

desider

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the magazine for defence equipment and support



Ministry
of Defence

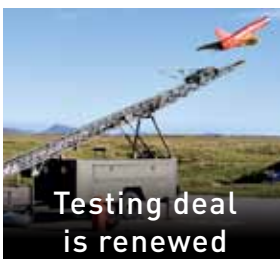


**DE&S
delivers
a mini
spy
in the
sky**

desider directory – an annual look at DE&S' industry partners [See inside](#)



**RAF Typhoons
pass 100 mark**



**Testing deal
is renewed**



**Moving heaven
and earth**



**Lifblood
of Bloodhound**



**Model
behaviour**

Our UK employees are proud to provide kit for Britain's armed forces. We design, manufacture and maintain fighter jets, armoured vehicles and naval vessels including the Typhoon aircraft, Scimitar light tanks and the Astute Class of submarine. But we're prouder still of the contribution and sacrifices made by our armed forces every day. Thank you.

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FEATURES

19 MOD announces the Equipment Plan

For the first time the Government has set out spending on a fully-funded Equipment Plan, outlining almost £160 billion for the Armed Forces over the next ten years

22 Mini spy, maximum effect

The Black Hornet Unmanned Air System may be the lightest used by the UK military but it has been punching considerably above its weight

24 Bloodhound comes up to speed

DE&S is being urged to draw as much benefit as possible from the UK's attempt to set a new land speed record in the deserts of South Africa

26 Let the winds blow

New air defence radars are being installed on UK coasts to keep military airspace free from disruption caused to equipment by rotating blades of wind farms

28 Turning of the Tides

Future auxiliary tankers are being model tested to see how they will fare in keeping Royal Navy ships fit to fight

22



Picture: Sgt Rupert Frere RLC

cover image

The Black Hornet Unmanned Air System is the lightest to be used by the UK military but, since being introduced into Afghanistan operations last May its support to troops means it has proved very popular.

MARCH 2013

desider

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NEWS

4 Queen Elizabeth takes a bow

Assembly of the first two-thirds of the new Royal Navy carrier *Queen Elizabeth* has been completed at Rosyth

6 Test deal is extended

Test, evaluation and training will continue on QinetiQ ranges after DE&S completed a five-yearly review of its terms with the company

11 Nuclear propulsion on a sound footing

Rolls-Royce will deliver and maintain the UK's nuclear propulsion capability under a new £800 million contract with DE&S

12 First Navy Wildcat takes to the skies

The Lynx Wildcat, a replacement for the Navy's Mk 8, has been put through its paces at Yeovilton, where it will be based

13 DVD to focus on support

DVD, the stakeholder event for land equipment, is back for the tenth time this summer at its traditional home in Bedfordshire

14 ISTAR's future is confirmed

Clive Tarver has been confirmed as Director ISTAR as his operating centre will remain in existence beyond March 2014

16 Terrier takes a leap forward

Trials on Salisbury Plain have confirmed the necessary reliability of Terrier, the UK's future armoured engineering vehicle

18 System turns out its first graduates

Three Royal Navy observer students have become the first to graduate from the UK Military Flying Training System

insiderGuide

Bernard Gray

Chief of Defence Materiel

‘The Materiel Strategy and the wider defence equipment programme have been the focus of Parliamentary activity during the past few weeks’



THE end of the financial year and the start of the new one next month is a good time to take stock and to consider some of the challenges DE&S may face in the future.

Continued work on the Materiel Strategy is, I know, at the forefront of your minds. The Board's plan to improve and sharpen our communications with you on all aspects of this programme is moving ahead purposefully. In this edition you will find articles relating to a DE&S Senior Management awayday that focussed on the Materiel Strategy and also some useful underpinning material setting out the reasons why the DE&S Board believes that a Government Owned Contractor Operated solution is the best approach to achieving the aims of acquisition reform, subject to a full and fair competition against the best that DE&S can do in the public sector. In the meantime work within Materiel Strategy continues apace.

There is a wide range of DE&S events at which you can ask questions and join in discussions about the future. One opportunity will be a new quarterly event at which you will be able to put your questions directly to Board members in an open forum.

As I am sure you are all aware, the Materiel Strategy and the wider defence equipment programme have been the focus of Parliamentary activity during the past few weeks. The National Audit Office's Major Projects Report and analysis of the MOD's first ten-year £160 billion Equipment Plan recognised that the MOD has taken significant positive steps to close an estimated £74 billion gap between planned funding and defence programme costs. This is validation that progress is being made in bringing the programme under control.

I subsequently answered questions about these issues at the Public Accounts Committee

hearing last month, along with my Defence Board colleagues; the Permanent Secretary Jon Thompson and Director General Finance David Williams as well as Deputy Chief of the Defence Staff (Military Capability) Air Marshal Stephen Hillier. I explained to the committee how our work in DE&S is driving greater realism into the timetabling and costing of projects, how some of the problems caused by policy-driven delays to some projects are still with us and the work we are doing to improve efficiency in the programme.

The House of Commons Defence Committee also published its long awaited Defence Acquisition report which considered evidence given in 2012 to the committee. It too confirmed the positive steps made by the MOD for including addressing the overheated defence budget and the introduction of finance, military and capability reforms.

The new customers, in the three single-service Commands, Joint Forces Command and the Strategic Programmes Directorate in head office, all start to work under their new delegations at the beginning of April. Briefings are in progress within DE&S to ensure that those of you who are affected by these important changes fully understand the implications and the major impact they will have on the evolution of defence acquisition.

Finally, I was pleased to see that the Submarine Enterprise Performance Programme had taken a significant step towards achieving the savings target of at least £900 million as set out in the Strategic Defence and Security Review with the award of a ten-year contract to Rolls-Royce and that the next pricing period in the Long Term Partnering Agreement with QinetiQ had been agreed. Both these programmes are clear reminders, were any needed, about the very long-term nature of the business that we are in.

Queen Elizabeth

ASSEMBLY OF the front end of the new Royal Navy aircraft carrier *HMS Queen Elizabeth* was completed last month.

Aircraft Carrier Alliance workers at Rosyth in Scotland successfully attached the 1,000-tonne bow unit to the huge ship, completing the forward part of her hull.

And the forward island section of the ship has completed its journey from Portsmouth to join the other parts of the vessel in Rosyth.

Two-thirds of *Queen Elizabeth*, the first of the two carriers, has now been assembled. Launch is set for next year.

Director of Ship Acquisition at DE&S, Rear Admiral Steve Brunton, said: "Fitting of the upper bow unit means that the majority of the forward half of *Queen Elizabeth* is now in place. The forward and aft island structures, containing the ship's bridges, funnels and radar masts, will be fitted in the next few months, followed by the final hull and flight deck sections.

"Assembly is progressing well with major additions almost every week. The team are working very hard at the moment with an increasing focus on completing the inside of the ship, whilst construction of *Prince of Wales* is also well underway."

Among other milestones last month the first of the marine gas turbines were installed in *Queen Elizabeth*, pictured below.

The Rolls-Royce MT30 at 36 megawatts (around 50,000 horsepower) is the world's most powerful marine gas turbine engine. Two MT30s will be installed in each of the two carriers and will provide two-thirds of the 109 megawatts needed to power the 65,000-tonne ships – enough electricity to power a large town.

The power generated will meet the carriers' demand for energy, which includes the propulsion motors, weapons and navigation systems as well as the entire low-voltage requirements for lighting and power sockets.

The MT30s are being installed with an alternator and steel turbine enclosure, together weighing 120 tonnes.

Tony Graham, DE&S Head of Ships, said: "The successful achievement of this



eth – take a bow!



Two-thirds of first carrier now assembled in Rosyth

Carrier crew gets a home too

LOWDEN BUILDING at Rosyth has been handed over by project manager Allan Waugh to Cdr Jules Lowe to accommodate *Queen Elizabeth's* crew, marking completion of phase 1 of building refurbishment.

Work has seen the south end of the building remodelled and, once fully equipped, it will provide new office suites, open plan work areas, conference facilities, an internet room, a dining room, recreational spaces, locker rooms, toilets and showers.

Mr Waugh said work was completed on time, safely, to a high standard and on budget.

Refurbishment work was carried out by Alltec Construction, sub-contracted by Babcock Marine. Atlas and Alltec were involved in installing the information technology.

Phase 2, starting shortly, covers the north end and is expected to take 14 weeks.

major milestone has brought the biggest grin to my face since Christmas Day.

"To have successfully lifted the most powerful engine in the Royal Navy onto the biggest ship ever built for the Royal Navy using the biggest capacity gantry crane in Europe is an important event in the construction of *Queen Elizabeth*.

"Everyone involved should take huge pride in their contribution to this national endeavour."

The installation involved the lifting of the MT30 gas turbine and associated ancillary equipment onto the ship's structure. With the enclosure in place, the large alternator, which is driven by the gas turbine to produce electrical power, was then hoisted into place.

■ Six painters from industrial specialists Pyeroy spent the last 12 months applying around 2,700 square metres externally and 9,000 square metres internally of protective coating to the forward navigation bridge unit.

The high performance coating to the structure includes a specially developed conductive paint around the bridge window frames which will protect the ship's steelwork against the ravages of sea and weather for more than ten years.

Pyeroy is due to begin later this year on painting the hull sections which will be followed by units for the deck structure.

More than 1.5 million square metres of paintwork will be completed by the time the *Queen Elizabeth* enters service

■ Paramarine SeaWeigh, part of the

Paramarine suite of advanced marine design software developed by QinetiQ GRC, will provide the on-board stability management system for the carriers.

SeaWeigh will be used to manage the impact on stability from complex payloads, their distribution and tank states. It is being integrated into the ship management systems which will provide SeaWeigh with data on fuel and fresh water tank conditions.

SeaWeigh can deliver a picture of the ship's condition including real time updates from its tank fullness sensors and flood sensors.

ISS to leave DE&S and join new Chief Information Officer

THE MAJORITY of Information Systems and Services – the Corsham-based communication technology element of the MOD – will pass from DE&S to a new 3*-led organisation from April next year.

A new Defence Chief Information Officer (CIO) will be formed to strengthen and centralise the MOD's leadership and accountability for information systems in the military and business environments.

It will improve management and delivery of IT and provide a strengthened alliance between a more empowered 2* CIO.

It will also create a new 1* Chief Technology Officer and establish Joint Force Command (JFC) as Defence

Authority for C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) and Cyber.

The new 3* will provide leadership across the current 2* CIO business area, other information and communications functions within the JFC organisation, and from 1 April 2014 the majority of DE&S' Information Systems and Services.

The Defence CIO will be embedded in JFC, while retaining a significant Head Office presence, and reporting to both.

The new post is planned to bring significant positive change to the MOD's planning, acquisition, delivery and use of information systems.

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INTERMODAL

Five-year review keeps testing up to speed



Testing times: the LTPA governs testing at 17 sites in the UK, including the Hebrides ranges in Scotland, above

TEST, EVALUATION and training will continue on military ranges across the UK with DE&S completing the five-yearly review of its terms with QinetiQ.

The Long Term Partnering Agreement (LTPA) is ten years into its 25-year life with the latest review taking it through to 2018. As a result of cost savings and some minor changes in scope, DE&S will pay £998 million across the third five-year term.

Laurence Bryant, DE&S Director Weapons, said: "Test and evaluation is essential for the effective management and mitigation of the risk in our acquisition programmes and for the enduring support of our front line capability."

"The LTPA provides this service to our Armed Forces, the MOD and equipment suppliers, and is crucial to maintaining our defence capability. I look forward to continuing to work together in driving value for money and innovation through this contract."

Under the LTPA, QinetiQ manages 17 core MOD-owned sites providing test

and evaluation and training support; maintains associated equipment, land and buildings; and delivers an investment programme to ensure the capability is maintained and developed to meet the MOD's evolving needs.

First signed in February 2003, the LTPA runs until 2028 and is valued at £5.6 billion. There is a 25-year extension option. Since the LTPA began, QinetiQ has more than doubled output under the contract

(measured by milestones delivered) which is also on track to achieve £700 million savings over its lifetime.

Leo Quinn, QinetiQ Chief Executive, said: "This agreement is recognition of the expertise of our people and their ability to consistently deliver support to Britain's Armed Forces."

"We are committed to continuing to invest in these capabilities to provide this vital service to the MOD in support of the front line."

LTPA sites

Aberporth	(Wales)
Boscombe Down	(Wiltshire)
BUTE	(British Underwater Test and Evaluation Centre, Scotland)
Eskmeals	(Cumbria)
Hebrides	(North west Scotland)
Larkhill	(Wiltshire)
Loch Goil, Loch Fyne and Grove Point	(Firth of Clyde)
Pendine	(South west Wales)
Plymouth, Skipness and Portsmouth	(South coast)
Portland Bill	(Dorset)
Rosneath and Barons Point	(Firth of Clyde)
Shoeburyness	(Essex)
West Freugh	(South west Scotland)

■ 'Shipwrecked' at Pendine: see page 38

Weapons staff to enjoy overnight stays at LTPA range

ACCOMMODATION AND catering for DE&S and other staff will now be provided at Shoeburyness Range.

Explosive ordnance disposal training courses take place at the range, often as part of pre-deployment operations and are critical to activities in theatre.

QinetiQ has now converted an unused house and nearby cottage for overnight stays at the site which also now provides catering.

The complex was opened last month.

"We started by listening to the customer, and ended with a collaborative solution developed by a joint team of QinetiQ and TEST project team personnel," said Graham Jones, business development management Weapons Division.

"We saved time and money by using in-house resources from QinetiQ Facilities Management, the LTPA, and Force Protection; a terrific example of working together to meet customers' needs."

MPs heap more praise on defence improvement

MPs HAVE praised recent positive steps by the MOD including addressing the 'overheating' of the defence budget and introduction of finance, military and capability reforms.

As announced last year the budget is now in balance and a ten-year equipment plan has been published. These key elements of transforming defence will enable delivery of Future Force 2020 and further strengthen the MOD's acquisition capability.

However the report of the House of Commons Defence Committee on defence acquisition went on to criticise the 2010 Strategic Defence and Security Review decision to opt for the carrier variant of the Joint Strike Fighter, raised concerns about a possible GOCO option for DE&S and suggested spending on science and technology should be increased.

Committee chairman James Arbuthnot added: "We expect to be given more detail about the GOCO proposals once the further inquiries requested by the Secretary of State have been concluded and before any decision is taken.

"Much of this will depend on the detail of what is proposed — and on the other possibilities of dealing with the constraints currently experienced by DE&S."

The MOD's formal response to the report will be made in due course, but Minister for Defence Equipment, Support and Technology, Philip Dunne said: "Our recently published equipment plan will deliver fully funded hardware for our Armed Forces, giving them much more certainty. The increased financial contingency will help cover future risk and make our equipment programme affordable.

"There is also greater information for industry about our priorities, helping them to invest in the future capabilities our troops need.

"Reform of DE&S will further improve our procurement process.

"The 2010 Strategic Defence and Security Review decision on carrier strike was right at the time but, faced with unacceptable cost growth, technical risk and project delays, the decision to revert to the short take-off, vertical landing configuration (STOVL) was in the best interest of defence.

"Purchasing STOVL aircraft ensures the UK will regenerate a carrier strike capability earlier than planned, with the first Lightning II jets arriving in 2016 and the first flights from *Queen Elizabeth* in 2018."

Lifeblood of Bloodhound



DE&S APPRENTICE Chris Gill is pictured at the Bloodhound supersonic car project's headquarters in Bristol. The project aims to set a new world land speed record sometime next year.

The 24-year-old Devonian is a second year apprentice with the Defence Engineering and Science Group and has just completed a seven-month placement on Bloodhound.

Philip Dunne, Minister for Defence Equipment, Support and Technology, visited project headquarters where he met Chris and other MOD engineers, including personnel from the Royal Electrical and Mechanical Engineers, working on the car.

Chris has begun his third placement working on missile systems with MBDA at Filton.

☐ SMEs back Bloodhound: pages 24 and 25

Picture: David Tucker

F-35B tests get back on course

ASSEMBLY OF the 100th Lockheed Martin Lightning II is well underway at the F-35 production facility at Fort Worth in Texas.

F-35 technicians are in the final phase of building the wings that will be installed on the 100th aircraft known as AF-41.

Meanwhile the 25-strong F-35B fleet, the short takeoff and vertical landing variant to be operated by the UK, has resumed flight tests after a short suspension following a fuel/hydraulic hose failure.

All affected hoses have been inspected, and those out of tolerances replaced. The hose enables actuator movement for the F-35B's vectored exhaust system.

NEWSREEL

QinetiQ expands

THE latest phase in the redevelopment of the QinetiQ site in Malvern, featuring a new reception and entrance, has been officially opened. Adam Palser of QinetiQ said: "QinetiQ has invested over £40 million in recent years, providing facilities to ensure our employees enjoy the best environment to do their work. These essential changes to the site now offer us flexibility to help meet the future demands of the company as it continues to grow."

Lunch date

THE Defence Academy is running lunchtime seminars throughout 2013. On 5th March Jonathan Slater will present on Transformation at Andover followed by the Transformation Team speaking about ways of working at various sites across defence. All seminars will be advertised locally. Bookings to Admin.hq@defenceacademy.mod.uk

VERS figures

THE number of civilian personnel who have left the MOD through the Voluntary Early Release Scheme is 9,188 since May 2010. There have been 263 redundancies of people in DE&S during that time, as part of 445 across the MOD's Top Level Budget holders.

No change

THE Government has revealed it has no plans to disband the RAF's Red Arrows or change format or frequency of Trooping the Colour.

Senior management awayday promotes strategy progress



DE&S' senior management meet at Beckett House, Shrivenham. Chief of Defence Materiel Bernard Gray, centre, leads the opening session

Pictures: David Tucker



Senior management is united behind the Materiel Strategy. Board events to work on progress have been widened to include 2* Operating Centre and Functional Directors. *desider* looks at their key points of agreement

DE&S and the way ahead: what it

Why do we need the Materiel Strategy?

Because management wants DE&S to be the best at what it does, less bureaucratic and able to bring in private sector expertise and freedoms on recruitment and rewards, and able to invest in DE&S staff, their skills and the IT they use. DE&S is a specialist acquisition organisation and while it has some highly-skilled and experienced staff, analysis shows that public sector status has prevented proper investment in skills and that DE&S is well behind the private sector and unable to compete on a level playing field. The Board is trying to improve ahead of any implementation of the Materiel Strategy but continues to be baulked by Civil Service processes.

Why choose a Government-Owned Contractor-Operated solution?

Because the Board is convinced GOCO has the greatest potential to achieve major improvements through the introduction of private sector skills and freedoms, particularly those on recruitment, reward and investment in DE&S staff skills. Management needs to match the commercial and project management skills of industry partners to get the best out of them.

Will there be a fair test between GOCO and DE&S+?

Yes. The DE&S Board is convinced GOCO offers the best future for DE&S, but this needs to be proved in a full and fair competition against the best DE&S can do in the public sector. DE&S Plus is

THE DE&S Senior Management Team (Board Members and Operating Centre Directors) met in Shrivenham last month to discuss, review and agree on progress and actions on the Materiel Strategy and key human resources issues.

This was the second Senior Management away day of the year. Away days are planned monthly to enable the senior team to drive forward the Materiel Strategy and discuss key management issues as they arise.

The programme of work involving presentations, group discussions and break-out syndicate groups lasted a full day.

DE&S Chief of Staff Simon Cholerton said afterwards: "The Chief of Defence Materiel gets the DE&S' senior management together to discuss and agree on its joint approach to some of our most important challenges on a frequent basis.

"This event was characterised by wide-ranging and open discussion about progress on the Materiel Strategy and on

personnel issues. The Board decided that we should open up these proceedings to **desider** as part of our plan to help explain to readers more of the work the organisation's senior leadership is doing to prepare DE&S for the future."

Chief of Defence Materiel Bernard Gray opened the event with an address to the senior management and this was followed by detailed presentation by Director Human Resources David Ball and discussion on personnel issues, including the need for recruitment in key disciplines such as commercial and engineering. The new MOD reporting process was also discussed and a

DE&S approach to it was looked at by senior management.

DE&S+ Head Dr Liesl Neale presented on progress on the public sector alternative to a Government Owned Contractor Operated (GOCO)



solution for the management of DE&S. Breakout groups then discussed how DE&S+ is taken forward, reporting back to a plenary session where it was agreed that the next away day, which is being held at Abbey Wood, would be entirely devoted to discussion of DE&S+.

Director Materiel Strategy Barry Burton gave an overview of the work his team is undertaking and fed back to the group on the continuing staff engagement process since the last away day when the group agreed the key points set out in the panel below.

The group also agreed that, following each away day, one of the senior managers present would publish a "blog" article on the DE&S intranet in order to let staff know what was being discussed. Look out for these on the Materiel Strategy intranet site.



'This event was characterised by wide-ranging and open discussion about the Materiel Strategy and personnel issues' – DE&S Chief of Staff Simon Cholerton

could mean for staff – your questions answered

not just a "value for money benchmark"; it is likely what DE&S would do if GOCO does not meet expectations.

How much freedom could DE&S get under DE&S+?

The Board is asking this question now but the answers depend on a wide range of stakeholders in Whitehall. The Cabinet Office and Treasury exercise central control across Government for very good reasons, but the Board believe this "one size fits all" model works against DE&S.

How does this benefit existing staff?

GOCO is not about replacing staff. An incoming contractor will need the staff to create its workforce. The Board expects the successful contractor

to introduce only around 200 of its own staff into DE&S and use them to introduce new ways of working, new systems and improved skills. A GOCO will be able to invest in staff and staff training – and this will improve skills and broaden career prospects.

What is being done to improve right now?

The Board is taking forward a range of incremental improvements from the project to the corporate level. In particular, for the first time in living memory, DE&S has a manpower model which links staff to tasks and identifies safety critical posts. The Board is implementing Interim Structure Option A including recruitment where necessary. And when DE&S is given more tasks the

Board is asking for increased manpower to carry them out as this will give the organisation the stability and resources it needs to deliver the equipment programme as DE&S prepares to transform under the Materiel Strategy.

The senior management team understands very clearly that the DE&S' most valuable asset is its staff. Uncertainty is difficult for all, but the Board is convinced the Materiel Strategy, once implemented, will work in everyone's interests.

■ New quarterly "Talk To The Board Live" events are planned in the Abbey Wood lecture theatre open to all staff. Questions can be asked of Board members in an open forum. More details will be published soon.

Astutes 6 and 7 to take on Thales sonar equipment

THALES UK has been awarded contracts to supply the Sonar 2076 fully-integrated search and attack submarine sonar system for the sixth and seventh *Astute* submarines.

Thales will supply the sonar system to BAE Systems Maritime Submarines, the prime contractor for build, to be fitted to the submarines in Barrow-in-Furness.

The complete sonar system supplied by Thales will comprise inboard and outboard of the bow, fin, intercept and flank arrays, and the associated inboard processing. Thales has now been contracted to supply Sonar 2076 for all seven *Astute* boats.

Captain Martyn Williams, DE&S Submarines Combat Systems leader, said: "With advanced stealth technology, the *Astute* class has been designed to be quieter than any of its predecessors and is very hard to detect.

"These sonars deliver world-beating capabilities that, together with the other sensors, ensure that these submarines can operate in the most challenging environments and against the most challenging of threats."

□ Babcock will supply its weapon handling and launch system for the sixth and seventh *Astute* submarines, bringing the two boat systems together under one contract.

This full system contract follows one awarded last year for long-lead items, amounting to a total value of about £55 million.

The system is more compact than previous systems, more efficient and quieter, as well as having lower maintenance requirements and reduced through-life costs.

It is capable of carrying more torpedoes and tube-launched missiles than any previous class of Royal Navy submarine.



Left: the flank of an *Astute* submarine, part of 2076 sonar system supplied by Thales for the whole of the class

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Ten-year deal puts nuclear propulsion on a sound footing

ROLLS-ROYCE will deliver and maintain the UK's nuclear propulsion capability under a new £800 million ten-year contract with DE&S.

Around 2,000 UK jobs will be sustained by the contract which will continue powering the Royal Navy's *Astute* and future Successor deterrent submarines.

The contract is part of the Submarine Enterprise Performance Programme (SEPP), an MOD/industry transformation to improve delivery and management of Royal Navy submarines.

Commodore Keith Beckett, head of Nuclear Propulsion at DE&S, said: "This announcement is the result of a huge amount of hard work on the Submarine Enterprise Performance Programme, by DE&S and industry.

"It demonstrates that it is in everybody's interests that MOD and its prime contractors work together more closely and productively to plan for the success and sustainability of this crucial national capability."

By consolidating costs into one agreement, DE&S and Rolls-Royce expect to make savings of around £200 million over the next decade.

It goes a long way towards the Government's commitment to the SEPP as announced in the 2010 Strategic Defence and Security Review, to make at least £900 million of savings by restructuring the UK's nuclear submarine industry.

Savings will not lead to any reduction in the required level of output for the submarine programme, which includes production of the propulsion systems for *Astute* and

Successor submarines.

Minister for Defence Equipment, Support and Technology Philip Dunne said: "Rolls-Royce's work in submarine propulsion systems is an important national strategic capability.

"It is necessary to meet present and future defence and security needs of the UK and this contract ensures the MOD can continue to benefit from this unique capability on the best possible business terms."

Jason Smith of Rolls-Royce said: "I am pleased that we have agreed this enabling contract. It further reinforces the commitment to the submarine programme."

Contracts to deliver further savings with BAE Systems Maritime Submarines and Babcock Marine are expected to in due course.

Vengeance takes on new power

A NEW alternative system to traditional motor generators for electrical power conversion is to be installed on *HMS Vengeance* during the submarine's current Long Overhaul Period and Refuel at Devonport.

The decision was taken by the DE&S' In-Service Submarines team last November and installation began in January.

It is part of a programme to install Main Static Converters to replace motor generators, an essential part of the onboard electrical power system, on all four *Vanguard* submarines. Generators need lots of maintenance while converters provide fixed, solid state power electronics which avoids the need for rotating machinery.

E: 28

OLUTIONS



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NEWSREEL

Successor on track

CURRENT forecast costs show the MOD remains within the 2006 White Paper estimates of £11 to £14 billion for the submarines to replace the *Vanguard* class nuclear deterrent boats, Minister for Defence Equipment, Support and Technology Philip Dunne has told Parliament. Warhead and infrastructure – estimated at £2 billion to £3 billion for both elements – have not yet obtained Initial Gate approval. In-service costs of the UK's next nuclear deterrent are expected to be similar to today (around 5-6 per cent of the defence budget).

Extension?

A business case to extend Niteworks for another five years – the current contract ends this month – is being considered. Niteworks is an MOD-funded partnership with industry which provides evidence-based advice to inform capability planning and acquisition. It has 117 members from across industry.

Lights on

MAINTENANCE staff at RAF Benson are enjoying a better working environment, thanks to new lighting which saves energy and money. The Defence Infrastructure Organisation and industry partner Pride have improved lighting as part of a three-year £105 million investment in energy efficiency. The technology saves at least 30 per cent on energy costs and reduces carbon emissions.

First Navy Wildcat takes to the skies

THE PROGRAMME for the new Lynx Wildcat helicopter – on time and on budget – has seen the first flight of the Royal Navy version in Somerset.

The aircraft, a replacement for the Lynx Mk 8, was put through its paces at RNAS Yeovilton, where it will be based.

The milestone has been welcomed by DE&S, along with Royal Navy senior leaders.

Captain David Elford, leader of DE&S' Lynx Wildcat team, said: "After a great deal of hard work by AgustaWestland and by my own team led by the programme manager Graham Hunter, I am delighted to report the programme remains on time and on budget to deliver an Initial Operating Capability in January 2015.

"Wildcat is indeed set to be an impressive addition to the aviation capability of the Royal Navy."

Chief of Naval Staff, Admiral Sir Mark Stanhope, added: "As a ship-borne helicopter, Wildcat will provide commanders with a flexible attack capability which can be deployed to tackle a range of threats at sea and from the sea.

"With state of the art sensors, equipment and weapons, it will be an outstanding asset that will maintain Royal Naval units at the cutting edge of worldwide maritime operations."

The Wildcat has a more powerful engine allowing it to be flown in extreme conditions all year round.

It is also equipped with a more robust fuselage, a high tech interactive cockpit display, an advanced electro optical sensor and a new radar system



On show: Wildcat on its first Royal Navy flight

□ Minister for Defence Equipment, Support and Technology, Philip Dunne, said: "This is an excellent addition to the Royal Navy's arsenal, providing it with greater firepower and a range of technological enhancements. The support and training contract with AgustaWestland is also good news for the economy in Somerset, securing 500 highly skilled jobs in the defence sector."

that provides 360 degree surveillance.

Wildcat HMA Mk2 will carry Sting Ray torpedoes, a door-mounted 0.5 inch heavy machine gun and new light and heavy variants of the Future Anti-Surface Guided Weapon Missiles.

Expected to perform a range of tasks once in service, the maritime attack variant of the Wildcat will be used in

anti-surface warfare, force protection and counter-piracy. It will also be able to carry out an anti-submarine role.

DE&S signed a £250 million contract with AgustaWestland last year for support and training for the Royal Navy and British Army's planned 62-strong fleet of Wildcat helicopters.

The Royal Navy will receive 28 maritime attack variant helicopters.

Contracts will upgrade Benson training simulators

AVIATION TRAINING company CAE has been awarded two contracts for simulator upgrades and training at its Medium Support Helicopter Aircrew Training Facility at RAF Benson.

The company will provide training on the Puma HC2 helicopter until 2017. The Puma dynamic mission simulator is being upgraded to the new Puma HC2 configuration and should be ready this summer.

CAE will also perform a major upgrade to one of the CH-47 Chinook dynamic mission simulators to ensure concurrency with the Julius programme.

CAE has previously upgraded one of the other CH-47 Chinook simulators to the Mk4 configuration.

"Placing these contracts shows our ongoing commitment to providing the highest quality training for our aircrews, complementing live flying training to ensure that our aircraft are operated as safely as possible," said Mark Gosling, project manager with DE&S' Flight Simulation and Synthetic Training team.

"CAE is a high-calibre provider of simulator training and these contracts will enhance our ongoing relationship."

US Afghanistan drawdown mirrors UK and ISAF plans

NEWS THAT the United States is to accelerate its departure from Afghanistan has been welcomed by the MOD.

US troop levels are to be reduced by around 34,000 from a total of 66,000 by this time next year.

UK Defence Secretary Philip Hammond welcomed the announcement which he said reflected those of the UK and ISAF partners. UK Forces will be reduced from 9,000 to around 5,200 by the end of this year.

He said: "This is in line with the steady progress of the Afghan National Security Forces as they move towards assuming full security responsibility in Afghanistan by the end of 2014. UK and US Forces

will continue to support the Afghans in further consolidating their security lead, which already covers around 75 per cent of the population.

"We are working to promote a political settlement and have taken the lead in establishing an Afghan National Army Officer Academy."

Mr Hammond spent two days in Afghanistan last month to see the security transition.

He said: "Transition is proceeding very well. The Afghans are developing capabilities faster than we expected and we have every reason to believe that they will be able to maintain security as the ISAF forces draw down."

DE&S announces DVD and trains focus on support

DVD – THE established stakeholder event for those involved in land equipment – will be hosted in Bedfordshire for the tenth time this summer.

The two-day event in June, which was planned to be held every other year after 2012, is back this year because of a new capability role for Army Headquarters and a focus more on support and less on new equipment.

Industry and defence in the land equipment sector will come together at Millbrook Proving Ground to develop ideas and generate greater understanding of technologies, capabilities and requirements.

For the first time, DVD2013 will be jointly sponsored by the Army and DE&S Land Equipment, recognising the new capability role of the Army as part of Defence Transformation.

"The Army really values the opportunities that DVD gives for us to coherently engage with a key segment of industry in more depth than other events enable," said Major General Paul Jaques, Director General Logistic Support and Equipment.

"The Army really hopes that industry can support this year's event."

As the combat mission in

DVD – bringing industry, the Army and DE&S together



Afghanistan reduces, the focus for equipment planning and support shifts towards a return to contingent operations and delivering the Army 2020 structures.

This transition, at a time of austere funding, will require innovation in the way equipment can be prepared for new roles and

sustained efficiently. DVD 2013 gives DE&S, the Army and industry

the chance to reflect on this challenge under the banner of 'Transforming support for land equipment to deliver Army 2020'.

There will be a full programme of networking, exhibitions, and vehicle and equipment demonstrations, including showcasing vehicles on Millbrook's off-road tracks.

"As efficiency savings continue, sustainment becomes an important part of maintaining the quality and capability of land equipment and support," said Julian Bryan, head of military strategies at Millbrook.

"Industry has an important role to play in bringing about greater efficiencies to the Army, and DVD is the perfect platform to encourage conversations between the military and industry on such topics."

NEWSREEL

Rapid resettlement

MANY ex-service personnel who join the Career Transition Partnership secure employment within six months, according to Parliamentary figures. For veterans who qualify, active participation with CTP remains an option for up to two years after discharge.

Stay of execution

A decision on how the Sentinel reconnaissance aircraft may be retained beyond 2015 will be part of the next Strategic Defence and Security Review, Defence Minister Mark Francois has announced. The 2010 review announced the intention to withdraw Sentinel from service once it was no longer required to support operations in Afghanistan.

Mali costs

SUPPORT to French operations in Mali by one C-17 transport aircraft is costing around £1 million per week, a Parliamentary answer has revealed. This is expected to be paid for by the Cross-Government Conflict Pool.

DIO forms up

THE Defence Infrastructure (DIO) Enhanced Operating Model will be established from next month. Organisational design has been completed and the progress to populate the organisation is currently under way with appropriate trades union consultation.

DVD2013

19th–20th June, with pre-conference 18th June
Further information and registration available at

www.theevent.co.uk

Visitors, industry representatives and media will need to register

CLIVE TARVER has been formally confirmed as Director ISTAR responsible for the delivery of the Intelligence, Surveillance, Target Acquisition and Reconnaissance portfolio of projects.

Mr Tarver, pictured, has held the D ISTAR position for the past 17 months on temporary managed progression while the future of the operating centre has been under consideration.

Chief of Defence Materiel Bernard Gray has now confirmed the operating centre will remain beyond March 2014 and that, like all of DE&S, it will be subject to review following Ministers' decisions on the future management of DE&S. He has therefore appointed Clive as D ISTAR on a permanent basis.

Mr Tarver said: "I was delighted to be told that my appointment was to be made permanent. It has been a pleasure to work with talented and motivated people within the ISTAR operating centre and its stakeholders, and I look forward to building on this work to deliver to our Armed

Clive confirmed in his permanent ISTAR role

Forces. Now that the future of the OC is secure, it will provide certainty for staff and will assist our recruitment.

"I am very keen to continue my work in the ISTAR OC. We have been very successful at delivering key capabilities in support of Operation Herrick, many of them as urgent operational requirements.

"These range from electronic countermeasures, bomb disposal equipment, search and surveillance equipment, and military working dogs to counter the IED threat, right through to the air traffic management and air defence systems.

"We continue to deliver a range of technical means for specialist users, as well as collection, analysis and management capabilities for the Defence Intelligence community, which support



operations around the world. We have also had successes on larger projects including the Cutlass EOD capability which has provided a step change in capability to the user and the communications and information systems for Defence Intelligence are

transitioning effectively at Wyton."

On the appointment Mr Gray said: "During a period of uncertainty for his operating centre, Clive has led and overseen the successful delivery of the ISTAR portfolio for the past 17 months and I am pleased to be able to confirm his position as Director ISTAR.

"He has wide and successful experience across acquisition and in the wider Ministry of Defence which he is putting to good use in his current role."

Mr Tarver graduated with an engineering degree from Jesus College, Cambridge in 1992 and joined the MOD Science and Engineering Fast Stream.

He is married to Kate, previously a hospital doctor and now a GP. They have three children aged seven and under.

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'Suitcase' proves an effective front line package

A TOUGHENED laptop in a specially designed 'suitcase' will help front line UK Forces communicate once the transition of security to the Afghans begins

The kit is the latest capability delivered to Operation Herrick by Corsham-based Information Systems and Services' Defence Information Services Team (DIST).

The kit was a rapid development to meet an urgent requirement for mobile access to operationally relevant information when the handover begins.

It has already been used to support current operations where commanders describe it as a 'great leap forward in capability on the ground' and say it has proved popular in supporting base redeployments and closures.

Size of the kit has been reduced to make it more flexible, agile and reliable.

The system consists of two elements: the core capability and the expansion pack, both using a satellite

link for network access. Core capability includes the laptop and network connectivity in the portable 'suitcase' allowing individual use of data and voice services.

The expansion pack provides three more laptops and the capacity to set up a local area network. MMS, or Mobile Mission Secret as the kit is called, has access to all relevant applications so operational communications are fully mobile.

As UK Forces return home they will bring much of the fixed communications equipment with them. MMS will give units still operating in forward or

isolated positions freedom to move and communicate wherever they are.

DIST delivered MMS to theatre within four months of Business Case approval, showing unity and direction within the team.

This was helped by the forward thinking approach of Paradigm Systems and Atlas in dealing with commercial and technical issues of capability integration.



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Before



What a difference a light makes...

After



With the DIO seeking to deliver a 25 per cent saving on energy spending by 2015, projects like the one at RAF Benson pictured above show that reducing carbon emissions and costs don't have to have a detrimental effect.

PriDE, Interserve's joint venture with SSE Contracting, in conjunction with Philips, a provider of energy saving lighting solutions, is reviewing the lighting requirements at this frontline helicopter base.

By delivering a tailored LED lighting scheme that is sensitive to the operational needs of these buildings, PriDE is able to offer not only large-scale savings and a reduction in carbon emissions but also, in most cases, noticeably improved operational lighting - proving that saving money doesn't have to have a negative impact on working environments.


www.interserve.com

Terrier takes a leap forward



Armoured engineer vehicle takes part in battlefield trials

TRIALS ON Salisbury Plain have confirmed Terrier, the UK's future armoured engineering vehicle, has passed its latest reliability tests.

Initial system acceptance was declared on 16th January after two production vehicles demonstrated the final two key user requirements for reliability on the Reliability Growth Confirmation Trial.

Controlled trials consisted of 14 48-hour battlefield missions made up of the key activities of Terrier's role in service.

Trials were a mixture of 'true' 48-hour activities, when the vehicle was operating constantly, and 'long' missions over a working week which provided the optimum test for reliability.

The trials were witnessed by the Terrier Section in DE&S'



Above: Terrier digs a pit for a Warrior vehicle on Salisbury Plain while, below left, the Terrier's front loader system is tested with a bucket fitted

Manoeuvre Support team which provided the team with first hand knowledge of any incidents that occurred on the trial.

Terrier Project Manager Heath Wardle said: "Gaining that full understanding of how the vehicle was performing and understanding the full nature of any incident was key to assessing the reliability and addressing any emerging issues."

The two vehicles covered 5,000km and dug more than 250 pits for Warrior vehicles and AS90 self-propelled guns on the trial as well as other route clearance and denial, driving and towing activities.

The regenerative nuclear, biological and chemical filtration capability and remote control

capability were also tested as part of the battlefield mission.

An additional bespoke trial has also proved the reliability and durability of the vehicle's front loader system.

This is a key component onto which a range of Terrier's ancillaries are fitted - for example the front bucket for digging, a surface clearance device, or a forklift.

To prove the 30-year durability of this component a test rig at BAE Systems in Newcastle cycled the system more than 75,000 times with representative loading - well over the 30-year target.

Production Terrier will be on display at DVD on 19th-20th June at Millbrook, Bedfordshire.

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THALES
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Team looks to scrutinise safety

BMT Isis will provide a review of safety processes and documentation for a DE&S team responsible for operational infrastructure.

The Expeditionary Campaign Infrastructure team supplies infrastructure including tented camps.

To ensure safety management and documentation are robust and in accordance with MOD policy, the team has turned to BMT.

Nicholas Hand, the team's safety manager, said: "BMT has a proven track record in land equipment safety and environmental management.

"The relationship will see further development of our safety and environmental practices and documentation, to better serve the soldiers using our equipment, both in training and on deployment."

Science takes a front seat on the virtual battlefield

SOLDIERS FROM the 2nd Battalion the Royal Welsh have completed the British Army's largest virtual simulation exercise.

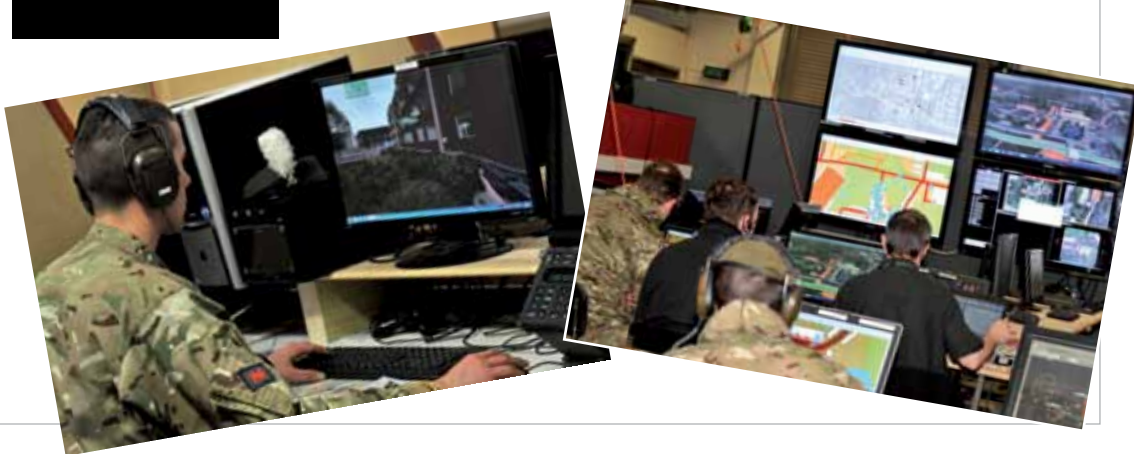
Exercise Urban Warrior 5 used advanced science and technology as part of a cutting-edge experiment designed to help the Army better understand the battlefield of the future.

Using virtual simulation at the Land Warfare Centre in Warminster, the Royal Welsh are pioneering future force training. As many as 190 soldiers fought various scenarios, with their every action monitored by computers and advanced simulation software. All information will be analysed by the Defence Science and Technology Laboratory and Niteworks Partnership who have developed the simulation programme.

Corporal Jeremy Appiah, Section Commander in 2 Royal Welsh, said: "The exercise is an excellent way to develop our mindset from what we have learned in Afghanistan to future conflicts. The simulation phase will help ensure we are better equipped and prepared in years to come."

Minister for Defence Equipment, Support and Technology, Philip Dunne, added: "Science and technology has a crucial role to play in growing our understanding of the battlefield. Evidence gathered from this experiment will be used to guide decisions on the type of equipment we need to fight conflicts in all terrains.

"Simulation is playing an increasingly important part in delivering cost-effective training solutions across all our defence domains."



Flying training sees its first graduates

THREE ROYAL Navy observer students have become the first to graduate from the UK Military Flying Training System after completing their training at RNAS Culdrose.

It was the culmination of several months of training at RNAS Culdrose and RAF Barkston Heath for the three officers, with exercises carried out in Grob Tutor 115 and Beechcraft King Air 350ER 'Avenger' T Mk1 aircraft.

The new course reduces training time and cost by introducing the latest technologies. Observer training comprises low flying, navigational exercises, systems management, maritime tactical operations and multi-aircraft tactical operations.

The trio will now go on to the Navy's Lynx helicopter Operational Conversion Unit.

"The successful completion of the observer courses represents a significant milestone in the genesis of the training system for Ascent Flight Training and our training system partners," said Steve Griffin, Ascent's Head of Operations and Transition.

Ascent, a joint venture between Lockheed Martin and Babcock International, is working with DE&S to improve the different training needs of all UK military aircrew.

The system replaces the previous flying training programmes for the RAF, Royal Navy and Army Air Corps.

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DE&S helps Forces face the future

£160 billion

The Government has set out a fully-funded Equipment Plan totalling almost £160 billion showing how DE&S will equip the Army, Royal Navy and RAF over the next ten years. *desider* looks at the detail

A sustainable equipment programme is absolutely key to delivering the vision set out in the Strategic Defence and Security Review – a vision of formidable, adaptable and well-equipped Armed Forces built on a foundation of balanced budgets, disciplined processes and an efficient and effective MOD,” said Defence Secretary Philip Hammond as he announced the way forward for equipment procurement and support.

“The best way I can support our Armed Forces, as they restructure and refocus themselves for the future, is to give them the assurance of stable and well-managed budgets and the confidence that the programme is affordable and deliverable.

“The report provides a summary of our future Equipment Plan, covering around £159 billion for new equipment, data systems and equipment support over a ten-year period. The plan includes £8.4 billion of risk provision within individual project budgets as well as centrally-held contingency provision of £4.8 billion, and unallocated headroom totalling around £8 billion. This puts the MOD in a strong position, with an affordable core Equipment Plan and the flexibility we need to be able to deliver our Future Force 2020.”

Priorities on equipment will be decided by the Armed Forces Committee, chaired by the Chief of the Defence Staff.

Mr Hammond added: “This plan will ensure the UK’s Armed Forces remain among the most capable and best equipped in the world, providing the military with the confidence that the equipment they need is fully funded. For the first time in a generation the Armed Forces will have a sustainable equipment plan.

“Step by step, we are clearing up years of mismanagement by ending the culture of over-promising and under-delivering that created a multi-billion pound black hole in the defence budget.”

Mr Hammond said he had published more details of the Equipment Plan than had previously been released. “I believe this report will help deliver greater efficiency within the MOD and enable

the defence industry to plan future investment with greater confidence.”

In a double dose of good news for DE&S the National Audit Office – the public watchdog on Government spending and performance – published its first independent assessment of the plan’s affordability.

The NAO said the MOD has: “substantially revised the way it compiles and manages the Equipment Plan and is now approaching the task on a more prudent basis”; “taken difficult decisions to address what was estimated to be a £74 billion gap between its forecast funding and costs”; and “taken significant positive steps designed to deal with the accumulated affordability gap and lay the foundations for stability going forward.”

The NAO’s conclusion was that if the MOD continued along its path it “will be able to demonstrate it has really turned a corner.”

Mr Hammond said: “I’m delighted the NAO have recognised the significant progress we have made with the Equipment Plan and the positive steps we have taken to deal with the accumulated affordability gap.

“I also welcome the NAO’s guidance as to how we can further improve our processes in future years. I look forward to the NAO’s continued engagement in this process which, coupled with the transparency around publication of the Equipment Plan summary, will give Parliament and taxpayers a growing confidence in the robustness of the defence budget.”



Plan details:
pages 20-21

Over the next ten years, the MOD plans to spend £159 billion on new equipment and equipment support.

The MOD spends around 40 per cent of its budget on equipment and equipment support. On current plans, it is forecast to increase to 45 per cent by the end of the decade.



This will increase to 45 per cent

MOD plans include spending:

- £60 billion on the procurement of new equipment.
- £18 billion on support arrangements for new equipment that will enter service during this period.
- £68 billion on support for existing in-service equipment, including spending on routine spares and maintenance, ship refits, support arrangements for communications and information infrastructure, and the running costs of the nuclear propulsion and nuclear weapons production facilities.
- and has earmarked £4.8 billion as a contingency against potential cost growth, beyond the risk provision held in individual equipment project budgets.

In the early years of the programme, around 80 per cent of the programme is contractually or otherwise committed, falling to 20 per cent at the end of the decade.



Combat Air: £18.5 billion

This investment includes:

- continuing investment in Typhoon to bring Tranche 2 and 3 aircraft fully into service. Further investment to develop and enhance the aircraft's multi-role and ISTAR capabilities are priorities for use of unallocated headroom in the plan budget;
- increasing investment in the Lightning II (Joint Strike Fighter);
- growing investment in unmanned aerial vehicles, including through co-operation with France.

A priority for future investment when funds allow will be to expand investment in simulated pilot training.



Air support: £13.9 billion

This investment includes:

- The A400M future generation of strategic/tactical air transport aircraft;
- The additional C17, bought last year, to bring the fleet up to eight aircraft
- The Voyager transport and air-to-air refuelling aircraft, which will replace the VC10 and TriStar fleets;
- New Airseeker Intelligence, Surveillance and Reconnaissance aircraft to replace the Nimrod R1.



Helicopters: £12.1 billion

This investment includes:

- An additional 14 Chinook helicopters as confirmed in July 2011;
- Completion of the Life Extension Programme for Puma;
- A capability sustainment programme for our attack helicopters, to maintain the capability until 2040;
- Completion of the Wildcat programme to replace existing Lynx helicopters;
- Continuing the Julius programme to upgrade the Chinook fleet;
- Taking forward the Assessment Phase for work to address obsolescence and ship optimisation for the Merlin Mk3 helicopters.



Information Systems and Services: £15.7 billion

This includes significant investment in Defence Information Infrastructure support costs and support costs for Bowman Tactical Communications and Information Systems.



Intelligence, Surveillance, Target Acquisition and Reconnaissance: £4.4 billion

This covers deployable and fixed communications networks and services.

This area also includes CBRN detection and countermeasures programmes.

This is in addition to the considerable sums invested through the UOR process, including the procurement of Reaper unmanned aerial vehicles



Land equipment: £12.3 billion

This includes:

- An upgrade to the fleet of Warrior Infantry Fighting Vehicles, to maintain that capability with enhanced lethality out to 2040 and beyond;
- Continued development of Scout and its variants, which will replace a wide range of legacy armoured and protected vehicles;

Further funding will be allocated in due course to cover the cost of bringing appropriate equipment procured for the Army in Afghanistan under UOR processes permanently into the core inventory, based on their future utility, current condition and the cost to recover and reconstitute them for further service.



Ships: £17.4 billion

Plans in this area include:

- Completion of the two *Queen Elizabeth* class aircraft carriers;
- Delivery of the remainder of the six Type 45 destroyers with Samson Radar and Aster missiles;
- Design and development of the Type 26 Global Combat Ship to replace the Type 23;
- Development of the Maritime Afloat Reach and Sustainability programme, which will provide a fleet of new, modern vessels for the Royal Fleet Auxiliary.



Submarines and deterrent: £35.8 billion

This covers all costs relating to the submarines themselves, nuclear propulsion costs and the costs of the strategic weapon system. This includes:

- Completion of the remainder of the class of seven *Astute* attack submarines;
- Design, development and production of the replacement for the *Vanguard* class ballistic missile submarines, assuming that Main Gate approval is obtained in 2016;
- Ongoing costs of managing and maintaining the strategic weapon system, both missiles and warheads;



Weapons: £11.4 billion

The programme includes investment of around £7 billion in the complex weapons sector which will deliver a wide range of weapons, in the short term including the Future Local Area Air Defence System, which will be based on the Sea Ceptor missile, and the Future Air-to-Surface Guided Weapon (heavy) which will equip the Royal Navy's new Wildcat helicopters.

Other elements

Elements not individually broken down total around £5.6 billion including naval bases, Joint Supply Chain and Logistics & Commodities.



DE&S puts mini spy in the

Light, easy to operate and offering amazing capability for UK troops, Black Hornet punches above its weight as a front line game-changer

Weighing in at a little over 16 grammes, equivalent to about four sheets of A4 paper, the Black Hornet Unmanned Air System may be the lightest used by the UK military, but since its introduction into operations in Afghanistan last May its support to troops means it's been punching considerably above its weight.

This is a view shared by Sgt Christopher Petherbridge of the Brigade Reconnaissance Force (BRF), who said: "Black Hornet is definitely adding value, especially considering the lightweight nature of it. We used it to look for insurgent firing points and check out exposed areas of the ground before crossing which is a real asset. It is very easy to operate and offers amazing capability to the guys on the ground."

The £20 million contract with Marlborough Communications for procurement and enduring support of 162 systems was signed in October 2011, following work conducted by the Technology Delivery Team during Urbex 10 to define the requirement for a Nano Unmanned Air System and the subsequent competition including trials of prospective systems conducted by DE&S' UAS team.

Black Hornet, designed and developed by Prox Dynamics, Norway's leading

UAS manufacturer, underwent thorough acceptance testing including sand and dust trials and operations down to -19C. The assessment work, supported by the Defence Science and Technology Laboratory, culminated in extensive user trials conducted by the Infantry Trials and Development Team in Cyprus. Since its delivery the Black Hornet fleet has been split between operational systems in Afghanistan and training systems in the UK, achieving Full Operating Capability in January.

Minister for Defence Equipment, Support and Technology, Philip Dunne, said: "Black Hornet gives our troops the benefits of surveillance in the palm of their hands. It is extremely light and portable while out on patrol."

The time between urgent operational requirement endorsement and equipment delivery was less than 12 months. Adam Carter, Black Hornet project manager within the UAS team said: "The very short time between the UOR being raised and the project team delivering the first piece of potentially life-saving equipment is testament to the hard work of all involved in the project."

Each Black Hornet System includes two Black Hornet Air Vehicles which are deployed from the base station. The Black Hornets are flown from a

handheld controller with full motion video, captured from any of the three Black Hornet onboard cameras, displayed clearly on the seven-inch display. The entire system, weighing 1.5kg, comes neatly packaged in a utility pouch making it ideal for use as a 'man-packable' UAS.

Unlike the toy helicopters it is often



unfairly likened to, the Black Hornet offers a significant resilience to wind as its onboard sensors and clever autopilot allow the air vehicle to remain in hover above a selected target or be directed precisely to a location. This ease of use leads to a very small training burden with the user becoming fully competent with the system very easily. In accordance with Military Aviation Authority regulations, as Black Hornet is less than 60g it has a greater degree of flexibility



sky – to maximum effect

in its deployment during UK training and support to operations in Afghanistan.

Black Hornet offers an organic surveillance capability to the front line troops who would otherwise have to depend on larger UAV assets to be deployed from deeper on the battlefield to provide the situational awareness required. With a flight time of over 20 minutes and a range of up to 600m Black Hornet has been operated in a multitude of roles ranging from compound clearance to base protection.

BRF Commanding Officer Maj Adam Foden explained how they had used Black Hornet with great success on recent patrol: "Black Hornet is a game-changing

piece of kit. Previously we would have sent soldiers forward to see if there were any enemy fighters hiding inside a set of buildings," he said. "Now we are deploying Black Hornet to look inside compounds and to clear a route through enemy-held spaces. It has worked very well and the pictures it delivers back to the display are really clear."

FACT SHEET

Range: up to 600m

Endurance: 20+ mins

Black Hornet Air Vehicle Weight:
16.5g

Complete System Weight: 1.5kg



Bloodhound comes up to speed

The project to set a new world land speed record will soon head from its Bristol headquarters towards the South African desert. *desider* reports

Bloodhound – suits you!

Bloodhound will be piloted by Wg Cdr Andy Green when it hurtles across the South African desert on its record breaking bid.

And the RAF pilot will be relying on his high-tech suit to give him the best protection as he attempts to break his own record of 763mph set in 1997.

The suit contains a fireproof lining, developed by a two-person company which has been researching disruptive technology fabric in the United States.

Formed in 1999 Lamination Technologies began as consultants and worked with Formula 1 teams as well as Apple and Boeing.

Now, as LT Protect, the company is back in the UK providing fireproof textiles to the Bloodhound team.

"Andy's suit looks like a perfectly normal racing driver's suit, except it has our material in the middle of it," said the company's Phil Morris. "Andy was happy for the suit to look like any other, but insisted it had to work better than ever."

The company has also made covers for Bloodhound's fuel tanks to keep them cool and engines to keep them hot between firings. It is an example of how technology can help provide solutions on the military front line.

"The material is incredibly effective," said Mr Morris, explaining that fire tests on US military vehicles had kept occupants safe for up to an hour, even while the vehicles continued to blaze.

"Every person can have a use for it – racing drivers, air force pilots, tank drivers, firefighters, anyone who uses fire retardant material, material which just holds off the fire. We can replace that with something that looks exactly the same, except it's fireproof. And that can translate to 10,000 different applications – people, equipment, vehicles, buildings."

Like other Bloodhound suppliers the company is seeking exposure to DE&S, dstl and prime defence contractors. Mr Morris said: "The MOD is closer to understanding the needs of the end user. We know it doesn't work for us to go to the end user or the procurement people but maybe the MOD is that combination of procurement but not detached from understanding what the end user needs."

The Bloodhound supersonic car will make its first bid for the land record in South Africa towards the end of the year, with the ultimate aim of taking the record beyond 1,000 miles an hour sometime in 2014.

It is backed by a number of high-tech small and medium-sized suppliers (SMEs) involved at the cutting edge of technology with a potential source of expertise which could be beneficial for front line equipment.

This message was repeated by Defence

Minister Philip Dunne during a visit to the Bloodhound project in Bristol on 28th January.

"We see SMEs as a source of innovation across manufacturing and we must make sure that we as a ministry, and throughout the TLBs and the commands, give our SMEs the chance and the incentive to develop products which will have military use," he said.

"Not only does this benefit the growth of the economy but it also helps our



Pictures: Bloodhound and David Tucker

Armed Forces, for instance in protective clothing which can be developed and doesn't currently exist anywhere else in the world. If we can encourage that kind of innovation even for a project as relatively small as this one, it may have further ramifications for our forces."

Mr Dunne, Minister for Defence Equipment, Support and Technology, chairs a forum for small companies at the MOD. "Our SME base is strong; I see it every week and the forum offers very good engagement for those companies. It makes them feel we are taking them seriously and it's an opportunity for us to understand the problems they might have in supplying the MOD," he said. "Through it I get good exposure to the scale of activity there is in the country which affects MOD procurement."

"There is a wide range of things we procure in the MOD from food to fighter

planes, and I am trying to encourage our prime contractors to expose their supply chain more to SMEs."

Mr Dunne was accompanied on his visit to the project's technical centre by Heather Goldstraw and Mike Batty of DE&S Technology Delivery along with Jonathan Byrne and Gavin Copeland of Dstl's Centre for Defence Enterprise.

Visitors saw some of the technology going into the supersonic vehicle, including the EJ200 engine, three of which have been loaned to the project by DE&S following their decommissioning from the Typhoon testing programme.

"The EJ200 engine, normally for a Typhoon, will have a completely separate control system to operate on land. This has been done completely from scratch which shows how we are raising the skill base of our

people," said Mr Dunne.

Last October Mr Dunne signed a Concordat with Bloodhound that recognised the mutual aims of the MOD and the project, not least the need to attract more young people into careers in engineering.

"The real purpose of this of course is to ensure that our future engineers get inspired by this project in the schools and universities where they are at the moment to consider the Armed Forces and British engineering as a career choice," he said.



Flame and heat proof





Above: ADATS, RAF and industry staff are pictured outside the radome which houses the new TPS-77 Radar at Brizlee Wood

DE&S' will be looking to build on the air defence success by finding solutions to the effects of wind turbines on its 40 air traffic control primary surveillance radars.

Last December DE&S Intelligence, Surveillance, Target Acquisition and Reconnaissance operating centre invited companies to put forward their ideas in support of Project 16 – wind energy electricity investment – one of the Cabinet Office's list of top 40 infrastructure projects which also features notable plans such as 4G broadband and the HS2 rail project.

MOD objections to wind farms on air traffic control grounds are potentially blocking more than seven gigawatts of development across the UK with billions of pounds of wind energy investment at stake. DE&S is investigating ways to unblock this investment, and will finish research by the end of the year.

DE&S is working with the Defence Science and Technology Laboratory, Air Command, Royal Navy and the Defence Infrastructure Organisation as well as the Department for Environment and Climate Change, Crown Estate, National Air Traffic Services and the wind farm developers.

As a necessary first step, the plan is to invite up to six potential solution providers this summer to prove to the MOD and the wind farm industry that their proposals can work. Once analysis of the results has been completed, and assuming MOD requirements are satisfied, MOD will consider, with its stakeholders, the options.

Paul Gallagher, the DE&S Wind Farm team leader, said: "This is a very challenging project with tight deadlines, significant political interest and some intimidating technical barriers to overcome. There is a lot at stake for wind farm developers and potential solution providers.

"The UK is leading the world in identifying and implementing wind farm mitigation for air traffic control radars and the first companies that are able to prove their solutions are technically viable and can deliver a safe service for aviation stakeholders will be in a strong market position. Proving that potential solutions are operationally acceptable will not be easy.

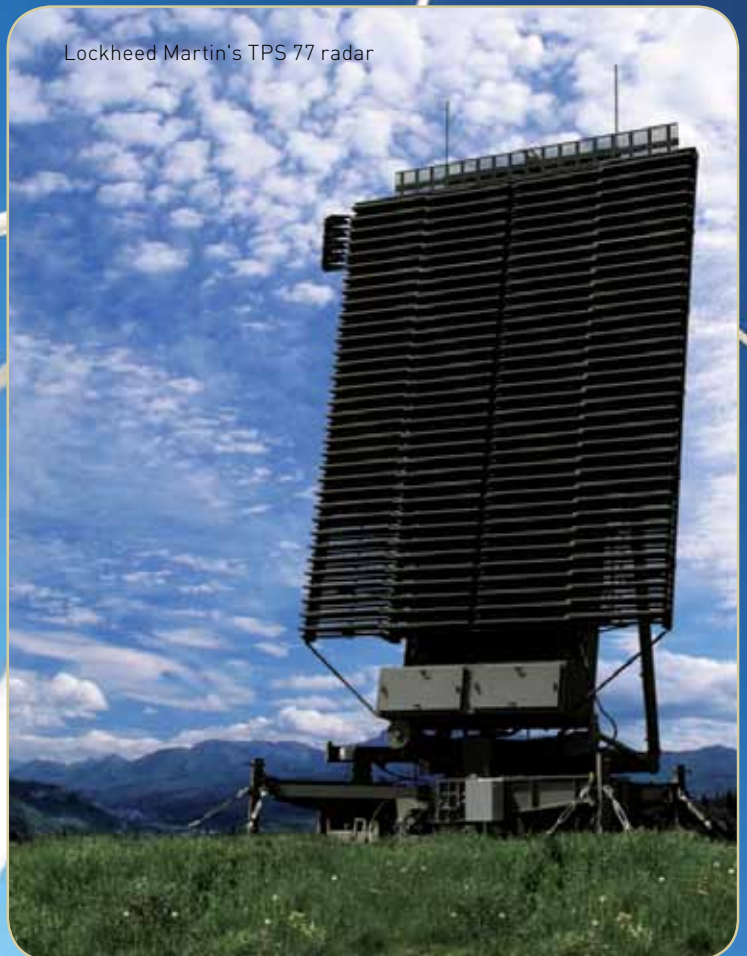
"The technical demonstration will require a suitable site with significant wind farm interference and suitable facilities for supporting radar equipment. Measuring and recording equipment and complex modelling simulations are also likely to be required as well as flight hours by aircraft to create the data for analysis. Getting to grips with the innovative solutions being proposed will be a significant task and pulling this all together and keeping the project on track will be a substantial team effort."

The Wind Farm team cannot control the weather – they will probably be the only team in DE&S hoping for a windy summer!

Now let the wind blow!

New radars on the east coast are safeguarding the UK's airspace as DE&S and industry work to solve the problem of wind farms affecting air defence capability

Lockheed Martin's TPS 77 radar



New air defence radars are being installed along the east coast to keep the UK's military airspace safe from the disruption to equipment caused by rotating turbine blades of the country's increasing number of wind farms.

Wind farm developers sometimes struggle to get planning permission, and the MOD is often one of the objectors – as the blades, coupled with their change of pitch while rotating, interfere with radar to produce false targets – known as complex clutter. Multiple returns can affect the quality of the radar picture, leading to target aircraft being lost.

Now DE&S' RAF Henlow-based Air Defence and Air Traffic Systems (ADATS) team is at the centre of new efforts to safeguard the airspace by installing Lockheed Martin's TPS 77 radar, a transportable, three-dimensional radar with a pencil beam which, coupled with advanced signal processing, is able to reduce the effects of complex clutter environments such as those generated by wind farms.

In a ground-breaking award-winning deal last year, the wind industry funded TPS 77 for Trimmingham, a remote radar site on the north Norfolk coast – known as Project Eolus (Greek god of wind!). Since then, two more radars have been funded by other wind energy developers to provide military coverage of the east coast under Project Cretheus (son of Eolus).

The second has been installed at Brizlee Wood, high on Alnwick moor in Northumberland, with the third to be at Staxton Wold, near Scarborough this July. Brizlee Wood has been an RAF radar site since the early 1990s providing a long-range early warning and control picture for the UK Air Surveillance and Control System. The site is operational 365 days a year and monitors the air approaches over the North Sea and overland, enabling RAF fighters to intercept potential intruders within the United Kingdom Air Policing Area.

ADATS, an ISTAR Delivery Team, and Serco are responsible for project management and installation, with the Brizlee Wood radar arriving in the UK last October. Installation was brought forward to the end of the year because of

the danger of ice and snow, a sound move with the site completely inaccessible by vehicles for periods in January.

"Throughout Project Cretheus, ADATS Delivery Team has provided the interface between Serco and the RAF operators of the system" said the team's acquisition project manager John Turner.

"This work has included removal of the previous radar, ensuring that the new system was compatible with the command and control system, and co-ordination of all activities to ensure that the project ran to strict timelines. Flight trials will be arranged to assess and demonstrate how the radar performs against complex clutter with wind farm trials scheduled once the associated wind farms have been built."

Sqn Ldr Al Jackson of Air Surveillance and Control System Force Command added: "The roll-out of the TPS 77s demonstrates the MOD's commitment to find solutions to air defence and UK renewable energy needs. As a result of the three new radar installations, the MOD has agreed to mitigation proposals which uses the advanced technology of the TPS77 to reduce the effects of the mitigated wind farms on the air surveillance picture."



Turning of the Tides

For the first time two new ships are being model tested for Replenishment at Sea operations. Results will see how the Royal Fleet Auxiliary's new *Tide* class vessels will fare when keeping the Royal Navy's biggest ships fit to fight at sea

A major factor that turns the Royal Navy from coastal operators into a blue water navy is its ability to Replenish At Sea (RAS). This RAS capability includes the ability to take on fuel rapidly and safely while on the move, often in onerous conditions.

The ships that provide the fuel are operated by the Royal Fleet Auxiliary and the multi-million pound contract between the MOD and South Korean company Daewoo Shipbuilding and Marine Engineering (DSME) for the *Tide* class of four auxiliary oilers will provide much of this capability in the future.

The basic design is nearly complete and the hull form has now been fully developed by DSME with their design sub-contractor BMT Defence Services in Bath. This design work has been far from easy but has resulted in a solution that promises to offer good sea-keeping and manoeuvring characteristics for the RAS role.

One overriding question that has been in the minds of the Commercially Supported Shipping, MARS (Marine Afloat Reach and Sustainability) Tanker project team at Abbey Wood has been: How will the Tide Class auxiliary oilers

perform when 'RASing' alongside the *Queen Elizabeth* class aircraft carriers? The answer comes in part from an innovative set of tests and trials undertaken at QinetiQ's Ocean Basin at Haslar, Gosport.

Two 1:44 scale models of the *Tide* class tanker and the *Queen Elizabeth* class aircraft carrier have been undertaking close formation experiments in the manoeuvring basin at Haslar, the largest covered water space in Europe. The experiments have been conducted in calm conditions and in higher sea states and allow the DES project team to determine how the hulls interact with each other.

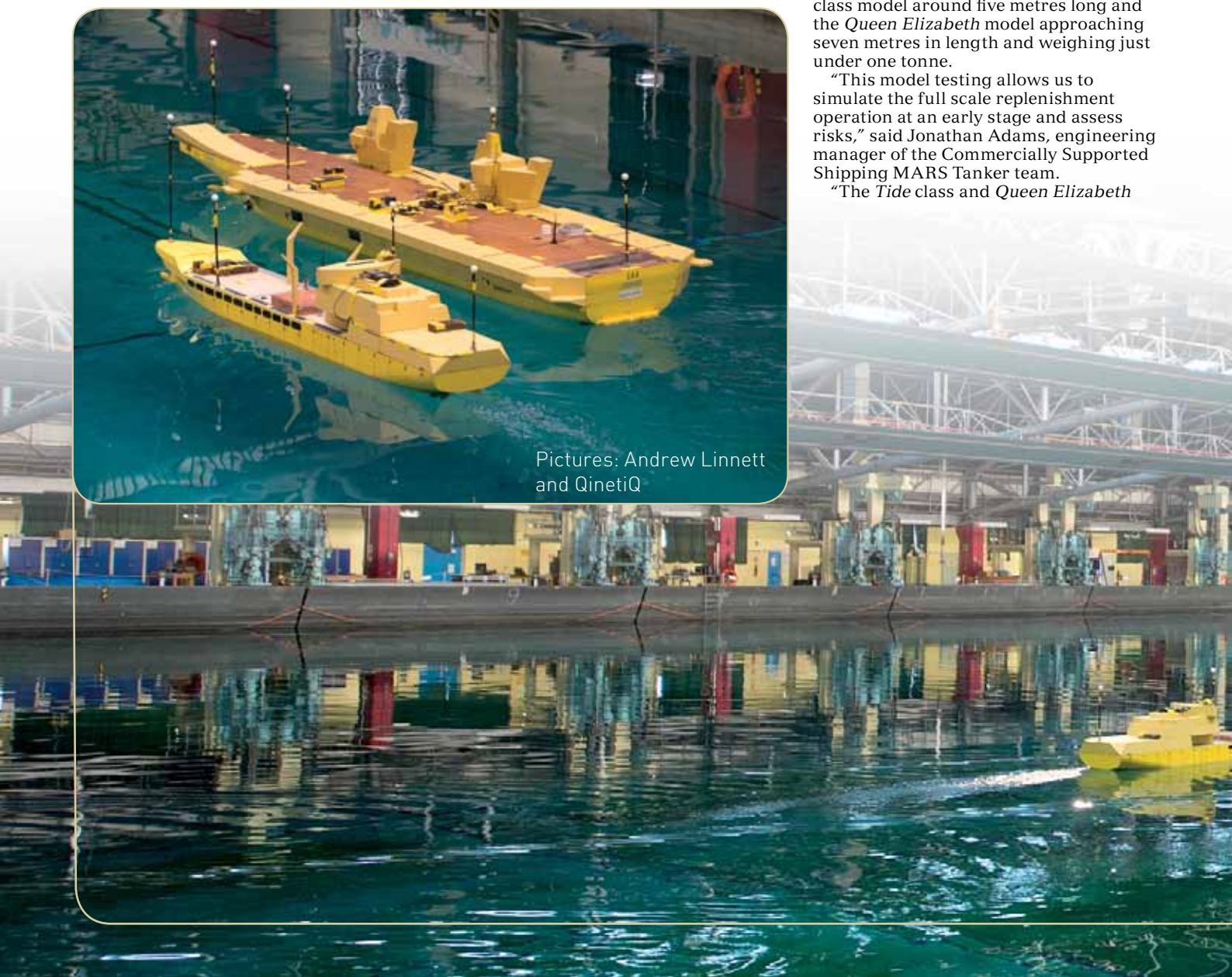
The models are not small with the *Tide* class model around five metres long and the *Queen Elizabeth* model approaching seven metres in length and weighing just under one tonne.

"This model testing allows us to simulate the full scale replenishment operation at an early stage and assess risks," said Jonathan Adams, engineering manager of the Commercially Supported Shipping MARS Tanker team.

"The *Tide* class and *Queen Elizabeth*



Pictures: Andrew Linnett and QinetiQ





class will be two of the largest ships that have been operated in close proximity for many years. Large ships operating close together in open water are subject to hydrodynamic forces that can either pull the ships together or push them apart. Understanding these forces is critical to ensuring that full scale RAS operations can be conducted safely."

This is the first time that two new ships have ever been model tested for RAS operations at QinetiQ's Ocean Basin. The two new ship designs present the Royal Fleet Auxiliary and Royal Navy with challenges that are rarely experienced. The Abbey Wood project team's decision to model the RAS evolution at scale model level has therefore been welcomed as an opportunity to allay fears at an early stage.

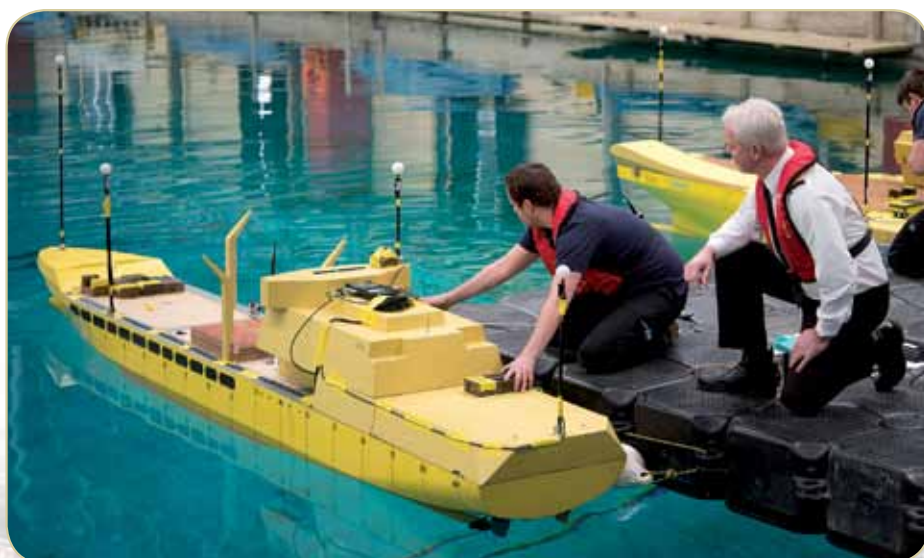
Commodore David Preston, Head of Commercially Supported Shipping and Head of RFA Engineering, said, "The RFA ships will have to keep station, using the *Queen Elizabeth* class as a guide during RAS. This will take great skill and concentration for long periods in very challenging conditions so any analysis we

can undertake early will provide comfort that the RAS capability can be met with the new ships. I am proud that my team has worked with QinetiQ to develop these trials: this is a first for us all."

The model experiments consisted of a number of runs along the Ocean Basin with differing separation distances between the two models. The runs were conducted in varying conditions including simulations of up to sea state 6

in head, beam and quartering seas. The model tests were also able to simulate incidents such as emergency breakaway procedures and engine failures during RAS.

Once all data is collated and analysed it is expected that the results can provide the RFA and Royal Navy with the necessary guidance for safe operation when the first *Tide* class vessel, *RFA Tidespring*, enters service in 2016.



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AS MILITARY forces begin to deploy unmanned aerial vehicles (UAVs) around the world, so the need for specialized wireless mobile computers becomes more pressing.

These computers need to be equipped with daylight-viewable screens to help soldiers locate targets and relay images back to control centres. Equally, they must be capable of performing in the constantly challenging setting of a battlefield, yet still mobile enough to be carried easily in a rucksack.

It's for these reasons that Panasonic Toughbook mobile PCs and Toughpad tablets are proving the devices of choice for many.

Toughbook CF-19 – specialist skills for specialist tasks

Take the fully rugged Toughbook CF-19, for example. A latest-generation Intel® Core™ i5 vPro processor ensures the device can handle intensive applications. Rugged fanless design means it's capable of withstanding vibration, knocks, water, dust, bright sunlight, pressure changes and extreme temperatures. And long battery life of up to ten hours allows it to operate away from power for extended periods.

Screen visibility is important, so the CF-19 features Panasonic Transflective Plus technology to reduce reflection. This helps to reduce power consumption and enhance battery life, as no backlight is required in bright environments.

Another valuable design feature is the Toughbook Concealed Mode for mission critical environments. With this, the Toughbook can go into silent mode by disabling the backlight, status LEDs, speakers and communication (3G, W-LAN and Bluetooth) as specified.

Below: Panasonic helps boost capability on the front line



Tough tools – for the toughest of jobs

Advertising
feature

How Toughbook and Toughpad are
supporting military innovation

Toughpad FZ-G1 – going where other tablets can't

A recent addition to the Toughbook and



Toughpad line up was the Toughpad FZ-G1. A fully rugged 10.1" Windows 8 tablet, the FZ-G1 goes where other tablets simply can't.

It's the first fully rugged device to use IPSa display technology. Offering extra-wide viewing angles, strengthened glass, high contrast ratio and high brightness, and a Panasonic anti-reflection layer, the 10.1" Full HD screen is purpose-built to perform in any weather or light conditions.

The FZ-G1 has a MIL-STD-810G rating for 120cm drops, as well as an IP65 ingress protection rating for resistance to dust and water. The device is also rated for use in extreme temperatures from -200C to +600C. There's no compromise on usability, however. At just 19mm and 1.1kg, the FZ-G1 is thinner and lighter than its rugged tablet rivals.

So whether you're looking for a mobile PC that's tougher than the rest, or a tablet that redefines what to expect from this popular form factor, Toughbook and Toughpad have the right credentials to support your in-field operations.



DSEI 2013 – the focal point for unmanned systems

**Advertising
feature**

DEFENCE AND Security Equipment International (DSEI) is the largest integrated defence and security exhibition in the world and is becoming increasingly recognised as a unique venue to showcase and demonstrate the full capabilities of unmanned systems spanning air, land and sea.

Hosted at London's ExCeL every two years, DSEI continues to serve as the premier meeting place for global defence and security communities.

Organised by Clarion Events, DSEI 2011 attracted 1,391 exhibiting companies representing 46 countries and included 30 national pavilions, with 28,440 international visitors and 1070 global VIPs in attendance.

Award-winning showcase

The award-winning Unmanned Systems Showcase (USS) attracted the most visitors of any feature at the 2011 event. It was a highly interactive demonstration designed to show how unmanned systems worked in the context of a foot patrol in Afghanistan, featuring a static display showing the latest in unmanned systems that included Selex Galileo's Falco Evo Unmanned Aerial Vehicle (UAV).

USS at DSEI 2013, in partnership with the Association for Unmanned Vehicle Systems International (AUVSI), now covers over 2,000m² of floor space at the venue, more than double the size used in the area at DSEI 2011. The centrepiece of the showcase is a series of capability demonstrations from a range of air and ground-based unmanned systems.

Describing DSEI's approach to the unmanned systems sector, DSEI Exhibition Director, Duncan Reid, explained: "Our strategic partnership with AUVSI ensures that unmanned systems developers, manufacturers and operators have two significant events, both in the US and UK."

"DSEI hosts the complete spectrum of unmanned system designers and manufacturers for all applications. We intend to continue growing and expanding the USS to accommodate each new technological

development across all of the military and security sectors."

Growing market

According to some analysis predictions, the market value of all military unmanned systems-related spending worldwide will more than double to almost US \$12 billion in combined procurement and research spending by 2020.

Reid added: "The advance of unmanned systems technology and the rapid expansion of applications, not only in the air but also on land and at sea have been understood by

tactical' UUV sub segment. This growth would more than double the current value of military procurement and research spending on UUVs," noted Bob Nugent, Vice President of Advisory Services at AMI International.

Highlighting the importance of the unmanned market, Clarion Events launched a successful Unmanned Air Systems (UAS) UK conference and exhibition during 2012, which attracted around 240 delegates; the same format is due to be repeated and staged alongside DSEI 2013. With a mix of strategic and tactical insight, this year's Unmanned Air Systems conference will take place on the Monday directly before DSEI. Following a

successful launch last year, the event is expected to attract a strong military and government attendance with keynotes from leading industry speakers.

Industrial capabilities

In 2011, Faun Trackway introduced its landing mat specifically designed for UAVs, representing the latest addition to its suite of temporary runway solutions.

Examples of unmanned systems' exhibitors this year include Insitu Inc., showcasing the latest Scaneagle and

Integrator UAS offerings, and

Recon Robotics, whose new Throwbot XT will be available for demonstrations on their purpose-built stand.

Innovative Aeronautics Technologies GmbH will be displaying their D-Dalus Aerial Vehicle, seen first at the 2011 Paris Air

Show. Others include DST Control, promoting their new micro IR payload, with Oculus Systems, Trimble and Renishaw all already confirmed.

By increasing the footplate for unmanned systems, there is no doubt that DSEI 2013 will again provide an international showcase of key products, systems and technologies that will be crucial to future air, land and sea operational capabilities.



Blue Bear's iStart



Watchkeeper from Thales



QinetiQ's Dragon Runner

DSEI; hence we are focused on growing their representation at our event as the market grows."

DSEI 2013 will feature an expanded marina and in-depth scenarios covering current and future threats to maritime security and warfare, including unmanned underwater vehicles (UUV).

"The global military market for UUVs will be worth as much as US \$200m per year in research, development and procurement by 2020, with about half of that in the 'small/

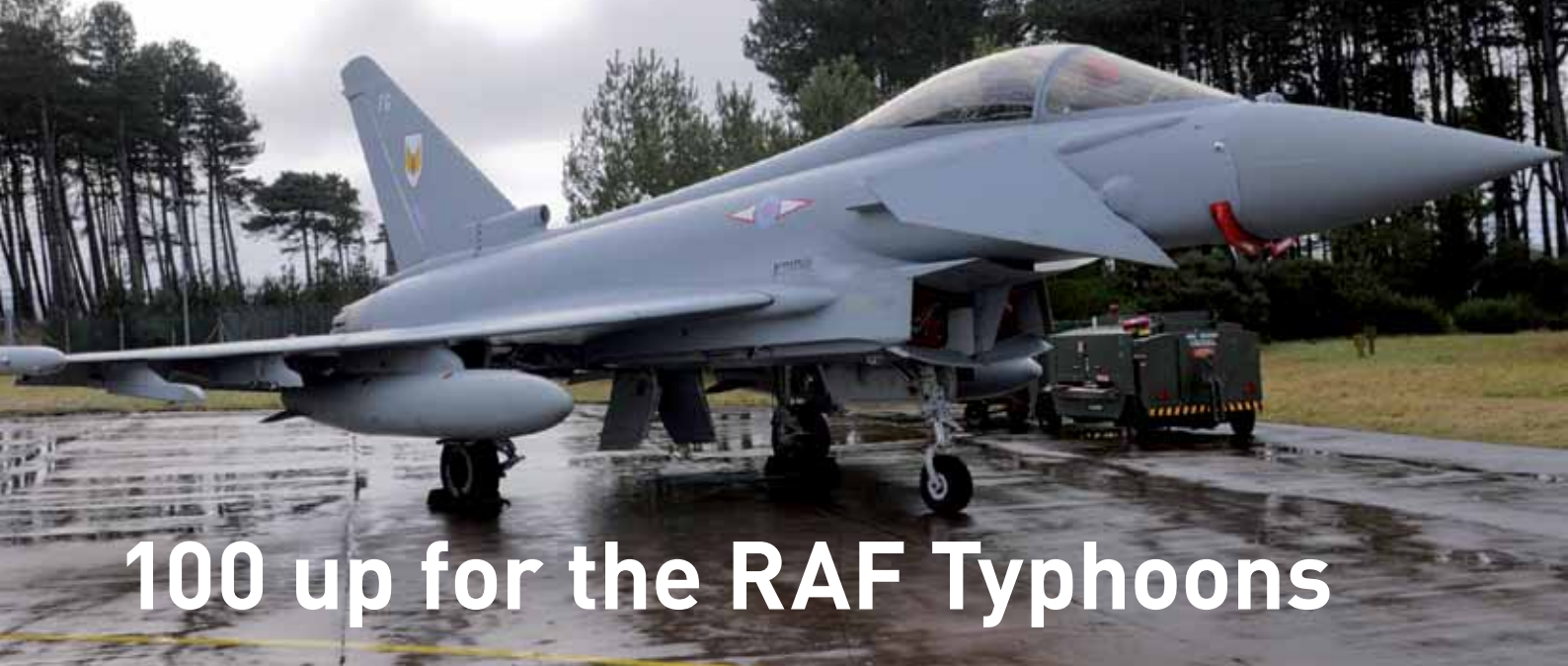
DSEI will be held at ExCeL London from 10th-13th September 2013 www.dsei.co.uk

THE 100th RAF Typhoon aircraft is now flying with 1 Squadron – the fourth front-line Typhoon unit in the RAF – at RAF Leuchars.

Wing Commander Mark Flewin, the squadron's commander, said; "There can be no better example of the strides we are taking with regard to growing the Typhoon Force than the stand-up of 1 Squadron – we re-formed as a Typhoon Unit in September last year – and it is fantastic to have taken delivery of this brand new, milestone aircraft.

"There is a pleasing correlation for us in operating the 100th operational Typhoon during this our centenary year, the squadron having been originally formed back in 1912."

Picture: SAC Matt Baker



100 up for the RAF Typhoons

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"Where will our knowledge take you?"

A NEW contract for long-term support of the Makila 1A1 engines fitted to the new Puma HC2 helicopter has been signed.

Ian Craddock, Head of Helicopters 2 at DE&S, put pen to paper alongside Lars Landsnes, Vice-President of Heli-One's European operation, at RAF Benson on 7th February.

Heli-One was chosen on the company's extensive experience of supporting these engines in civil and military markets coupled with their competitive pricing structure.

The innovative contract includes ability to sustain engine availability by bringing Makila 1A1 assets from Heli-One's own stock into the MOD inventory if required to reduce through life procurement costs.

The multi-million pound contract will support the engines until Puma HC2 goes out of service in 2025.

Mr Craddock said: "I'm extremely pleased to witness the award of this contract to Heli-One. The Makila engine substantially increases the performance of our Puma

Puma deal takes engines into the next decade

helicopters and is a vital part of the modernisation of this capability.

"Heli-One has substantial experience in the support of the Makila engine and the robust

support arrangements we have agreed will help secure this performance advantage for the military and deliver excellent value for the taxpayer."

The joint working

relationship with Heli-One will enable Puma HC2 squadrons to benefit from industry-leading responsiveness and service levels.

Mr Landsnes said: "Heli-One is exceedingly proud to be helping the MOD pioneer a new way to manage key assets.

"Everything we have learned from years operating Makila engines in both benign and harsh environments will be of value in helping the RAF achieve optimal mission-readiness."

The contract will involve Heli-One field service engineers embedded at RAF Benson to work with RAF maintenance staff.

As well as establishing a new engine maintenance facility at RAF Benson, the contract will make extensive use of Heli-One's facility in Stavanger, Norway.

Heli-One Norway's Turbomeca-approved engine shop is a centre for Makila support, repairing and overhauling Makila engines for more than 20 years.



Above: the team at contract signing.

Defence spending is fourth highest in Government

THE LATEST Defence Analytical Services and Advice statistics show that during 2011-12 defence was estimated to be the fourth highest area of government expenditure at £37.2 billion. Estimated MOD equipment expenditure was £15.3 billion.

In 2010-11, the MOD spent just over £20.4 billion with UK industry, a small nominal decrease of £160 million from the 2009-10 figure. Just over 40 per cent of this expenditure was with ten suppliers – the largest of which was BAE Systems.

The number of new contracts placed in 2011-12 fell by nearly 30 per cent from 2010-11. However, the value of new contracts placed has risen by more than 25 per cent.

Notable contracts let included purchase of 14 new Chinook helicopters, procurement of four new refuelling tankers for the Royal Fleet Auxiliary and upgrade of the Warrior armoured vehicle.

Competitive contracts accounted for about a third of new contracts let by number and over a half by value.

In 2011, the UK remains one of only three Nato countries which met the Nato target of spending the equivalent of two per cent or more of Gross Domestic Product on defence. The others are USA and Greece.

The UK was the fourth largest military spender, accounting for nearly four per cent of worldwide military spend, behind the USA, China and Russia (using comparisons based on market exchange rates). The net additional cost incurred by the MOD as a result of operations in Afghanistan was just under £3.5 billion.

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Teams run rule over US-UK treaty

ABBEY WOOD project teams have heard of the benefits when doing business with the US.

DE&S Chief of Staff Simon Cholerton opened a 7th February seminar on the US-UK Defence Trade Co-operation Treaty by saying: "Implementation of the treaty is a top priority for the Government. It's about getting the best equipment to our Armed Forces quicker and improving interoperability with the US Armed Forces."

He encouraged project teams to look for opportunities where the treaty could help take forward joint projects with the US Government and industry and to feed back on how to improve Treaty processes.



Chief of Staff Simon Cholerton

Valerie Evans, Head of DE&S' International Relations Group spoke about how the treaty works in practice, explaining operation of the treaty's Approved Community and other key eligibility requirements.

Arthur Browne, the Group's Treaty Desk Officer, spoke about operation of the treaty's Exempted Technologies List and explained that one of the Government's priorities was to work with the US Department of State to simplify the list.

The session also included a practical insight from Gary Minns of the Airseeker team on the first government-to-government transaction under the treaty between the US Air Force and RAF Waddington.

Crucially, he highlighted how quick and easy the process was in comparison to normal export control arrangements.

Further enquiries about the treaty to Arthur Browne at desirg-2d@mod.uk

DE&S and Devonport get together on safety

DE&S AND Babcock are working towards a common approach to safety and quality at Devonport, aligning Babcock and naval base practices at the site.

As the first step in this initiative, the Babcock and Naval Base safety directors and around 60 team members have been co-located in offices in the Fleet Accommodation Centre.

Captain Steve French, Captain Base Safety, said: "The business MOD and Babcock undertake on the Devonport site is complex and hazardous. Collectively we need to work to simplify the interfaces between our two organisations and, where possible, move to adopting the same rules and business processes.

"It will not be easy or quick, but it will help to create a safer working environment, which also has the potential to deliver further business efficiencies as we increase the number of common processes used to



Together in one place: Howard Block will be the home of Devonport's safety team

deliver a safe product from the Devonport site."

Babcock Director of Nuclear Safety and Quality, Mark Rouse, added: "Our experience is that in our own way we are equally passionate about the need for excellence in safety and quality practices – but sometimes that gets lost in the language the two parties use, which can have a huge impact on a complex site such as Devonport, particularly as it

moves towards ever greater operational integration."

Further steps towards a common Devonport approach will include: common accident and emergency responses (beyond that already achieved in the nuclear area); better use of Babcock's newly introduced Airweb accident data management system; and further joint safety improvement initiatives.

NEWSREEL

Working together

DE&S and industry are invited to submit entries by 15th March about work and projects that recognise, celebrate and share successful collaboration practices in defence for the UK Council For Electronic Business' fourth excellence awards. Finalists will be invited to a Good Practice Market Place, part of the annual Defence Information Conference at Shrimham on 17th-18th April. Previous overall winners include the LSC Group, Microsoft UK, the DII group with Atlas and Deep-Secure Limited. Further information is available at www.ukceb.org

IT Careers

EVERYTHING you need to know about careers in IT will be on show at a market stall event in the main entrance to Building 405 at Corsham on 12th and 13th March. Claire Fry, the MOD's head of IT profession, will be there along with members of her team. Staff booking not necessary; turn up on the day.

Recruiting

BAE Systems will recruit 387 engineering and business apprentices in the UK this year – the highest intake since 2008 – and 60 more than the company recruited in 2012. The announcement comes as Prime Minister David Cameron continues to urge businesses across the country to take on apprentices to stimulate economic growth through manufacturing, exports and infrastructure.

A VETERAN commander from the Falklands Conflict has ceremonially opened a new-look bar in Devonport.

Retired Royal Marines Major General Julian Thompson, who served in the conflict, re-dedicated a bar in the senior rates and warrant officer's mess at *HMS Drake*.

The bar has been named San Carlos, because San Carlos Bay was the scene of military operations in the Falklands and the idea is to represent the ethos of tri-service working.

The success of the Falklands operation was dependant on such close working between various units from the Royal Navy, Royal Marines, RAF and Army.

The opening was then followed by a full ceremonial regimental dinner in the venue to complete the celebration.

Colonel Garth Manger, commanding officer of 1 Assault group Royal Marines, based in Plymouth, said: "This highly successful opening and regimental dinner in the San Carlos Bar has helped to keep alight the memory and links the Royal Marines and Royal Navy have with the Falklands Campaign, while also serving to highlight the

combined nature of warfare both in '82' and today.

"The bar is in a first class location in the heart of *HMS Drake*, adjacent to RM Tamar, and will be an integral part of 1 Assault Group Royal Marines."

The bar offers a suite for presentations and full-scale regimental dinner, open to all mess and associate members. The area is sponsored by the Royal Marines ahead of their arrival in the dockyard at the newly-built landing craft centre – Royal Marine Tamar – which is due to open later this year.



Reopening raises the bar at Devonport

Admiral visits new facilities

THE SECOND most senior officer in Navy Command, Vice Admiral Philip Jones, has visited Devonport to meet crews of warships and submarines and view new facilities at the naval base.

The newly-appointed Fleet Commander was hosted on board Type 23 frigate *HMS Sutherland* and the *Trafalgar* class submarine *HMS Talent*.

Vice Admiral Jones also visited the construction sites for the Hasler Company accommodation block which is being built using money raised and provided by the charity Help for Heroes. He was shown the site of the new 1 Assault Group Royal Marines training centre.

Clyde medical staff get to heart of the matter



CLYDE'S MEDICAL Centre helped raise awareness of National Heart Month and promote the British Heart Foundation by wearing something red.

The base's Principal Medical Officer gave health staff permission to hold competitions and sell backed goods at the facility last month, with cash going to the Foundation. Those taking part paid £2 each to wear red, with an impressive £113 raised.

There was a serious message behind the fun events on the day. Visitors to the Medical Centre were encouraged to pick up information on how to keep hearts healthy and to become a member of 'Heart Matters'.

Those joining received a free membership pack which included a quick guide to heart health, a five-a-day food diary, a recipe folder and tape measure to monitor the waistline.

Left: Medical Centre staff supporting the Foundation

Jockey Camilla faces her toughest hurdle

Gold Cup three-miler is pinnacle of DE&S officer's sporting career

CORSHAM'S CAMILLA Howard is set to make history this month when the RAF's first female jockey goes over the sticks at Sandown Park Racecourse in the Grand Military Gold Cup.

Flt Lt Howard, who works at Information Systems and Services Headquarters, will be the first female RAF jockey in the race, and only the second RAF jockey in the history of this race, which has been dominated by the Army for around a quarter of a century.

The afternoon's racing on 8th March – the course is supporting Help for Heroes on the day – will be the 150th Anniversary of the Grand Military and features a card steeped in racing and military heritage, dating back to 1841 and guaranteed to feature some of the country's finest amateur jockeys.

Centrepiece is the Gold Cup three-miler for horses owned by past or present members of the Armed Forces and restricted to amateurs.

The Queen Mother was a great supporter of the event with her horses winning five times, most memorably a hat-trick of wins for Special Cargo in 1984, 1985 and 1986. A bronze statue of the horse overlooks the weighing room at the course.

"I am so proud to be riding this as an RAF jockey," said Flt Lt Howard.

"I will be riding a horse part-owned by Gp Capt Chris Lampard, who rode on his own horse, Hunter Chase, in 1970 before riding for other owners. It is a great honour to follow him. I have watched the race for years, all the way back to my childhood, and it is a massive event for my family as my



Above: Sandown-bound: Flt Lt Camilla Howard of ISS in Corsham

grandfather, Brig Tommy Rivers Bulkeley, rode in five times."

The 32-year-old mother hopes her selection will inspire other riders to go for the race. "Having just come back from having a baby I hope that it will show people that things like this really can be achieved," she said.

Flt Lt Howard began her preparations nine months ago and will be riding veteran handicap chaser Or Sing About from the stable of Seamus Mullins. She has also been riding regularly with trainer Simon Earle at his stables in Warminster, Wiltshire.

"Getting fit and obtaining my amateur licence to take part in this race has been hard and challenging but you cannot put a price on the thrill of qualifying and taking part in this historic race," she said.


DSRA LOTTERY WINNERS – DECEMBER 2013

£10,000: Elaine Buchan (Corsham). **£5,000:** David Curry (Andover). **£2,000:** Christine Cavill (Exeter). **£1,000:** Lesley Griffiths (Abbey Wood). **£500:** Victoria Dix (Corsham). **£300:** Maria Nesbitt (Abbey Wood), Luke Timothy (Abbey Wood), Linda Fraser (Aldershot), Stuart Poynton (Gosport). **£200:** Ron Poile (Folkestone), David Pablo (RNAS Yeovilton), Elena Mole (UKHO), Jacqueline Mounty (Abbey Wood), John Henderson (Abbey Wood), Jacqueline Glass (Abbey Wood), Sharon Brookes (Abbey Wood), Martyn Timmis (Warminster), Irene Middleton (Glasgow), Wayne Dugan (Fareham), David Brand (ABRO). **£100:** Colette Ferebee (Whitehall), Dawn Gavin (Woolwich), Harshid Savla (Ruislip), Harjit Uppal (Telford), Gareth Clark (Abbey Wood), John Matthews (Corsham), Karen Gregg (Andover), Simon Wall (Hyde Park Brks), Elizabeth Waters (Cromwell), Mary Wool-lard (RAF Brampton), Jane Simson (Bovington), Simon Ross (Abbey Wood), Susan Robinson (RAF Cranwell), Steven Powell (Riyadh), Sarah Newman (Washington DC).



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Shipwrecked! Message in a boat

As DE&S and QinetiQ renew their partnership over the UK's military testing ranges an uninvited guest turns up on the Welsh coast

A military range used by DE&S staff has seen a small unmanned vessel wash up on its shore after a 3,000-mile transatlantic journey.

The vessel, called *Charger*, was sent on its way by pupils of a school in South Carolina last summer to see how far it could sail.

After landing on two remote beaches on the north American coast and relaunched by those who found it, its GPS had gone silent, with pupils thinking it had been sunk.

But hurricane-force winds had taken over and *Charger* washed up at Pendine Sands, a stretch of beach at Carmarthen Bay on the Welsh coast.

The boat contained a cargo hold that

had leaked but some of the contents had survived, including pictures, local information and a USB stick containing music the pupils had recorded. This has now been passed to a local school.

"It was a unique discovery," said Pendine's Katie Martin. "The school thought *Charger* had gone down in the sea after some software malfunction messed up the GPS.

"She's been through a hurricane and some big storms, even coming ashore twice on that side of the Atlantic.

"Finally, she got a good wind, came across the Atlantic and landed on Pendine beach."

Steve Attrill, operations delivery manager with DE&S' Trials Evaluation,

Services and Targets team, said: "Pendine isn't a naval facility so it's not every day it has the opportunity to salvage, dry dock and repair an ocean-going vessel.

"The most important outcome of the event has been the forging of a new relationship between a UK and a US school and this has been very rewarding for the team at Pendine."

The boat will be patched up, the cargo hold resealed and the GPS repaired. Then it will be relaunched to continue its journey, with some suitable QinetiQ and LTPA stickers from the range.

Steve added: "We look forward to hearing more about the adventures of *Charger* in the future as she sets sail once more on the high seas."



Pendine safety officers Jamie Spencer and Martin Richards who found the vessel on the beach. Both conduct daily beach searches as part of their duties

Hats off to heroes this summer



A NEW community covenant has been signed between Nottinghamshire's Armed Forces families and the local authorities – a few months before the county hosts annual Armed Forces Day.

More than 2,000 personnel and their families live in the county where Nottingham City and Nottinghamshire County Councils have pledged practical help for their military communities.

The signing comes as the city and county prepare to say 'Hats Off to Our Heroes' when it hosts the nation's fifth annual Armed Forces Day on Saturday, 29th June at the Victoria Embankment.

The event will celebrate the work and outstanding contribution made by the men and women of the Royal Navy, Army and Royal Air Force to this country – including veterans and the growing role of Reservists from all three Services.

For more information visit www.mynottingham.gov.uk/armedforcesday

From left: Lt Rennie Hickson, Royal Navy, Maj Tom Waldren-Lynch, Royal Artillery, Sqn Ldr Andy Ham, RAF Regiment, and Marine Andy Simmonds, Royal Marines parade the Armed Forces Day flag



The mark of quality

Air Vice-Marshal Julian Young and Vince Desmond are pictured with 2012 winners: Chief Petty Officer Lesley Tubbs; Mr Adam Whittaker, SAC (T) Karl Malarky; Mr Paul Lucas; Lt Col Philip Smith; Mr Eddie Hornibrook; Mr Tony Grantham; Mr Ian Phillips; Mr Kevin Blenkinsopp; Ships Operating Centre Quality Teams; Aircraft Component Engineering Satellite Quality and Continual Improvement Team; Material Equipment Transformation – Fluid Systems Group.

WINNERS OF the 2012 MOD Quality Awards were presented with their certificates and Bristol Blue Glass paperweights at an Abbey Wood ceremony on 7th February.

Air Vice-Marshal Julian Young, Director Technical, in his role as the MOD's Quality Assurance Authority, made the presentations while the ceremony was attended by Mr Vince Desmond, Executive Director of the Chartered Quality Institute who sponsor the award scheme.

The 2012 winners ranged from civil servants, representatives from all three services and, for the first time, industrial partners.

The 2013 awards will be launched in July at Abbey Wood with a closing date for nominations on 30th November. The award panel will sit in early December. The award ceremony will be next February at Abbey Wood.



Gosport team targets national apprentice challenge title

NINE MECHANICAL engineering apprentices, pictured left, from Defence Munitions Gosport have entered the 2013 Brathay Apprentice Challenge.

This is a nationwide competition supported by the National Apprenticeship Service and run by Brathay Trust where judges seek to find the best apprentice team of the year.

Apprentices must deliver a community project in their local area while at the same time raising the profile of apprenticeship schemes.

Gosport provides work-based craft apprenticeships in mechanical engineering.

Apprentices play an important role and are integral to business focused training that help the organisation to meet its business targets and objectives.

The apprentices complete all aspects of the advanced apprenticeship framework along with additional qualifications and training required to meet MOD skills specifications.

Defence Munitions Gosport, who received an 'outstanding' during a recent Ofsted inspection, supports apprentices and the benefits the Brathay Apprentice Challenge brings to the business and development of the apprentices.

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:

2013DIN04-006: This DIN provides instructions for commercial teams who procure services for secure document destruction and paper waste management. It is of particular interest to designated offices with responsibility for managing multi-activity contracts and facilities management contracts or with involvement in waste paper collections.

2013DIN04-007: This is an instruction to ensure all unit holdings of tactical fuel handling equipment are accounted for and declared on the appropriate forms and reported to the Deployable Infrastructure project team.

2013DIN04-008: This confirms the out of service date of the 4T Bedford and describes to all vehicle fleet managers, repair managers and stores managers that operate the 4T the management of withdrawal from service.

2013DIN04-013: A new corrective eyewear service for aircrew has been put in place with effect from 21st January, being managed through the Services Medical Centres. There are significant changes in entitlement policy and processes from the previous arrangements.

Further information and more details on the latest DINs see:

<http://defenceintranet.diif.r.mil.uk/Reference/DINsJSPs/Pages/DINsindex2013.aspx>

The background of the advertisement is a dramatic landscape at sunset or sunrise. The sky is filled with dark, heavy clouds, and a bright sun is low on the horizon, creating a strong orange glow. In the foreground, three soldiers in military uniforms are visible. One soldier stands with his back to the camera, looking out over the horizon. Two other soldiers are standing together, looking at a device held by one of them. To the right, a large satellite dish is mounted on a tripod. The overall mood is serious and focused, emphasizing global reach and communication.

We ensure global reach
from **up there**

to ensure smooth passage
down here

TBWA/CORPORATE - Asile Paris - © Astrium 2012. © Getty Images

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