challenger 2 regiments and tasks with which we are very comfortable."

Warthog is manufactured by Singapore Technology Kinetics and is based on the Bronco vehicle used by Singaporean Forces.

Simon Cox, Warthog project manager with DE&S' Protected Mobility team, said: "Warthog has proved the success of UORs in terms of time, cost and performance. The challenges of the requirement were met head on with great work between the team and ST Kinetics, to enable the vehicles to be delivered with sufficient support in place to enable the availability to be maintained.

"While there are still improvements that can and will be made, Warthog gives the user excellent mobility and fire power to deliver their objectives, while giving them the protection they need and deserve."



Soldiers of the Warthog Group take a break from patrolling Helmand Province

New gear takes Navy divers hunting explosives in the depths

BREATHING EQUIPMENT which allows Royal Navy divers to deal with underwater explosives up to 60 metres below the surface is now in full service.

Clearance Divers Life Support Equipment (CDLSE), designed and built by Divex, was introduced into service last year after performing well in trials.

It has now achieved Full Operational Capability and has proved itself in exercises around the world. It is being used by clearance diving units and minehunters.

CDLSE is among the most advanced underwater rebreather life support systems in the world. It has been developed using new technologies, its low WoB (work of breathing) surpasses international standards and, crucial to mine clearance, surpasses all Nato non-magnetic and low acoustic standards.

Dave Cunningham, Diving and Life

Support Capability Manager with DE&S Ships, said: "After a lengthy process of evaluation and testing, CDLSE was introduced successfully under Initial Operating Capability in 2010.

"With Full Operation Capability reached, the equipments are now being used extensively operationally worldwide. To date CDLSE has performed well in many operational scenarios."

Divex's Glyn Gilbert added: "Divex CDLSE has returned the Royal Navy capability to a 60 metre diving which was of paramount importance and is something Divex can justifiably be proud of.

"The equipment has seen extreme conditions and has been dived through many serials. CDLSE has proved itself in design and test and is now proving itself where it really matters, in the field of operation."

Bowman celebrates 10 years

DE&S HAS joined industry in celebrating the tenth anniversary of the signing of the Bowman contract to deliver modern tactical communications for the UK Armed Forces.

Members of the Bowman and Tactical Communications and Information Systems (BATCIS) team at DE&S joined General Dynamics UK and Forces' users to mark the occasion.

The contract has helped the company invest in the UK, creating and sustaining 1,600 high-value jobs, many of them in south Wales in an area of high unemployment.

Around 15,000 British Army vehicles are fitted with Bowman which provides secure digital voice and data communication based on internet protocol and including a land-based command and control system.

The first Bowman was delivered on time in 2005 to those serving in Iraq.

News round-up from DSEi 2011

UK tools up with its own high-performance steel

THE UK now has its own onshore supply of high-performance armour steel, thanks to a UK invention and a new manufacturing agreement.

Known as super bainite, the new armour steel has been developed to have outstanding ballistics properties and, in tests, it has performed better than 'normal' steel armour.

The MOD has signed a licensing agreement with Tata Steel to manufacture the steel in the UK.

Showcased at Defence and Security Equipment International (DSEi), the material was invented and developed in the UK, with production ear-marked to take place in Port Talbot, south Wales. Under the agreement the steel will be turned into seven different items, including

Deal with Tata will bring more innovation to the front line, says Minister

perforated armour plates that could be used on future front line armoured vehicles.

Minister for Defence, Equipment Support and Technology, Peter Luff, said: "This cutting-edge UK invention and the manufacturing agreement mean that the UK now has its own onshore supply of high-performance armour steel. Super bainite has both military and civilian applications providing

Tata Steel with important export opportunities.

"The application of new, battle-winning technologies is what gives our troops the edge. This demonstrates, once again, that investing in research and development, in partnership with industry, means that our troops can have the latest innovations in front line equipment."

Super bainite was invented by Defence Science and Technology Laboratory's (Dstl) Professor Peter Brown, Professor Harry Bhadeshia, Tata Steel Professor of Metallurgy at Cambridge University, and Dr Carlos Garcia-Mateo, previously at Cambridge University and currently at the National Centre for Metallurgical Research, Madrid.

The outstanding protection properties of super bainite are down to unique production processes. Traditionally, steel is covered with water to get it to room temperature quickly before structural weaknesses can form. But with super bainite, a whole variety of cooling methods, using air or even molten salt, are used throughout production. Combining drilling and hole-punching during the cooling process results in ultra high-hardness perforated plate.

Professor Brown said: "The ballistic performance of perforated super bainite steel armour is at least twice that of conventional rolled homogeneous steel armour. This is because the introduction of perforations creates a large number of edges which disrupt the path of incoming projectiles, significantly reducing their potency."

Dstl owns the patents relating to the chemical composition and processing of super bainite. The licence agreement was signed between Ploughshare Innovations and Tata Steel. It allows Tata Steel to manufacture and process super bainite in the UK and in Europe and to export it globally.

London calling



Dauntless adds to exhibition's wow factor

HMS Dauntless, pictured sailing under the Dartford Crossing, was the first of the Royal Navy's Type 45 destroyers to visit the capital as she sailed up the Thames to dock outside the Excel Centre for the Defence and Security Equipment International (DSEi) event last month. She was moored outside the exhibition centre and was on show to the 25,000 visitors from around the globe who saw equipment from 1,300 defence contractors from more than 50 countries.

Upgrades

- new mine-blast protection seating in every position in every variant.
- redesigned and repositioned driver foot controls to reduce lower limb mine blast injuries.
- improved appliqué armour to improve blast and ballistic protection.
- upgraded torsion-bar suspension to improve vehicle mobility
- revamped fuel system and tanks.
- a heavier-duty winch on the Samson variant, and many other minor changes.
- a new power distribution system, including a new rotary base junction, provides improved power management between chassis and turret and will enable further systems upgrades in the future.
- an ongoing non-UOR brake upgrade programme will result in a retrofit to the vehicles next year.
- UK sub-contractors on the programme include Jankel (Weybridge, Surrey), Allen Vanguard (Tewkesbury), MTL (Sheffield), ACGB (Kettering), Tinsley Bridge (Sheffield), Horstman (Bath), Moog (Reading), Friction Hydraulics (Telford), W A Lewis (Shrewsbury), Park Precision (Weymouth, Dorset), ABEC (Birmingham), Permal (Gloucester) Park Sheet Metal (Coventry), AB Connectors (Mountain Ash, Wales) and Thales UK (Glasgow).



Extra protection – vehicles prove an instant hit

UP-ARMoured vehicles are giving extra protection to the soldiers of the 9th/12th Royal Lancers as they provide security in Helmand Province.

The first of the enhanced Combat Vehicle Reconnaissance (Tracked) (CVR(T)) fleet are now operational.

BAE Systems has upgraded the armour on all five vehicles that make up the CVR(T) family – Scimitar (tracked reconnaissance), Spartan (troop carrier), Samson (repair and recovery), Sultan (command post), and Samaritan (battlefield ambulance) – through Urgent Operational Requirements worth around £30 million.

Vehicles have been rehulled to give better mine-blast protection for troops, improved armour added for enhanced resistance to blasts and ballistics, as well as new mine-blast protection seating in

every position in every variant. Other enhancements include repositioned foot controls and a revamped fuel system.

The Mk2 follows earlier upgrades which gave CVR(T) a new engine, add-on armour and better engine cooling and air filtration to cope with operating in hot, dusty climates.

Scimitar Mk2s are proving a hit with the troops. Sgt Matthew Pook has seen previous versions of the vehicle in action. He said: “Significant progress has been made with the vehicle since I first used it. It makes you feel more confident when out on the ground. The old ones needed regular maintenance and fixing, which is hard work at the end of a day.”

Initial feedback from the front line has been welcomed at Abbey Wood. “It’s very rewarding to see the team’s dedication and hard work

recognised and to know the vehicles are being well received in theatre,” said platform manager Mike Webb of DE&S’ Combat Tracks Group.

“CVR(T) Mk2 is the result of a coherent and complex mix of Urgent Operational Requirements and Equipment Programme-funded activity carried out over the last two years to enhance the platform’s capability and to significantly improve the protection afforded to the crews.”

He added: “With the initial deployment now achieved, the team is looking forward to delivering the rest of the vehicles that make up the full operating capability and continuing to support the much improved CVR(T) Mk2 on Operation Herrick.”

All 50 upgraded vehicles will be delivered by early next year.

The push for exports: Dr Liam Fox at DSEi 2011: Pages 30 and 31

Industry takes wraps off Scout

A REPRESENTATIVE prototype of Scout SV, the reconnaissance variant of the Specialist Vehicle family (pictured right), has been unveiled by General Dynamics UK.

The company, awarded a demonstration contract in July 2010, expects to deliver the first vehicles in 15 months’ time.

Engine testing has already begun, with a view to the 8V199 TE21 engine driving the vehicle’s ability to grow to 42 tonnes in weight without the need to upgrade the engine during the 30-year life of the vehicle.

■ Scout latest: page 37





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NEWSREEL

Leuchars v Lossiemouth

ESTIMATED relative cost of operating Typhoon from RAF Lossiemouth and RAF Leuchars over a 25-year period, including the costs of transferring from Leuchars to Lossiemouth, is approximately £604 million and £565 million respectively, Armed Forces Minister Nick Harvey has revealed. The balance of financial advantage between Leuchars or Lossiemouth as RAF bases was outweighed by wider defence considerations. These included basing the Army following its return from Germany and the need to realise receipts by disposing of high value estate, including in Edinburgh, while ensuring the build-up of the Typhoon force.

RAF fast jets excel

NO planned sorties by the six Typhoon and 16 Tornado aircraft deployed to Italy for operations over Libya were cancelled due to lack of parts or supplies up to 15 August, say the latest figures revealed by Defence Equipment, Support and Technology Minister Peter Luff. Typhoon has exceeded expectations of serviceability. "Our ability to maintain aircraft availability is attributable to the professionalism of our service personnel and civilian support staff, together with robust air and road supply lines from the UK," Mr Luff added in a Parliamentary answer.

Astute boat 5 will be called Anson

THE FIFTH submarine in the Astute class will be called *HMS Anson*.

The decision was announced

in Parliament by Defence Secretary Dr Liam Fox who said that *Anson* was expected to join the first four of the seven-strong

class – *Astute, Ambush, Artful* and *Audacious* – by the end of 2020.

Meanwhile *Artful*, the third of the class, has taken a big step towards coming 'to life' with the successful commissioning of her diesel generators, which are a key element of the submarine's electrical pulse.

Trials of the diesel generators, which form crucial back-up for the submarine's electrical systems, are a major milestone in a submarine's commissioning programme.

Their completion was one of the biggest production targets for 2011 – completed 18 days ahead of schedule.

Left: the manoeuvring room module is moved into Boat 3 *Audacious* at Barrow



Phoenix rises to improve MOD fleet management

THE NEW contract for management of the MOD's White Fleet of vehicles has gone live.

The four-year Project Phoenix contract applies to all the MOD's non-deployable vehicles. It has been awarded to Babcock Land Ltd for service provision of the fleet requirements for the mainland UK and will replace existing arrangements over the coming months.

Project Phoenix itself has evolved innovative lean project management techniques and forged links with the Government Procurement Service (formerly Buying Solutions) to deliver the project in a little over 18 months with a small team of staff at Abbey Wood.

The new contract will be implemented over the coming months and, through a combination of enhanced data collection and better value assets, will deliver efficiencies and better management to all White Fleet customers.

Introduction of a centralised booking system and a new management information system will allow fleet managers to work with Babcock to manage their fleets more efficiently, increase vehicle use and reduce



Above: Trevor Woolley, DE&S Director General (Resources), centre, joins Project Phoenix team members and staff from Babcock at the launch of the new fleet management at Abbey Wood

costs to the MOD. As part of the transition to Phoenix, the team has gained approval for a co-operation period of up to six months (to 29 February 2012) under the extant contract. This will allow the MOD to continue to use its existing fleet until the Phoenix fleet is available.

Project Phoenix staff will work with Babcock to ensure that, during transition between current and new arrangements,

there will be little or no impact on levels of service that customers receive.

Project Phoenix page: <http://defenceintranet.diiweb.r.mil.uk/DefenceIntranet/Teams/BrowseTeamCategories/Orbased/DES+-+Defence+Equipment+Support/ProjectPhoenix.htm>

Babcock White Fleet/Phoenix website: <http://web.whitefleet.r.mil.uk/news.php>

Splashdown!

Voyager sets out on its UK conversion journey



Left: the first Voyager touches down in the damp while, below, Air Marshal Kevin Leeson welcomes the start of aircraft conversion by Cobham at Bournemouth airport

THE FIRST of 12 Airbus aircraft to be converted into the Voyager future strategic tanker aircraft has arrived at Cobham's facility in Bournemouth.

Fourteen A330-200s will replace the RAF's fleets of TriStar and VC10 air-to-air refuelling aircraft. Two have already been converted at Airbus Military's facility in Getafe, Spain.

The Private Finance Initiative service, operating 'the most capable military tanker transport aircraft of its type in the world', according to DE&S' Chief of Materiel (Air) Air Marshal Kevin Leeson, is due to begin when the first aircraft arrives at RAF Brize Norton this autumn.

"Today we celebrate the arrival of the first aircraft into the Cobham Conversion Centre," said Air Marshal Leeson at the opening ceremony of the refurbished facility on 2 September.

"Voyager will provide enhanced levels of availability, reliability and comfort for its passengers. Its 4,000-mile range carrying 291 passengers and freight will allow the UK to respond to world events with great speed.

"The air-to-air refuelling systems will provide access to an impressive 111-tonne fuel capacity and enable Voyager to refuel a large variety of platforms from Typhoon jets to A400M transports."

Representatives at the event from DE&S included Director Air Support Tim Rowntree and leader of the Strategic Tanker and Air-to-Air Refuelling team Chris Dell.

Other guests came from the wider MOD, Airbus Military, service provider AirTanker, and other key companies, hosted by Cobham Aviation Services at the facility at Bournemouth Airport.

Voyager conversion will create and maintain more than 100 jobs at Cobham into 2016. The activity also provides an excellent opportunity to train graduates and apprentices and help prepare them for a career in aerospace engineering.

As part of the conversion, Cobham will install a pair of its fifth generation wing-mounted 905E aerial refuelling pods to all 12 aircraft; seven Voyagers will also be fitted with Cobham's 805E centre-line mounted fuselage refuellers.



It's all systems go for first service to debut at Brize

AIRBUS MILITARY has obtained military and civil certification for the RAF's Voyager tankers.

This paves the way for first delivery of the aircraft to RAF Brize Norton this autumn.

The approval was granted by Spanish military certification authority Instituto Nacional de Tecnología Aeroespacial (INTA).

It follows the civil certification of the aircraft which was awarded by the European Aviation Safety Agency in July.

Together these certifications cover the specific configuration of the UK version of the tanker and lay the ground for its eventual operation on both the military and civil registers, as currently envisaged by the RAF.

The initial configuration which will enter service, and which is covered by the certification, is the two-point aircraft with hose-and-drogue refuelling pods under each wing.

The three-point configuration, which also includes a centreline Fuselage Refuelling Unit will be certified at a later date.

"It is deeply satisfying to see this variant of the A330 receive its certification as per schedule," said Airbus Military Senior VP Engineering, Miguel Angel Morell.

"I would like to thank everyone involved in the Future Strategic Tanker programme for their hard work and I look forward to seeing the aircraft being delivered to RAF Brize Norton soon."

Sub-contract sees Captor take another step forward

BAE SYSTEMS Manufacturing at Hillend in Fife has been awarded a contract worth more than £20 million to provide procurement and electronic manufacturing services to Selex Galileo.

This is part of a contract to deliver the Typhoon Tranche 3a Captor radar programme. It is the primary sensor for the Typhoon jet, and one of the most technically advanced airborne radar systems in the world.

Work on the programme is due to begin at BAE Systems' Hillend facility this year and will run until 2013.

The Captor radar represents a major programme of sub-contract work for Hillend comprising multiple types of complex printed circuit boards and electronic modules, which make up one of the most vital elements of the radar system.

Visits boost aviation safety knowledge

HOW DE&S manages airworthiness was high on the agenda as independent members of the MOD's new aviation safety body visited DE&S sites.

The four external members of the Military Aviation Authority's Safety Advisory Committee were briefed on issues facing defence aviation. And they boosted their understanding of challenges facing DE&S and Front Line Commands.

During their familiarisation visit the quartet visited several of DE&S' key aviation players.

Professor Rhona Flin, Kevin Myers, Neil Molyneux and Sir Colin Terry heard from Air Marshal Kevin Leeson, Chief of Materiel (Air), and his recently-formed DE&S Airworthiness Team, on how DE&S manages airworthiness. The diversity of this challenge became evident as the MSAC heard further presentations on the Airseeker and Voyager projects.

Sir Colin Terry, MSAC Chairman, said: "The scale and complexity of the task facing defence in making the necessary changes to air safety shouldn't be underestimated, especially when you set it against the vital tasks the Armed Forces are undertaking day in, day out in support of current operations."



Above: Atlas staff and personnel from 30 Signal Regiment are testing the land-deployed version of DII. Right: ruggedised laptops for the front line

Regiment puts front-line DII to the test

THE LAND-Deployed system of the Defence Information Infrastructure is currently undergoing capability readiness evaluation exercises to put it through its paces.

The system has already passed Atlas and MOD service assurance and infrastructure field trials in the secret and restricted domains earlier this year.

Equipment including the ruggedised laptops for use on the front line has been handed over to 30 Signal Regiment at

their headquarters in Bramcote, Warwickshire, by the Land Deployed Implementation team of engineers and specialists.

The first three DII Land Deployed Nodes are being built from this equipment.

This month's exercise will see the Regiment put the DII Land Deployed Nodes through the full end-to-end deployment sequence of 'Plan, Prepare, Deploy, Sustain and Recover' that they would go through when deployed in a live theatre of operations.

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Weapons on the road to Abbey Wood

DEFENCE Science and Technology Laboratory (Dstl) is bringing its weapons research and technology expertise to Abbey Wood for a one-day roadshow.

The event will show how Dstl and industry are supporting DE&S.

The roadshow will be in Neighbourhood Two on Wednesday 2 November 11am-2pm.

Experts from Dstl, DE&S and industry will be on hand to discuss science and technologies that can support a breadth of projects.

More information from Tim Milne (DESPTG-SCG3@mod.uk) Science Gateway at DE&S.

Airseeker continues on target



THE FIRST aircraft to be converted to become a mainstay of the RAF's signals intelligence capability of the future under the Airseeker Programme has received an official DE&S seal of approval.

Air Marshal Kevin Leeson, Chief of Materiel (Air), above right, visited L3Com's facility at Greenville, Texas to see progress.

The first aircraft is currently being converted from a KC-135 aircraft into an RC-135 before introduction into service later in the decade.

The aircraft arrived at the plant last January and first stages of the work see removal of redundant tanker aircraft systems and essential

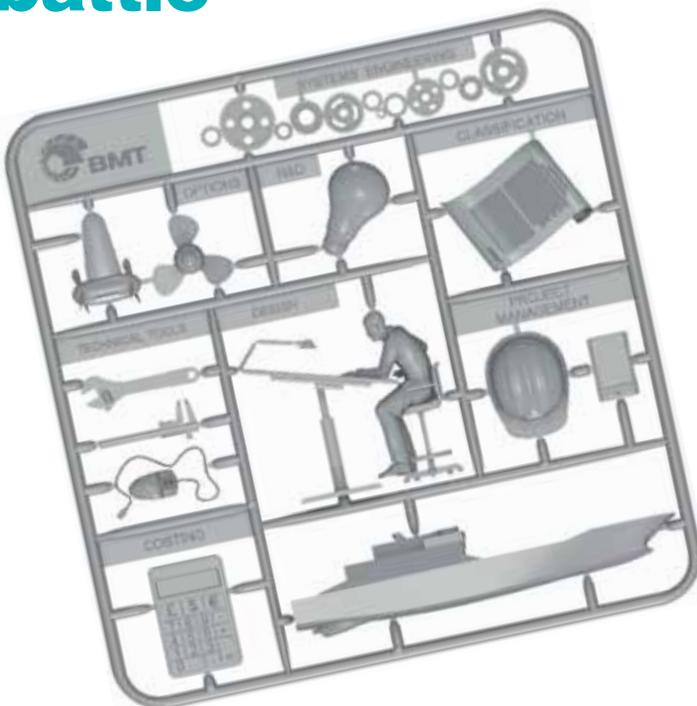
maintenance needed to bring the basic aircraft up to service standard. Wiring is now being installed for the new mission systems.

The aircraft will emerge from the conversion ready for flight testing in the summer of 2013 with the Block 10 Mission System, the latest in use with the US Air Force.

Air Marshal Leeson viewed key aspects of the work to meet UK airworthiness standards as DE&S' Airseeker team progresses delivery of the UK Release to Service.

RAF aircrew and groundcrew from 51 Squadron are currently flying on USAF Rivet Joint aircraft as part of a co-manning arrangement.

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BMT Defence Services

"Where will our knowledge take you?"

Duncan's heart starts beating

DUNCAN, THE sixth and final Type 45 Destroyer currently in-build in Scotstoun, has run-up her diesel generators for the first time putting life-blood into the ship's systems.

The ship was launched last autumn, pictured right, and has since been fitted out with equipment and machinery.

The systems are then brought to life in preparation for harbour trials this year, towards her first sea trials next year and estimated delivery to Portsmouth in 2013.

The run-up of the diesel generators, which will be closely followed by the gas turbines, is an important step as the ship can now generate her own power.

Cdr Phil Game, *Duncan's* Senior Naval Officer, said: "Since the launch, the build programme has continued apace as we look more and more like a warship.

"Similarly the ship's team has grown rapidly from a single member – me – to more than 30 now and we are working closely with the BAE Systems Surface Ships and DE&S Destroyers teams to assist where appropriate, establish routines and also to learn about the ship and systems that will become ours in the future."

One such crew member, WO2ME Ollie Holman, said: "I was part of *HMS Diamond's* ship's company through build and I really enjoyed the chance to be part of the generation of one of the finest classes of ships in the world, so I came back for another go at the higher rank. Working on *Duncan* is a challenge but there's no doubt we're making steady progress."



Portsmouth gears up for testing new respirators

A FACILITY for testing new respirators due to be rolled out across all three services has been unveiled at Portsmouth naval base.

The General Service Respirator (GSR), which has been under development since 2004, is replacing the S10 Respirator and is an essential piece of lifesaving equipment carried by all personnel on ships.

It protects against a wide range of chemical, biological, radiological and nuclear threats, and also allows the user to carry out tasks while wearing it.

All respirators owned by deployed personnel have to be tested every year to ensure they still work effectively.

To ensure this, a new Advanced Respirator Test Set (ARTS) building was opened by Portsmouth Naval Base Commander, Commodore Rob Thompson.

Lieutenant Commander Rob McClurg of the Chemical, Biological, Radiological and Nuclear Damage Control Team, said: "Having this type of facility on the naval base ensures that



Getting set: personnel at Portsmouth

each ship rigorously tests their respirators before deployment and avoids an unacceptably high burden on the ship's staff during their regeneration schedule.

"The new GSR is a fantastic replacement for the S10 and we are delighted to be bringing it into service."

The new GSR improves users' field of vision with breathing and talking much easier for the wearer. Until mid-2014, when the rollout of the new GSR is due to be complete across the Navy,

the new ARTS building will also test the S10 – taking this burden away from serving warships.

The ARTS building consists of six cubicles designed to fill with smoke while the sailor wearing the respirator stands inside. The mask is connected to a laptop outside which performs around eight minutes of tests to ensure the respirator works effectively. For each ship's company the testing can take between two days and two weeks to complete.

Buoys fend off harbour hazards

THIRTY-SIX mooring buoys have been delivered for use in UK harbours by Plymouth's Hippo Marine division of Fendercare Marine.

The buoys have been delivered to Serco under a five-year deal signed in 2008 to supply mooring systems within the company's wider DE&S Marine Services contract.

The overall contract calls for 600 containers of chain and fittings to yards designated by Serco. While this was the primary scope of the contract, supply of self-fendering, low-maintenance mooring buoys has since been added.

Hippo fenders have been adopted by many navies for quayside and onboard use. They also feature bonded to the hulls of some of the most prominent patrol and interception craft in use today.

The new buoys will provide Serco and ultimately DE&S with lower through-life costs compared to the steel buoys they are replacing.

Big helps out the small

EXTRA SUPPORT to small and medium-sized companies looking to deal with UK defence and security needs comes from a new initiative by BMT Defence Services.

BMT Defence Link will help suppliers understand the manner in which project deliverables must align to stringent requirements set out by organisations like DE&S.

Muir Macdonald, managing director at BMT, said: "Knowing who to pitch to and how can be a steep learning curve. Defence Link can provide a collaborative approach and facilitate defence relationships for innovative capability delivery to our personnel on the front line."

It is available at www.bmtdefencelink.co.uk

Dragon – all set to f



Dragon is all set to breathe fire across the globe after being handed over to the Royal Navy.

The latest Type 45 destroyer – the fourth of the class of six ships built by BAE Systems on the Clyde – sailed into Portsmouth on 31 August to be accepted off contract by DE&S staff.

The 7,500-tonne vessel will now undergo a series of tests before being declared ready for operations.

The ceremony at Portsmouth was attended by Armed Forces Minister Nick Harvey. He said: “This is another success for the Type 45 programme and further evidence of how we are investing in cutting edge equipment which will

form part of Future Force 2020. *Dragon* is the fourth of a class of six ships which together will form a formidable fleet and will play an important part in allowing the Royal Navy to protect our interests around the world.”

First steel cut on *Dragon* took place in December 2005 and she was launched at the company’s Govan yard in November 2008. After undergoing extensive sea trials the ship left the Clyde with a combined BAE Systems and Royal Navy crew for the final time on 27 August en route to her new home port.

DE&S’ Head of Destroyers, Commodore Stephen Braham, formally accepted the ship on behalf of the MOD. He said: “Remarkable progress is being made to date on the Type 45 programme. Combining an all-electric power and propulsion system and a world-class weapons system, the capabilities of

Dragon, like those of her in-service sister ships *HMS Daring*, *HMS Dauntless*, and *HMS Diamond*, represent a step-change for air defence in the UK, and will ensure that the Royal Navy remains one of the most powerful maritime forces in the world.”

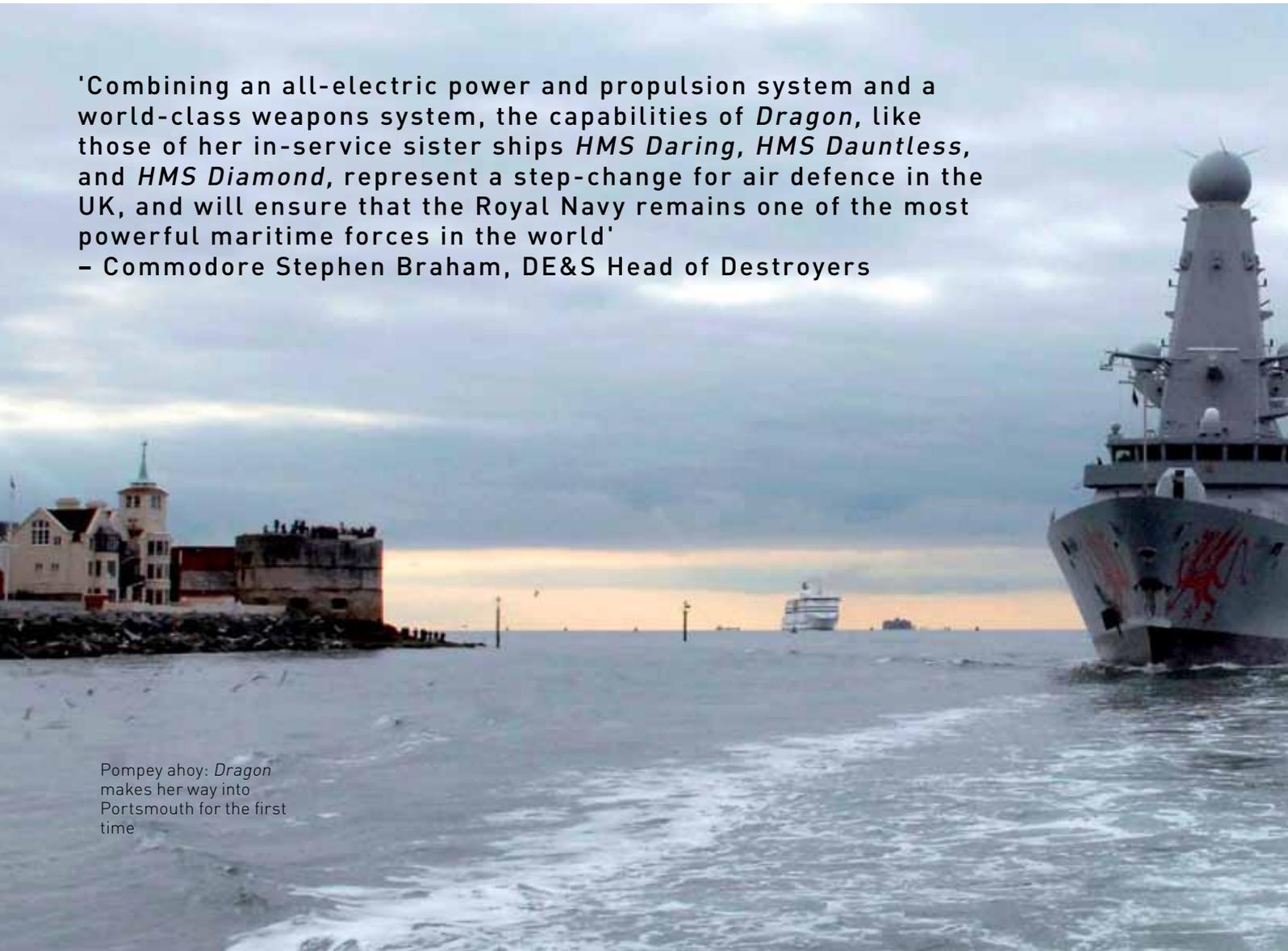
For the crew of *Dragon* the day marked a major milestone, recognised by commanding officer Lt Cdr Darren Houston. “*Dragon* is in top condition for the rigours of the next stage of her sea trials and the challenges ahead,” he said. “This has only been possible through the hard work and support we have received from BAE Systems, its sub-contractors and the local Scotstoun community.

“The Royal Navy operates as a force for good, contributing to the security of the UK, the prevention of conflict and the promotion of our national interests in the wider world. *Dragon* is eager to play her

'Combining an all-electric power and propulsion system and a world-class weapons system, the capabilities of *Dragon*, like those of her in-service sister ships *HMS Daring*, *HMS Dauntless*, and *HMS Diamond*, represent a step-change for air defence in the UK, and will ensure that the Royal Navy remains one of the most powerful maritime forces in the world'

– Commodore Stephen Braham, DE&S Head of Destroyers

Pompey ahoy: *Dragon* makes her way into Portsmouth for the first time



fight fire with fire

part and start operating the newest and most advanced warship in the world. In a continuing effort to improve the Type 45 class, the Royal Navy and BAE Systems have worked in close partnership to make *Dragon* the best of her class, ready to fight and win."

Paul Rafferty, Type 45 programme director at BAE Systems' Surface Ships business, said *Dragon* incorporated lessons learned from earlier ships in the programme.

"*Dragon* is the most advanced Type 45 delivered to date. Working in partnership with the MOD and the Royal Navy, we have incorporated lessons learned from the earlier build and in-service support of her sister ships," he said.

"She is the first of the batch two destroyers, which include upgrades to systems onboard in line with technological developments, as we

continue to deliver cutting-edge naval equipment to the Royal Navy."

BAE Systems is on track to deliver all six Type 45 destroyers to the Royal Navy by early 2013. *Defender*, the fifth ship, is currently undergoing final stages of outfit and will head to sea for the first time in November, while outfit and commissioning continues on *Duncan*, the sixth and final vessel in the class, following her launch last October. *Duncan* will begin her first stage sea trials in the first half of next year.

As Class Output Manager for the fleet, BAE Systems also provides in-service support to the destroyers. Working side by side with the Royal Navy at Portsmouth, the company's engineers coordinate repair, maintenance and support

to improve ship availability and reduce through life support costs. The company recently supported *HMS Dauntless* during her warm weather trials off the US coast with the first of class *HMS Daring* receiving a capability upgrade and *HMS Diamond* achieving her Initial Operating Capability following extensive trials.

The Type 45s will provide the backbone of the UK's naval air defences for the next 30 years and beyond. The destroyers will be capable of carrying out a wide range of operations, including anti-piracy and anti-smuggling activities, disaster relief work and surveillance operations as well as high intensity war fighting.



Munitions supply is value for DE&S, for UK Forces, for ind

DE&S' innovative deal to supply ammunition to UK Armed Forces is providing good value for money according to an independent review.

The review was carried out by the Office of Government Commerce (now part of the Efficiency and Reform Group in the Cabinet Office) on the MASS – Munitions Acquisition, the Supply Solution – partnering agreement.

MASS was signed by DE&S and BAE Systems in August 2008 and covers around 60 per cent by value and 80 per cent by volume of the general munitions that UK Forces use annually on operations and training.

It includes ammunition for small arms, mortar bombs, tank, artillery and naval gun shells – though not complex weapons such as guided missiles – and is worth around £2 billion over 15 years. It has the potential to exceed £3 billion depending on the tempo of future operations and the level of demand.

The review confirmed that MASS is meeting objectives set out in its original business case, and that contractual arrangements are meeting MOD needs. The review team assessed documentary

evidence and interviewed MOD and BAE Systems stakeholders. They were impressed with the way MASS has been implemented, the amount of progress made in a relatively short time and the effective joint partnering between DE&S and BAE Systems.

While there are areas of improvement, these are targeted at maintaining the momentum of progress already made and focussing on continuing improvement.

Nick Edwards, head of the Joint MASS partnering team in DE&S' Defence General Munitions team, said: "MASS was never solely about the cheapest compliant solution. It is about meeting the MOD's need for UK Armed Forces to be enabled to conduct both its training and operational requirements where cost and value for money are a key consideration."

This good news comes on the back of a value for money analysis earlier in the year by the Joint MASS partnering team working with BAE Systems' munitions business, on a post project review. It aimed to take a comprehensive view of value for money under MASS, assessing

financial and non-financial matters to make sure the National Audit Office's definition of good value for money – "value for money is not about achieving the lowest initial price; it is defined as the optimum combination of whole life costs and quality" – was being met.

The analysis confirmed that 41 of 45 identified performance indicators had been successfully delivered, with two other strategic indicators still planned for future delivery and the remaining two indicators overtaken by events. Assumptions underpinning the inclusion of MOD small arms ammunition requirements within MASS were specifically reviewed and confirmed that it remains the most cost effective solution in delivering this requirement.

Part of the MASS partnering



for money . . . industry, says review

agreement sees BAE Systems' munitions business committed to modernising its manufacturing sites at Glascoed in south Wales, Radway Green in Cheshire, and Birtley in the north east. Millions of pounds have already been spent by the company in relocating staff at Birtley to a new purpose built factory in nearby Washington (Tyne and Wear).

Another MASS value for money analysis and Government review is expected in 2014, once the five-year site modernisation programme has been completed in 2013, to assess the assumptions concerning savings efficiencies already 'baked' into the MASS pricing structure.

Due to the potential duration of the partnership further reviews may be held in 2018 and 2023 to confirm continued delivery of benefits.

Other key benefits from MASS

The following key tangible and intangible benefits were identified as already having been achieved during the first 30 months of operating the MASS Partnering Agreement:

- **Competition** maximised at sub-contractor level.
- **Full transparency** through open book accounting to ensure costs are fair and reasonable, and to give MOD a greater understanding about the cost impact of varying future munitions demands.
- **Third party sales** return to MOD from BAE Systems' use of MASS capability to meet the requirements of external (to MOD) non-MASS customers.
- **Incentivisation** through a gainshare/painshare arrangement.
- **Capability insertion** where new capabilities and associated general munitions products are procured by MOD; MASS can provide a fast route to contract (subject to open competition) where existing BAE Systems capability can be utilised in a different manner depending on priorities.
- **Flexible capability** where individual munitions volumes under MASS can be adjusted to reflect changes to UK requirements as a result of policy changes and reviews such as the SDSR.



The Hebrides

1. The Hebrides Missile Range is among the largest in Europe, a sea and air space in the Atlantic ocean off the west coast of Scotland.
2. The range lies for the most part on the northern tip of South Uist, but with its control centre on Benbecula and other associated facilities in the surrounding area, including a tracking station on St Kilda.
3. Benbecula hosts West Camp, a recreational, academic, training and conference facility for visiting units.
4. The range head, which provides missile launching, preparation and maintenance facilities, is to the west of Loch Bee on South Uist. The control centre is closely associated with Benbecula Airport at Balivanich, a village swollen by the need to accommodate the range personnel.
5. The rocket range was built in 1957 by the Royal Air Force.
6. The first-ever unmanned aircraft to cross the Atlantic landed at the range in 1998, having taken off from St Johns, Newfoundland.
7. Just about every Master Gunner and every ground-to-air soldier from the Royal Artillery has come through the ranges to be trained.

Minister heaps p

Staff at a weapons testing range in the islands of Scotland have been praised for their valuable contribution to operations in Libya.

The Hebrides range includes the UK's largest live-firing rocket and missile test sites, based on Benbecula, North and South Uist and a radar station on Hirta in St Kilda.

It is run by QinetiQ on behalf of DE&S as part of a long term partnering agreement and has recently had its future secured for at least the next five years with a cash injection to help its modernisation.

Minister for Defence Equipment, Support and Technology Peter Luff spent two days with some of the 200 or so staff at the range, and praised them for their dedication.

He said: "I'm glad I came to see the range with my own eyes to understand fully the complex work that's done here which makes a valuable contribution to defence, including recent operations in Libya.

"It's important that we invest and modernise the range to maintain its capability – and that task has already

started with the upgrade of tracking systems on St Kilda which was completed this week.

"I've been impressed by the dedicated skilled workforce, many of who are from the islands, and I was also able to thank the Hebrides Task Force for the crucial support they provide to defence. I'm keen to explore ways to ensure our relationship with the local community continues to flourish."

The Minister was accompanied by Steve Horrocks who leads DE&S' Trials, Evaluation Services and Targets team, the MOD's capability manager Dr Dai Morris, and QinetiQ's Ian Taylor, Shane Slater and Steve Rick.

The first day was dominated by a tour of the main facilities on South Uist where Mr Luff visited the Range Control Building for a brief on how a trial is planned and conducted, and the Aerial Targets Preparation Area.

He later visited West Camp to see the gymnasium and theatre and the staff accommodation.

A visit to the remote facility on St Kilda followed the next day including tracking and surveillance radars. Mr Luff also



raise on range staff

had a buffet lunch with range staff and the archipelago's owners, the National Trust for Scotland, who were also on the island.

"The visit was extremely successful, giving the Minister a good understanding of the complexity of operations at the range," said Steve Horrocks.

"The range provides an excellent capability but much of its infrastructure is old, difficult to maintain and reliability is becoming an increasing problem. Following the Strategic Defence and Security Review we now have a clearer picture of the overall future requirement for the kind of capability which the Hebrides Range provides.

"We are working with QinetiQ to identify the investment the range needs over the next five years. The joint project team will look at equipment such as radars, telemetry, data links, the trials

control system and estates and what needs to be modernised or replaced."

It will also seek input from QinetiQ's employees, who have the expertise and experience of operating the range, to understand the technical nature and priority of the investments needed to sustain its capability. Many are recruited and trained locally, some on an apprentice scheme. Most are graduates.

Ian Taylor, QinetiQ's Head of Site at the Hebrides Range, welcomed the earlier news of the site's bright future. He said: "This is good news for the range and its users. Some of the facilities are old and we knew they would be in need of replacement, either now or in the next few years.

"The decision to invest in the range means that QinetiQ and the MOD can now address obsolescence issues as a matter of priority to keep the range operational."



Right: Peter Luff lands at St Kilda in full survival gear

Main pictures: Rapier and Starstreak are tested on the Hebrides Range

An uplift in RAF heavy lift

£1 billion contract buys and supports another 14 Chinooks for the RAF's lift capability

The RAF will take delivery of 14 new Chinook helicopters by 2014 to increase the number available for the front line. Defence Secretary Dr Liam Fox announced a contract worth around £1 billion during a 22 August visit to RAF Odiham, the RAF Chinook Force's headquarters in Hampshire.

The contract with Boeing to supply the Mk6 heavy lift helicopters will bring a significant enhancement to the mobility of front line forces. Already the largest fleet in Europe, this new contract will bring the UK's overall number of Chinooks to 60.

The new Chinook contract includes development, manufacture, and the first five years of support to the new Chinooks.

Dr Fox said: "This Government is committed to delivering a top class equipment programme that is properly funded. By committing to increased funding, greater efficiencies, and changes to our defence equipment programme, we have brought reality to the defence budget and can start signing contracts that will deliver real equipment.

"From the Falkland Islands to Iraq and Afghanistan, the RAF has operated Chinooks magnificently for many years in the most demanding environments. These additional helicopters will significantly enhance our existing heavy lift helicopter capability, supporting our frontline troops in current and future operations for decades to come."

The versatile Chinook can transport up to 40 men or 10 tonnes of cargo and is providing vital support to forces in Afghanistan. The new Mk 6 will feature a cutting edge digital flight control system making it easier to operate in the most difficult conditions, including the hot and dusty environments encountered in Afghanistan.

The RAF will receive the first aircraft for initial trials and testing in 2013 and it will enter service in May 2014 making an immediate contribution to the flexibility of the UK Chinook capability. Delivery will be complete by the end of 2015. Three helicopters will be ready for operational

deployment in early 2015 and all 14 will be fully operational by early 2017.

Chief of the Air Staff, Air Marshal Sir Stephen Dalton, said: "Chinook has proved itself time and again in many operational theatres across the globe and is the backbone of the RAF's helicopter fleet.

"This procurement will significantly enhance our battlefield helicopter capability and alongside our other rotary wing platforms, the additional Chinooks

will sustain the RAF's world renowned support helicopter capability. This procurement will cement the role of the RAF's highly professional and committed support helicopter aircrew and ground crew at the heart of delivering decisive air power."

Vice President and Managing Director of Boeing Defence UK Mike Kurth added: "Boeing has a long-standing and growing relationship with the United Kingdom, its military and its



ift

Main picture: Chinooks on the front line have to operate in the toughest of conditions

Facing page, above: Defence Secretary Dr Liam Fox announces the new Chinook contract at RAF Odiham

Facing page, below: an RAF Chinook carrying a Medical Emergency Response Team is pictured extracting a member of the Afghan Police injured in an IED strike in August

aerospace industry and we are especially honoured by the confidence the RAF has shown in the Chinook. We feel a special kinship with the RAF crews because our employees are working shoulder to shoulder with them to deliver capability to the front line."

Following the announcement Dr Fox was given a tour of existing Chinook helicopters at RAF Odiham and spoke to crews who have recently returned from Afghanistan.



World leading potential: Foxhound is potentially a world leader in lightweight protected patrol vehicles. Right: Defence Secretary Dr Liam Fox sees a range of vehicles on a visit to Salisbury Plain



Fuelling the UK's export drive

The UK defence and security industry is a real success story with small businesses who are world leaders in cutting-edge technology as its lifeblood. Defence Secretary Dr Liam Fox argues that export potential has been ignored in projects for the UK's own use. This must change

Just as we take pride in the job that our Armed Forces do, it is right that we take pride in those in industry who support them and provide the tools that keep us safe.

From those who research and design solutions that may well save lives, to those who engineer, produce and support equipment and capabilities too.

It is not only that this maintains over 300,000 jobs across the country – in all parts of the United Kingdom. It is not only that this pays around £2 billion a year in taxes to the exchequer and a £35 billion contribution to the wider economy.

All this helps to ensure our Armed Forces and those of our allies and partners are equipped, armed and supported in operations that protect our national interest and give many people in many parts of the world new hope.

The UK defence and security industry is a real success story. Last year the UK maintained its position as the second largest exporter of new defence products and services winning almost £6 billion of new defence orders and increasing its share of the global defence market to 22 per cent.

Additionally, security exports grew too by eight per cent to £2 billion fuelled by the 9,000 companies and 140,000 people in the UK who work hard to bring new, relevant and innovative security products to market.

The British success story is not just about global prime contractors; it is about the small businesses who are world leaders in cutting-edge technologies; they are the lifeblood of the industry.

This is about family-owned companies like Tinsley Bridge Group in Sheffield who worked with BAE Systems to produce suspension on Warrior vehicles that provides mobility and protection.

It is about companies like Cambridge Design Partnership who have designed a lightweight integrated oxygen concentrator that helps medics administer life-saving treatment – this is technology not just for the front line, but for search and rescue operations, disaster relief and civilian ambulances.

Technology transfer works both ways – the new Foxhound light patrol vehicle incorporates technology developed in Formula 1 racing. The British engineering solutions found in some of the most advanced racing cars in the world can be found in some of the most advanced military vehicles in the world.

This innovation means that Foxhound has the potential to be a world leader in protected mobility and will be deployed to Afghanistan next year.

But in the new environment, businesses, both big and small, will have to continue to adapt to be successful.

Government is going to be a tougher, more intelligent customer – it needs to be. The pressure on the public purse means that now, more than ever, value for money for the taxpayer must be demonstrable.

Value for money is not about compromising your defence aim or compromising business viability, it is about realising those aims in a way that is sustainable for both customer and

supplier. That balance has not always existed in the past.

As a measure of our determination to redress this and as part of Defence Transformation, the MOD has been conducting a programme of contract review and re-negotiation affecting up to 500 contracts with a value of £8 billion.

And the new Major Projects Review Board brings much needed market pressure into the process of ensuring projects are proceeding on time and on budget.

Profit is not a dirty word, but neither is competition or value for money or 'off the shelf', or as I prefer to call it 'barcode procurement'.

Now I know that our contractors have demonstrated great flexibility to meet the requirements of operations. This has demonstrated to me the terrific capability that can be generated from within the UK's industrial base and by our overseas suppliers in a time of need.

This is the behaviour and the outcomes we need to have in all our dealings.

Industry does not need handouts, nor will it get them. Industry looks to Government to be clear in defining its needs, consistent in its application of policy and transparent in how business is done. That is what we are delivering.

We have consulted widely and intend to publish our policy approach in a White Paper before the end of the year. But also crucial to success is the quality of product and the export potential.

The UK Defence Survey published by ADS suggests that export sales last year amounted to more than 40 per cent of total turnover. For too long export potential has been ignored when initiating projects for the UK's own use; that needs to change.

Exportability needs to become ingrained in the requirement setting, commissioning and production processes, because only through

exportability can risks and costs be shared in a viable way.

The best way to sustain UK defence and security jobs in the long term is to widen the customer base through enhanced defence exports.

The MOD and industry working together can be at the forefront of an export led growth strategy.

We also must recognise and understand the needs and priorities of our allies and partners.

Successful export is not just about selling equipment and capability; increasingly success is based on the ability to create joint ventures with the excellent industries that exist among many countries.

Quite rightly sovereign nations wish to have indigenous defence industries,

perhaps not all-embracing, but which play to individual strengths and areas of expertise.

We should be looking at these as opportunities for our industry to grow and for Government to deepen and strengthen partnerships.

The Armed Forces of the United Kingdom are among the best equipped in the world, funded by the world's fourth largest defence budget.

The cutting edge technology they are able to call on gives them a true advantage on the front line – it protects them, it informs them, and ultimately it provides them with precision offensive capability to deliver battle winning effect; it has been tried and tested on operations in some of the most demanding environments in the world.

We are reminded in the long shadow of the terrible events of 9/11 that security does not exist unless it is created. As the world changes around us, the adaptability of our defence and security forces will be key to keeping our citizens safe, and the strength of our economy and the innovation of our industry will be key to national success.

Success is based on the ability to create joint ventures with industries which exist among many countries



Formula for success: a Formula 1 Lotus. The new Foxhound vehicle incorporates technology developed in top class motor racing.



Breathability & Durability Key to GORE-TEX® Success



GORE-TEX® products are trusted by military personnel throughout the world for class-leading comfort and durable protection. In the second of a series of articles about military supplier Gore, we explain the importance of breathability in ensuring GORE-TEX® products' position as a world leader.

"Our products do what we say they will do" are the words of Bob Gore, chairman of the Board of Directors, W. L. Gore & Associates, Inc in summarising what makes brands such as GORE-TEX® so well renowned across the world. The reputation GORE-TEX® products hold within the military come from a class leading combination of highly durable, waterproof protection that is also highly breathable for maximum comfort.

Breathability

Breathability is an industry standard term that can be simply defined as the ability of a waterproof textile system to permit the transport of moisture vapour from the inside of the garment to the outside environment, so allowing the sweating function to effectively regulate body temperature and help the wearer to stay dry.

There is only one international standard for breathability focussed on physiological effects – ISO 11092. This test method provides quantifiable results which have been correlated to human subject comfort, allowing objective comparisons to be

made between fabrics. ISO 11092 is a key test used by NATO in ACCP 1 (allied combat clothing publication) which covers heat transfer and physiological evaluation of clothing. Both documents are referenced in STANAG 4364 which covers waterproof clothing. Results are reported as evaporative resistance (Ret). The lower the evaporative resistance, the higher the 'breathability' and the greater the potential for transport of moisture vapour out

Rating	Ret [m2Pa/W]
Extremely Breathable	<6
Highly Breathable	6 to 13
Satisfactory	13 to 20
Unsatisfactory	>20

of the garment. The more moisture vapour you can transport, the more heat you can lose and the better you can control your core body temperature, allowing you to work longer, more safely and more effectively in challenging environments.

The Hohenstein Institute is the internationally recognised textile research centre that developed the following classification system for evaporative resistance.

GORE-TEX® fabrics are classified as Highly Breathable or Extremely Breathable.

Durability

One of the many benefits of using GORE-TEX® fabrics in a garment is that they

continue to transport moisture vapour in a wide range of environmental conditions. Testing conducted by the independent test house EMPA shows that GORE-TEX® laminates continue to breathe effectively in cold and wet conditions. This test data supports numerous studies conducted by the clothing comfort scientific community over the past 15 years.

Garment design is also critical to garment performance. This is why every GORE-TEX® Technical garment is constructed with great attention to detail and quality. Every garment supplier is licensed, every clothing factory is certified and every garment style is tested and approved by Gore to ensure waterproofness of every garment.

There is little value in having a high performance waterproof garment if the performance level cannot be maintained throughout the life of the garment. GORE-TEX® garments use a patented membrane technology to provide durable waterproof protection without compromising breathability. A microporous layer of specially treated ePTFE membrane provides protection from water entry while resisting contamination from sweat, body oils, insect repellents, detergent, petroleum and other lubricants, allowing the garment to retain its breathability and perspiration to escape. GORE-TEX® military garments are developed to withstand twenty home laundry cycles and still conform to high requirements in terms of waterproofness and breathability

Military Commitment

Durable and reliable weather protection and a high degree of wearing comfort, even under the most difficult conditions, are what the GORE-TEX® brand has meant for three decades to purchasers and wearers of high-performance clothing worldwide. All the measures taken by Gore across the entire value chain serve to make GORE-TEX® products "fit for use".

For further information go to www.gore-workwear.co.uk

Achieving value for money – how much does it cost?

The term 'value for money' has become a mantra in the current financial climate. Organisations of every type, size and shape are attempting to measure their operations to ensure that their output justifies their costs, writes **Hugh Toler of Allocate Software Defence team**.

The MOD and the three single services are no exception and a huge effort is underway to obtain better value for money from existing forces or, in some cases, from reduced force levels. Additionally questions are posed over how adjustments to training and other activities might impact on the resulting capabilities.

For example, how do commanders measure the value of intangibles such as morale or esprit de corps, which count for so much but are hard to quantify in cash terms? Finding direct evidence to support their value can prove a major problem.

Often, poor retention is cited as evidence of low morale, but raw figures alone do not reveal the full cost of replacing trained personnel, particularly the competences gained by those individuals over time. It needs sophisticated methods of data capture and manipulation to identify those costs, audit the source of the data and present the consequences or outcomes.

Advertisement feature

Historically, determining the costs of military capability has been more straightforward for 'platform based' Navy and Air Force. Established crewing levels and running costs, and capabilities such as flight range, steaming time or terminal effect can all be measured and expressed in a way that is more understandable to the wider community.

By contrast, land forces have faced a different challenge. In many cases, future training budgets were calculated by taking raw historical data. While this method produced sufficiently accurate figures for a macro approach, it did not offer the level of detail required today.

In 2008 Headquarters Land Forces introduced an application from Allocate Software to take inputs from each unit and give commanders at all levels an accurate, real-time record and forecast of consumption of assets, ranging from ammunition and vehicle usage to man training days and telecommunications bandwidth.

Simple templates provide for the full spectrum of resource-consuming activities,

from a rear party families' day to a full scale Divisional field training exercise, all integrated into a single system to ensure that data is re-used and duplication avoided.

Users are also able to apply fiscal constraints on planned activities that exceed budget availability and, by implication, curtail the cost of those activities. This application also draws up-to-date data from a range of other personnel and equipment databases further reducing duplicative effort.

Following the principles of Agile Development, delivery of this application (MAPS Defence Suite) has been conducted over 12 phases and work continues to adjust and extend functionality to meet new and changing circumstances. In this way Headquarters Land Forces has minimised costs while ensuring the needs of the customer are met in the most timely and effective manner.

As a result of this phased acquisition approach, coupled with the in-depth understanding derived by Allocate Software personnel from years of working as a long standing partner of the defence organisations across the globe, Headquarters Land Forces continues to realise savings that far outweigh the value of their Allocate Software Defence Suite investment to date.

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Protector takes another step on the journey south

THE ROYAL Navy's new ice patrol ship *HMS Protector* has completed a further step in her transformation process in preparation for her Antarctic deployment next month.

The Portsmouth-based ship – which recently made a first visit to Devonport – has been fitted with Mark 44 mini-guns and General Purpose Machine Guns, a multi-beam echo sounder for hydrographic surveys, Pacific 22 sea boats and cradles, a number of communication antennae and the Fleet navigation system Warship Electronic Chart Display Information.

Most of the work was completed by contractors but the ship's company has also been instrumental in taking on tasks to ensure that *HMS Protector* remains on track for her winter deployment.

The ship, formerly the ice-breaker *MV Polarbjorn*, has been leased on a three-year contract

HMS Protector



from Norwegian company GC Rieber Shipping. She was designed and built in 2001 as an Antarctic research ship.

The long-term future of her predecessor *HMS Endurance* is still being considered. Currently the survey ship *HMS Scott* helps

to maintain the Royal Navy presence in the South Atlantic but does not have the ice-breaking capability of *HMS Protector*.

Operational Sea Training in Devonport off the south western coast will be completed before her deployment.

NEW POLICY on DE&S Gatekeepers – subject matter experts on common equipments – is available on the Defence Intranet.

Gatekeepers are embedded in project teams to identify standardisation opportunities to avoid uncontrolled acquisition of new

Gatekeepers oil project wheels

equipment and services.

Gatekeepers manage acquisition and support of common equipments, components and services and help develop support solutions.

Projects are required to undertake standardisation by engaging with Gatekeepers where appropriate.

Further information from Martin Ellacott at DESJSCSCM-ENGLS-PC5@mod.uk or tel: 030 679 82686.

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Compasses set to head off in a new direction

A NUMBER of historic compasses have been donated by the MOD to the National Maritime Museum at Greenwich.

The compasses were held at the MOD magnetic signature measurement facility at Portland Bill, one of a number of MOD Test and Evaluation Sites operated by QinetiQ as part of a long term partnering agreement.

The test room at Portland Bill was built in 1993 and is an improved version of the 'magnificent magnetic test room' built at the former Admiralty Compass Observatory at Slough in the late 1960's.

Location of compass test rooms is a crucial consideration; the original rooms were situated in Greenwich until magnetic disturbance caused by electric trams and trains forced the facilities to move to Slough.

One donated compass has a unique history in that it was the first to be manufactured at the newly-opened Slough facility in 1914.

This compass is also a fine example of a historically significant type that was first designed and developed by the 'Compass Committee' in 1840.

This type of dry card compass with a thick copper bowl, designed to calm the oscillations of the needle, was still in operational use more than 100 years later.

Donation of the compasses was agreed between DE&S Finance and the Disposal Services Authority.



Above: Ian Watson from DE&S' Test, Evaluation, Services and Targets team and Barry Joplin, QinetiQ Site Manager at Portland Bill, are pictured beside the Admiralty Pattern One standard compass on one of the original compass test stands from the 1917 test room

Acquisition training on the move

FROM next January acquisition training delivery will move temporarily from Admiral House in Bristol to Foxhill in Bath, returning to Bristol in late 2012/early 2013 under the Bath Accommodation Project.

To enable relocation the current training programme only schedules courses until mid-November. From then until the end of December delegates should continue to register for acquisition courses by contacting defac-cmt-ab-br-enquiries@mod.uk. Information such as name, course(s) required, staff number and contact details should be provided. Where numbers necessitate, additional courses will be scheduled.

If any Acquisition Training Sponsor has an urgent business requirement for their specific courses to be scheduled they should contact the Acquisition Business Development Manager (defac-cmt-ab-br-bd@mod.uk).



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www.millbrook.co.uk/military



How to keep up with maritime law

HELP IS at hand for DE&S staff and contractors to keep pace with maritime environmental legislation.

Pace and scale of changes to legislation has made it difficult for the MOD to predict, influence and respond to future legislative requirements.

The Ship Safety Management Office has procured a Legislation Database hosted on the Naval Authority System (NAS) – a BMT web application.

The database is available free of charge to all MOD staff and contractors working for the MOD. It contains international, EU and UK legislation, regulations and conventions as well as capturing foreign national environmental legislation.

The database also incorporates relevant MOD policies where these affect how environmental legislation is applied to equipment or activities.

For those with an interest in specific maritime environmental areas, automated alerts are available via DII to keep users up to date with changes to the database in their chosen field.

Request access to the database (requires DII or RLI access) by e-mailing BMT at NAS@bmtdsl.co.uk. Additional information Helen Farhall or Liz Hankey at SSMO, Sarah Whittaker of BMT ISIS or Rod Jones of CESO(RN).

Forum will help soldier teams

DE&S HAS launched a forum for stakeholders to discuss issues relating to the dismounted soldier.

The Shared Working Environment is available to MOD stakeholders, industry and academia.

It is provided by the Integrated Soldier System Executive (ISSE) team, part of the Individual Capability Group at DE&S.

The team is part of the assurance process and seeks to ensure that no project delivers capability onto the dismounted soldier without the team's assurance.

The forum will contain a discussion board and information on all factors affecting the dismounted soldier and equipment.

Users can access the future soldier system architecture, interface control documents, details of equipment trials, data on equipment weights and configurations carried on Operation Herrick deployments.

The forum will be regularly updated. Access is free to MOD users and available through the DES DII Homepage, the ICG DII Homepage or the Web. More info: Nigel Davies at DES LE ICT-SSA-SysEng or on 9352 80240.



Above: activation of JAMES takes place with mentoring by a member of the JAMES activation team at 104 FS Battalion, Royal Electrical and Mechanical Engineers in Tidworth

THE LATEST phase of a computer IT system to track all UK military equipment from vehicles to weapons and radios has been successfully rolled out to a UK training unit in Canada.

And planning has begun on extending JAMES – the Joint Asset Management and Engineering Solutions programme developed by Lockheed Martin – to theatre-wide assets in Afghanistan. The system builds on a previous one introduced six years ago and is easier to use to track and monitor millions of pieces of kit.

The first batch of units for JAMES phase two have now been activated, including the British Army Training Unit Suffield in Canada. The training area has the largest operational vehicle fleet in the MOD with

huge use during training. It is a big challenge for an IT upgrade still in relative infancy.

The JAMES Unplugged Device (JUD), the ruggedised notebook-tablet hybrid providing functionality while away from a DII(F) terminal, has given rollout a major boost. Devices take a 'cut' of the main system with users carrying out regular updates between themselves and the mainframe, often by USB stick or more secure communications like Bowman.

Sgt Paul Mears of JAMES' implementation team said: "Put to the test by four separate units, plus BATUS main headquarters, the biggest problem, as with any new system, was user knowledge and experience.

"This has been a simple issue to overcome thanks to

the presence of the activation teams via further teaching and mentoring during the deployment process."

JAMES' next test is next year, following a recent recce by staff to Afghanistan. Timescales for implementation will need to be decided with busy operational sections having the added burden of confirming data integrity on thousands of deployed assets while implementing the new system.

"These issues as well as many others make implementing the new system very complex," said Sgt Mears. "However, with more units coming on line every day and the personnel mentored appreciating its many advantages, a little time and planning will see the challenges met head on and overcome."



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On track – new system to keep Scout out in front

A NEW system is to be trialled which will allow armoured vehicles to continue operating despite taking heavy battle damage.

Demonstrations have been launched of the Platform Core Infrastructure System (PCIDS) to be installed in the Scout Specialist Vehicle, a tracked reconnaissance vehicle for the British Army of the future.

PCIDS will handle power and data infrastructure of the vehicle, keeping it going in all environments and in all weathers, day and night.

It is intelligent, highly durable and automatically reconfigures to keep data and power flowing and the vehicle operating, even if it is damaged and parts of the system destroyed.

The system will replace heavy cables and use high capacity fibre optics and switch nodes rather than wiring looms to power the vehicle's sub-systems. It will take integration of mission systems like Bowman communications, electronic countermeasures and sensors to new levels.

And it will free up space which can be reused for crew comfort and extra mission kit.

Although Scout SV is designed to collect information undetected, it is well equipped to fight and escape. PCIDS' ability to sustain damage and still allow the vehicle to work will be essential. Older vehicles can be disabled by cable and wiring faults.

General Dynamics UK, Scout SV's prime contractor, has registered PCIDS with the International Patent Office, keeping design intellectual property in the UK.

Major General Carew Wilks, DE&S Director Land Equipment, said: "Modern open plug and play electronic architectures are vital enablers to ensure flexibility of user control as well as changing asset management opportunities through inevitably long lifecycles.

"I am very pleased to see Scout SV make so much progress in transformational architectures and I congratulate GDUK on its achievements to date in its PCIDS technology designs on Scout SV. It is particularly good to see new patent applications being filed in the UK on PCIDS rather than overseas."



The PT3 mule is pictured after being joined with its turret

Turret helps Scout take shape

THE FIRST test vehicle of the Scout Specialist Vehicle's reconnaissance version continues to take shape.

The experimental demonstration unit turret was successfully joined to a 'mule' base platform at the first attempt last month.

The vehicles are being procured for the British Army by DE&S' Combat Tracks Group in partnership with prime contractor General Dynamics UK. Lockheed Martin UK is the design authority for the turret.

"Mating the turret and base unit at such an early stage of the demonstration phase once again demonstrates our dedication to working towards delivering the Scout SV capability to the British Army as soon as is possible," said Dr Sandy Wilson, president and managing director of General Dynamics UK.

Scout will provide a common base platform to support all variants such as an armoured personnel carrier, protected mobility vehicle and repair and recovery vehicles.

The mule base unit, known as PT3, is based on a mature Ascod vehicle already in service with the Spanish and Austrian armies.



Right: the first Scout SV hull
Above: an image of the the finished article

Staff put to the test at exhibition

THE LEADING sectors and stakeholders of the UK's Training and Simulation/Evaluation and Test (TSET) community will meet at a two-day conference next month.

Staff from Abbey Wood, MOD Main Building, Flight Test School, Warfare Centres, Aerosystems course, Front Line Commands, the Home Office and Police are expected to attend on 8-9 November at the University of West of England in Bristol.

The conference will focus on the Defence Training, Simulation and Infrastructure Change Programme and engagement with other sectors including, automotive, transport, energy and health.

For details on the event and VIP speakers contact Kelly Wyatt (Kelly.wyatt@adsgroup.org.uk) on 0207 0917815.

Capability keeps agile

ADVICE ON cheaper and faster upgrades to equipment during its lifecycle is available on the internet.

The need for this capability agility arises as changes in threat, theatre, regulation, rules of engagement and component availability (obsolescence), develop.

The programme's objectives are at www.capability-agility.co.uk with more information from Nick Hales of DE&S' Programmes and Technology Group.

An Apache awaits refuelling on Salisbury Plain as a Merlin hovers above



JHC reigns on the plain

Support aircraft for the next Afghan deployment have been impressive in Wiltshire. DE&S' Press Officer Tim Lewis saw the Joint Helicopter Command's latest support exercise

MILITARY HELICOPTERS became an even more familiar sight than usual over Salisbury Plain as the Joint Helicopter Command took part in a major pre-deployment exercise for Afghanistan.

Exercise Pashtun Jaguar was designed to support the forthcoming deployment of Germany-based 20 Armoured Brigade, and included the embedding of JHC staff in the Brigade HQ to build relationships that would pay obvious dividends in reinforcing the close collaboration essential in theatre.

More than 400 JHC personnel and a range of helicopters took part in the four-week exercise, at Netheravon Airfield.

Three key categories of mission were being exercised, summarised as Lift, Strike and Find. A variety of tasks were undertaken, including insertion and extraction of troops using Chinook, Merlin, Sea King and Lynx, reconnaissance missions carried out by fixed wing and Desert Hawk UAV assets in addition to Apache, Lynx and Sea King, and attack sorties employing Apache and Lynx.

A Chinook training fuselage was employed to allow troops to practise embarking and disembarking without the need to take a real aircraft off flying tasks.

Casevac operations using Chinook were also practised, with rapid response times a key target, aiming for a maximum of 15 minutes during daytime and 30 minutes at night to get missions airborne.

Colonel Neil Sexton, the JHC's Assistant Director of Operations, said his team had engaged with 20 Brigade from an early stage: "We used study days, planning exercises and capability

demonstrations to ensure they understand how best to use the helicopters. Used properly it will be a great help in achieving their aims."

While conditions on Salisbury Plain clearly didn't match those found in theatre, the size of the training area enabled a layout aimed at replicating in outline the huge military base at Camp Bastion in Afghanistan, where the majority of the helicopters involved will be based.

There they will be fully integrated with US Forces but flying a high proportion of taskings, including a role in escorting Afghan Air Force helicopters when required.

The scale of the exercise can be gauged by the supporting statistics provided by JHC, which predicted more than 1,500 hours of flying and nearly 45,000 meals served to personnel housed in 100 tents served by 50 portable toilets!



Weapons trainees earn their spurs

VICE-ADMIRAL Andy Mathews (above), Chief of Materiel (Fleet) at DE&S, has presented deeds to 33 apprentices who have completed training at the Atomic Weapons Establishment.

The Vice-Admiral said maintaining a credible nuclear deterrent demanded cutting edge science and engineering. "But above all it requires the very best people, trained and developed to be at the forefront of their respective fields and applying the highest standards to their work." He added: "That is why MOD and AWE have invested so heavily in skills and training, and why events such as this are so important."



Skynet 5
Picture courtesy of Paradigm

Skynet 5D – staff take a tour of the next DE&S satellite

Latest Skynet makes comms more flexible

APPROVAL FOR a fourth Skynet 5 satellite was the result of a year's work between the MOD and Paradigm.

Peter Lymn, Skynet 5 project lead, said: "Launching a satellite is a risky operation and hence insurance is an issue. It is common practice to have spares made available to allow construction work to continue should any defects be found.

"Delays to any launch can be very expensive and it is cheaper to purchase more items than may be needed to keep projects on track. Since 5A, 5B and 5C launches all went well the spares are in effect available – space travel has not yet got us to the stage where we can replace bits on a live satellite in space!

"With the growing need for more bandwidth, notably UHF, and the balance needed to maintain a globally capable constellation with the high bandwidths from increasingly complex operations centred geographically, a decision was taken after much investigation and discussion to proceed with another launch.

"This agreement has also extended the Skynet 5 Private Finance Initiative through to 2022 to offset the significant investment Paradigm has made and the risk being carried with the launch. Skynet 5D will give the MOD greater operational flexibility and support Paradigm in its third party marketing work."



Members of the Beyond Line of Sight team take a closer look at the next Skynet satellite

MEMBERS OF the newly-formed Beyond Line of Sight (BLOS) team have visited the Skynet 5D satellite, due for blast off into space towards the end of next year.

The team, part of the Networks team in Information Services and Systems (ISS) in Corsham, saw the satellite nearing completion at Astrium's main manufacturing and testing facility in Portsmouth.

The satellite will be taken to France for final integration work before its launch from French Guyana. It will come into service in 2013, around 36,000 km above the earth.

The BLOS team sustains global communications supporting deployed forces and overseas sites through £5 billion worth of Private Finance Initiative/Public Private Partnership arrangements over the next 15 years with Paradigm Services.

Reorganisation merged the project delivery and in-service staff into a capability team. Colonel Neil Fraser, who heads the BLOS team, said: "Creating a single team in ISS makes better use of a small pool of subject matter experts and means we are better placed to deal with the ongoing resource challenges."

In addition to military satellite comms the team also delivers the WelComE welfare services for the front line.

Skynet 5D is a key part of the improvement strategy, which will benefit operations. The MOD's X-Band and UHF-Band satellite communications are provided by Paradigm through a PFI arrangement under which they operate three Skynet 5 satellites known as 5A, 5B and 5C and four older Skynet 4 series satellites (including the Nato 4B satellite which was recently transferred into the PFI).

Trevor McMaster, the team's lead for assurance of Skynet 5D, said: "Taking the military staff, who understand the delivery of the user terminals and what the reality is of communications on operations, and the commercial and finance staff that support us to let them see the reality of engineering for the harsh demands of space was well worth the time."

Rock around the block!

Workers track centre part of carrier on trail round Scottish coast . . .

DE&S CYCLISTS have done their bit to raise cash for charity while chasing a huge part of the first *Queen Elizabeth* aircraft carrier around the coast of Scotland.

Staff from the Aircraft Carrier Alliance took five days to cycle the 500 miles to beat the sea-travelling Lower Block 03 of the carrier from Glasgow to Rosyth – 40 cyclists on the full route, another 35 taking part in shorter sections.

Cyclists left Glasgow on 16 August, stopping overnight in Fort William, Elgin, Peterhead and St Andrew's before beating the block to Rosyth on 20 August.

The route was not without its difficulties – bike failures, torrential rain, midges, aches and pains – but all carried on, some making it from Fort William to Elgin in less than seven hours.

Commodore Steve Brunton, Head of Capital Ships at DE&S, and his wife were at the finish to welcome the cyclists into Rosyth.

He said: "An incredible feat was undertaken and successfully completed by these cyclists. I was very impressed with their commitment and enthusiasm as well as the fitness and endurance it took to



Home straight: cyclists reach Rosyth, above, while, below, the cash is handed over



complete the journey to 'Beat the Block'.

"My wife and I were in awe of the outstanding journey they completed, especially as they were all in very good spirits, albeit a little tired and sore! I am delighted with the amount of money raised for the Royal Navy and Royal Marines Charity as I know it helps to provide a better quality of life for serving and former personnel."

A £10,000 target has already been beaten – £15,000 has been pledged – with the final amount likely to be close to £20,000.

Support from the public and local businesses along the route was overwhelming. Lee Corletto described the

ride as 'the chance of a lifetime' and Richard Bundy said it was 'an amazing experience'. Cyclists are now talking about a repeat when Lower Block 2 moves to Rosyth.

. . . while this 'carrier' makes rapid speed round Bristol



TWO MEMBERS of Abbey Wood's Capital Ships team have raised more than £500 for the Royal Navy and Royal Marines Charity by running the Bristol Half Marathon – dressed as an aircraft carrier!

Russell Montgomery and Angelina Bell (pictured left), accountants on the *Queen Elizabeth* carrier project, came up with the novel way of helping the charity to support Naval personnel and their dependents who are in need or suffering hardship or distress.

The pair completed the 13.1 mile run, which attracts up to 15,000 visitors a year, in under three hours.

Finance Manager Russ said: "The first six or seven miles weren't too bad but towards the end the costume did become a bit on the heavy side and stability was an issue. Making the costume out of plywood seemed a good idea at the time!

"Despite this we're pleased that we managed to complete the course, even with Angelina kicking me all the way round. But we would like to thank our colleagues and friends who sponsored us. Building the carrier certainly put our DIY skills to the test but we feel we managed to achieve a fairly reasonable likeness to those currently under construction!"

Donations are still welcome at <http://uk.virginmoneygiving.com/team/strikeltLucky4>

Ian joins the Ultra marathon heroes

IAN HARRYMAN is back at Abbey Wood nursing a few large blisters after completing nearly 10,000 metres ascending the peaks of Mont Blanc's Ultra Trail.

Ian, of DE&S' Safety and Engineering, was looking to improve on his last tilt at the 170-kilometre event through three countries – a 2009 effort which ended with

his collapse at 74km.

This time there was to be no mistake with his successful finish in Chamonix, having climbed and descended 9,700 metres in 43 hours 50 minutes, more than two hours inside the allowed time.

The run, which began five hours late due to bad weather – “it just added another five hours until you could sleep again,” he said afterwards – took place in varied weather, from fog and low cloud to thunder and lightning, with snow on the higher peaks.

Ian was fortified on his trek in a

field of 2,300 runners by cereal bars, soup, biscuits and stale bread all washed down with Coke and coffee. Food was provided at various points on the course

This year he was more focussed on his running. “The last time I was here I was in a whole world of pain, completely blown away by the climbs, hallucinating and feeling very sorry for myself,” he said.

“This time I felt much better, feeding well, and being able to see (I took my glasses off during the night because of the rain on the lens) made a big difference; also little things like resting my poles against an electric fence and giving myself a shock which woke me up and made a French guy laugh!”

Ian was met by wife Maria, who also works at Abbey Wood, as he crossed the line in Chamonix.

Ian has raised around £500 so far for CLIC Sargent. “It is the hills that kill you and seeing that I struggle to get a 200-metre climb in Wiltshire I don't think I did too badly” he said. “I think this is the best race I have ever done, but I have made a promise to Maria that I won't be back next year.”

You can back Ian at <http://uk.virginmoneygiving.com/ianharryman>

DSRA LOTTERY WINNERS – JULY
£10,000: David Lucas (Braintree); **£5,000:** Victoria Jones (Bicester); **£2,000:** Kim Brindley (Thornton-Cleveleys); **£1,000:** Charles Porter (Hull); **£500:** Andrew Fox (Abbey Wood); **£300:** Thomas Connell (Yeovilton), Philip West (Northern Ireland), Norman Marshall (Helensburgh), Mahendra Dhokia (Northolt); **£200:** Robert Rigby (Donnington), Bankole Abiwon (London), Margaret Tindall (London), George Reid (AWE), Sara Huntingdon (Abbey Wood), Francis Rodgers (Holywood), Antony Lane (Plymouth), Joanne Saddington (Wolverhampton), Derek O'Driscoll (London), Paul Wood (Glen Douglas), George Todd (Vector); **£100:** Sivaneson Balakrishnan (Andover), Samuel McCafferty (Andover), Martin Skinner (London), Lisa Birch (Aldershot), Alexander Critchell (Bovington), Nalinkumar Mistry (Bath), David Tyrer (PPPA), David Reeves (Foxhill), Wayne Jones (RAF Waddington), Mary Jubb (QinetiQ), Kelly Harvey (Dstl), Karen Timms (Feltham), Kate Thorns (Portsmouth), Alison Thompson (RAF Cranwell), Philip Doyle (Abbey Wood).



Before and after: a wrapped-up Ian, top, and enjoying a beer afterwards, above

DINs - released this month

Defence Instructions and Notices (DINs) are defence-wide instructions, guidance and notices for military and civilian staff, containing up-to-the-minute information to help people carry out their duties. Some of the latest issued on Defence Equipment and Support are:

2011DIN04-135: This informs units of new, revised and cancelled equipment tables, scales, schedules and special tools and test equipment scales which have been printed and distributed by SCM (SCO) to the relevant sponsors. Copies of scales, schedules and special tools and test equipment scales can now be obtained through the Defence Intranet.

2011DIN04-133: Historically, recertification of life-expired lubricants was conducted as part of the Analytical Support Contract let by the Defence Fuels Grup. This is now maintained and monitored by Defence Fuels and Food Services. Lubricants may have a shelf life of up to five years. MOD customers may hold batches of different ages but are to manage and rotate stocks so that all is consumed before its expiry date. Historically, customers have rotated their stocks so well that less than one per cent of stock per annum was considered for recertification and possible extension of shelf life.

2011DIN04-130: This DIN contains the arrangements that will be in place to support the Type 45 destroyer *Dragon* through her acceptance off contract to her in-service date stage 2 trials programme.

Further information and more details on the latest DINs see:

<http://defenceintranet.diiweb.r.mil.uk/DefenceIntranet/Library/CivilianAndJointService/AtoZ/DinsIndex2011.htm>

Going the extra mile – DE&S team saddles up on west country charity ride



Journey's end: cyclists are welcomed to Abbey Wood after their ride from Devonport

STAFF FROM DE&S Ships went the extra mile to support one of their colleagues and to raise cash for a Bristol hospital.

Civilian and Royal Navy staff from Abbey Wood and Devonport cycled the 155 miles from Plymouth in two days, with an overnight stop at Taunton, to arrive at Abbey Wood on 31 August.

Money raised from the event will help charity Above & Beyond raise funds for the Bristol Haematology and Oncology Centre, where team colleague John Wedeman is being treated. The charity raises cash for all nine hospitals in the central Bristol area.

"John is a truly valued colleague and friend and lots of people from across the business wanted to do something to make a difference," said Kevin Barry of DE&S Ships.

"When we asked John and his wife who they'd like us to fundraise for they chose the Bristol Haematology and Oncology Centre where he's being treated. We're delighted to be able to help support such a worthwhile cause."

Lorna Clarke of Above & Beyond added: "Kevin and the team have put a huge amount of effort into organising this event – and that's before they set off to cycle 150 miles!"

"Their passion and commitment to raising funds for the Bristol Haematology



and Oncology Centre is amazing. We are incredibly grateful to the MOD team from Abbey Wood and their Plymouth colleagues for their fantastic support."

Cyclists were welcomed on arrival at Abbey Wood by John's wife, along with charity and work colleagues.

Team keeps on shining at Niteworks partnership

FIVE DE&S staff have been commended for their contribution to Niteworks, an innovative partnership between the MOD, the Defence Science and Technology Laboratory (Dstl) and industry.

The team – three civil servants and two military advisors – are members of the Systems Engineering and Integration Group at DE&S.

They are responsible for managing day-to-day activities of the Niteworks partnership on behalf of the MOD, and ensuring projects are informed by military subject matter expertise and operational experience.

The efforts of George King, Dave Pilbeam, John Antill, Wg Cdr Grant Philip and Major Kevin Galvin were recognised during a ceremony at Niteworks' headquarters in Farnborough.

They were presented with



Howard Mathers and 2nd PUS Jon Day (centre) with members of the Niteworks MOD team

certificates of commendation by Howard Mathers, Director Safety and Engineering at DE&S.

The team was also congratulated by Jon Day, MOD's Second Permanent Under

Secretary, who was visiting Niteworks.

Mr Mathers said: "I was delighted to have the opportunity in the presence of 2nd PUS and the team's industry partners

from Niteworks to recognise the hard work the MOD team has performed in support of defence outputs over the past 12 months, under challenging conditions.

"The reputation of the Niteworks MOD team is widely recognised as an excellent example of Defence Values for Acquisition."

The Niteworks partnership has continued to go from strength to strength over the past 12 months, completing more than 60 projects including in the areas of Air ISTAR, Training and Simulation, C-IED and Dismounted Close Combat.

The partnership allows the MOD to rapidly access the latest subject-matter expertise collaboratively and, more importantly, impartially from industry to inform capability decisions and support current operations.

It's a dog's life for Clyde's charity swimmers



A CHARITY which provides specially trained dogs to help people with disabilities – including members of the Armed Forces – has been boosted by more efforts at Clyde.

A team from the base's First Mine Countermeasures Squadron (MCM1) completed a 22-mile swim of Loch Lomond for charity on 1 September.

Led by MCM1's Commanding Officer, Commander David Bence, the swimmers began at 6am at the northern tip of the loch near Ardlui, ending 12 and a half hours later at Lomond Shores in Balloch.

The team tackled the loch in relays, with all

swimmers jumping back into the water for the final leg and to touch dry land at the finish line.

Last year the squadron ran and cycled more than 13,000 kilometres for Canine Partners, the distance from Clyde to Bahrain where they were stationed at the time using the gym on board *RFA Lyme Bay*.

Early indications are that the team has gathered more than £4,000.

Canine Partners provides dogs to help people enjoy greater independence and quality of life.

Right: assist dog Xylo welcomes the swimmers ashore after their challenge



Libyan ops performance award

VITAL CO-OPERATIVE work on Operation Ellamy between the RAF and contractors at Information Systems and Services has earned a leading award for professional excellence.

The engraved glass award and £150, sponsored by Cassidian, went to a combined team of C4I Squadron and the Atlas team at RAF Marham.

The team put in outstanding work in response to Operation Ellamy, providing critical operational communications and information for Storm Shadow missile missions while also delivering support to RAF Marham and the Italian base at Gioia Dell Colle, all to demanding timelines.

The award was presented at the Air Command Support Conference presided over by Air Vice-Marshal Julian Young, Chief of Staff Support.

The RAF CIS Award for Outstanding Leadership went to SAC(T) Tim Jenkins for leadership talent, energy and acceptance of responsibility beyond that normally expected of someone of his rank during the delivery of the Defence Information Infrastructure to RAF Benson.



Pictured from left: Air Vice-Marshal Julian Young – Chief of Staff Support, Sqn Ldr Paul Croft – OC C4I Squadron, Bruce Benstead – Cassidian Systems, Stuart Hobbs – Atlas, Air Cdre Ian Kirkwood – ACOS A6, Flt Lt Dave Hawley – OC C4I Flight.



Team is set to make a splash

MEMBERS Of Systems Team, Combat Tracks Group will be raising donations for the Soldiers' Fund on 2 December by swimming more than 75 kms at Filton Sports and Leisure centre, Bristol.

The team will also be holding events leading up to the day in a bid to top £5,000 in fundraising.

Donations can be made at www.justgiving.com/systemsteamcharityswim

Left: team members preparing for their swim - Steve Pascoe, Helen West, Annmarie Mills, Claire Deith, Neil Brooksbank, Gemma Foster, Steve Boucher, Elizabeth Graham, Tony Williams, Sally Venn, Paul Finch, Kevin Flannagan, Alison Cook, Mick Bell (organiser). Not in picture: Gus Watson, Andy Lewis, Lynne Palmer.

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