

desider

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MINISTRY OF DEFENCE

the magazine for defence equipment and support



Thanks a million, Tornado

Fast jets in focus – Typhoon and Tornado impress [See inside](#)



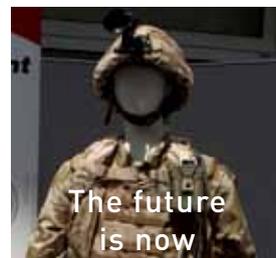
Welcome
Voyager



Warrior
returns to war



Goliath's
giant task



The future
is now



Warfare goes
on screen

NOT JUST AN AIRCRAFT, THE UK'S AIRCRAFT



F-35
LIGHTNING II

The F-35 Lightning II isn't just a cutting-edge aircraft. It also demonstrates the power of collaboration. Today, a host of UK companies are playing their part in developing and building this next-generation fighter. The F-35 programme is creating thousands of jobs throughout the country, as well as contributing to UK industrial and economic development. It's enhancing the UK's ability to compete in the global technology marketplace. F-35 Lightning II. Delivering prosperity and security.



UNITED KINGDOM

THE F-35 LIGHTNING II TEAM

NORTHROP GRUMMAN BAE SYSTEMS PRATT & WHITNEY

LOCKHEED MARTIN

Jackal helps keep the peace

JACKAL CUTS a dash on Highway 1 between Kabul and Kandahar, one of the most important routes in Afghanistan.

Soldiers from the 9th/12th Royal Lancers have been helping to keep open a section of the road which locals use to transport anything from camels to cars.

The men from the Lancers have the tough task of keeping the highway open along with members of 2 Kandak of the Afghan National Army, who man checkpoints along the road.

Picture: Sergeant Alison Baskerville, Royal Logistic Corps





cover image

An RAF Tornado GR4 is pictured in special commemorative livery at RAF Lossiemouth in Scotland. The aircraft was marking the passing of the one millionth hour of flying by the fleet of ground attack Tornados which has become the mainstay of the RAF's bomber capability. The milestone was passed by a Tornado on operations in Afghanistan

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6&7 2020 vision and defence reform

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Voyager, the RAF's next air-to-air refuelling tanker, made its public debut when it was shown off at the Royal International Air Tattoo at RAF Fairford.

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DE&S is hoping to acquire a Carrier Variant version of the Joint Strike Fighter for testing by the end of the year.

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24 One million flying hours – and counting

The RAF's ground attack Tornados, some of which are currently serving in Afghanistan and Libya, have clocked up a staggering one million flying hours, enough for one aircraft to fly 16,000 times round the globe.



26 Typhoon has come of age

The RAF's multi-role fighter, currently performing duties in the skies over Libya, has been praised by one of the detachment's pilots, who has described the performance of the aircraft as 'spectacular'.



28 Air power

Defence Secretary Dr Liam Fox praises the work of the Royal Air Force and its aircraft as he pledges that air power will always remain critical to the defence of UK interests in the 21st century battlespace.



30 'Sand beast' set for a big front line role

The new standard of the Warrior Infantry Fighting Vehicle, known as Warrior Theatre Entry Standard (Herrick), has improved protection, mobility and habitability in response to the needs of those who will use it in theatre.



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desider

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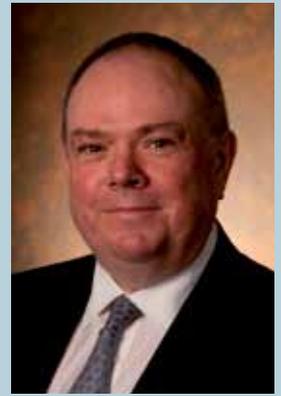
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Bernard Gray

Chief of Defence Materiel



'We will need to nail down requirements harder to avoid ambiguity and cost, and we need to make users aware of the high costs of changing their minds'

Dear Colleagues,

The Secretary of State's announcement to Parliament on 18 July marked an important moment for the Ministry of Defence and DE&S. It summarised the results of the so-called "Three-Month Exercise" that has been running since April, as well as a number of other outcomes of the SDSR, including studies on basing and the Reserves. But it is the conclusions about the future defence programme that are most important for DE&S.

The work over the course of spring and early summer has sought to make sure we balance the proposed equipment programme with the cash available over the whole of the coming decade, not just over the next two or three years, as would normally be the case. This change is important because, as many of you will recognise, we often start spending money on projects many years ahead of the moment when they reach their peak, so we can become committed to large projects which we may not be able to afford.

One of the good parts about the result of the Three Month Exercise is that we now have clarity about the total equipment funding for the department over the next ten years. This will enable us to plan with certainty, and be clear about what we can, and cannot afford. Of course, it has its downsides too: we will not be able to afford everything we would like to have, and if the costs of programmes increase, we will have to find ways to

manage within the existing budget, rather than accepting an increase and slipping expenditure to later years. We have certainty, and we have a discipline.

This outcome also dovetails nicely with the outcome of Lord Levene's work on defence reform. While this does not touch DE&S very directly (that work has been left for The Materiel Strategy later in the year), defence reform does envisage responsibility and accountability for budgets being moved from the centre of the MOD to the Armed Forces. This will allow the Commands to make more informed decisions about how to spend their budgets, but will also place a responsibility on them for the choices they make. As a result of the two pieces of work, Front Line Commands will know what their funding is through the decade, and can make informed choices about how to spend that money, including with us in new procurement and support.

I am sure this change will be good for defence, but it will demand changes from us in DE&S. We need to be more certain about initial cost estimates because we cannot afford cost growth later. We will need to nail down requirements harder to avoid ambiguity and cost, and we need to make users aware of the high costs of changing their minds. This is as much a cultural change as a technical move, and it will be difficult. But the gain in improvements to programme management will be well worth the effort.

Basing review signals changes

- Former RAF bases and existing Army bases in the east of England will accommodate one Army multi-role brigade (MRB), concentrated in Cottesmore, North Luffenham, Bassingbourn and Woodbridge.

- Lyneham will be the preferred location for future Defence Technical Training.

- The other Army MRB will be in Scotland, centred on Edinburgh. The base at Kirknewton, south west of Edinburgh, will be developed into a major Army base.

- The Typhoon Force will be built up at RAF Lossiemouth which will become the base for the Northern Quick Reaction Alert missions. Leuchars will cease to be an RAF base but will be used to house two major Army units and a headquarters. Flying will continue at both Leuchars and Lossiemouth until at least 2013.

- It is also planned that Army units will move into Kinloss around 2014/15.

- The military footprint in Scotland overall will increase over the coming decade.

- The Army's Project Avanti has also been working on proposals for restructuring its personnel and support function. At Regional Brigade level, the Army will maintain all ten Brigade headquarters. The project recommends disbanding HQ 2nd Division at Edinburgh, HQ 4th Division at Aldershot and HQ 5th Division at Shrewsbury and replacing them all with a single 2* support command, which will be based in Aldershot. 19 Light Brigade in Northern Ireland should be disbanded.

2020 vision takes shape

THE EQUIPMENT budget will increase by more than £3 billion during the Spending Review period after 2015, the Government confirmed on 18 July.

The longer-term vision for the make up of the military – Future Force 2020 – will be secured by this one per cent a year real terms increase in the planned equipment and equipment support programme.

Funding will allow DE&S to order more equipment over the next decade, including:

- 14 extra Chinook helicopters from 2014 onwards;
- The *Queen Elizabeth* aircraft carrier conversion to catapult and arrestor gear ('cats & traps');
- Initial spending on the

New helicopters among list of kit confirmed for 2014 onwards

new Joint Strike Fighter fast jets (known as Lightning II) delivering Carrier Strike capability from 2020;

- Development of the Global Combat Ship;
- Three new Airseeker signals intelligence and surveillance aircraft in 2014;
- Upgraded Warrior armoured vehicles;

Defence Secretary Dr Liam Fox said: "I am determined to maintain Britain's position in the international premier league and to ensure that our Royal

Navy, Army and RAF are given the tools they need to do their vital work.

"The Government has committed to deliver a package of new money, further efficiencies, and adjustment to the future defence equipment programme, turning the unfunded aspirations of the last Government into real contracts and real equipment.

"For the first time in a generation, the MOD will have brought its plans and budget broadly into balance, allowing it to plan with confidence for the delivery of the future equipment programme."

Funding is part of broader work to implement the Strategic Defence and Security Review (SDSR), including the publication of the Basing and Reserves Reviews. The Future Reserves Study 2020 (FR20) identified that the Army can meet the vision for Future Force 2020 in a more cost effective way, by changing the balance between Regulars and Reserves.

The department will plan for an Army of around 120,000 made up of Regulars and Reserves with a ratio of about 70 per cent regulars to 30 per cent Territorial Army.



Uplift in capability: 14 more Chinooks will be available after 2014

Equipment balance = renewed confidence

THROUGH THE combination of the funding announcement and substantial savings delivered through tough decisions taken in the SDSR, the Government will have addressed the inherited multi-billion pound deficit in the forward defence programme.

For the first time in a generation, the MOD will have brought its future plans and future budget into close alignment, allowing it to plan with greater confidence for the delivery of the equipment programme.

The MOD will publish a fully funded and balanced ten-year Equipment Plan next month and the National Audit Office will conduct an affordability audit of this – the first of its kind.

Moving towards Future Force 2020, and returning the 20,000 personnel stationed in

Germany, means the Armed Forces' estate requirements will change. As a result, the MOD has reviewed its future basing needs.

The driving force behind the review of basing is the military requirement. By 2020, the Army will be made up of five multi role brigades (MRB) of around 6,000 people.

These brigades need to be geographically close to suitable training areas so they can prepare for deployment.

On manning the Prime Minister commissioned an independent review of the Reserve Forces known as the Future Reserves 2020 Study (FR20). This was led by Vice Chief of the Defence Staff, General Sir Nicholas Houghton, working alongside Julian Brazier MP and Lieutenant General (ret'd) Graeme Lamb.

Levene looks to take MOD into the 21st century

Levene also said . . .



Above: Dr Fox visits BAE Systems to meet workers building the Royal Navy's new aircraft carriers

DEFENCE SECRETARY Dr Liam Fox has welcomed the findings of Lord Levene in his vision for how the MOD will run and be managed in the future.

Dr Fox said: "Since becoming Defence Secretary, I have been determined to bring the way the MOD is run into the 21st century.

"The existing structure and lack of accountability contributed to the dire financial position we inherited. We must take action to tackle the drivers of structural financial instability and the institutional lack of accountability endemic across defence, dealing with the root of our problems as well as the problems themselves.

"Lord Levene's report will help us deliver this, beginning the most radical shake up the MOD has seen in a generation. Together with the Chief of the Defence Staff and Permanent Secretary, I will transform Lord Levene's recommendations into meaningful change."

One of the key aims of the report is to empower the military, allowing single service chiefs to take greater control of their own allocated budgets and advise on the best balance between manpower, training, equipment and support etc that are needed to deliver the defence requirement. This will ensure that they can drive capability planning. New

oversight measures will ensure they will be properly held to account for so doing.

Lord Levene's report – 'Defence Reform: An independent report into the structure and management of the MOD' – also recommends a review of all senior non-front line military and civilian posts to determine whether they are needed and, if so, whether they should be civilian or military.

Lord Levene said: "The financial crisis in defence that the Government is tackling has been well-documented. We looked into the underlying organisational causes of the crisis and found that the way defence is structured and managed contributed to the loss of control over the budget, and

needs to change. As a result, many of the proposals in our report are designed to help prevent defence from falling back into such a poor financial situation in the future. That is not a distraction from providing the military capability the country needs; it is essential to it."

The next phase will include legally required impact assessments on some of the proposals, and a number of the recommendations affecting MOD civil servants will be subject to formal consultation with the trades unions. The MOD will also work with the Treasury on how best to move to this new model, with its greater measure of delegation from the centre of the department to budget holders.

Key recommendations

- Extra powers for the single service chiefs to run their services, including increased control of equipment programmes and greater freedom to flex within their budgets, as part of a much clearer framework of accountability and control;
- A smaller but stronger and more strategic Defence Board that will take major decisions, set direction, and hold the services and the rest of the department to account;
- The creation of a new Joint Forces Command, with a new military commander, to oversee and integrate joint military capabilities which currently sit across the three single services – including cyber warfare and military intelligence – to foster an increasingly joint approach within defence as a whole;
- A greater focus on affordability, with enhanced budgetary discipline and a cost conscious mentality at every level of the MOD.
- Streamlined decision making supported by a simpler structure with fewer senior posts, clearer responsibilities, and greater accountability;
- Making better use of people, including filling posts with the right person, with the right skills, and keeping them in post for longer; and new, more joint personnel management for senior military officers.

Selected observations:

■ CDM has a crucial role in managing the consequences of the over-committed equipment and support programme and should have the authority he needs to do that.

■ CDM should be a member of the new Defence Board.

■ We endorse the decision to give CDM the lead for commercial and industrial policy on behalf of defence.

■ The department should consider whether making CDM an additional Accounting Officer for expenditure on equipment and support would strengthen his authority.

■ We welcome increased use of the independent costing capability provided by the Cost Assurance and Analysis Service. The department should mandate the use of this service more broadly across defence to support investment decisions and planning.

■ There needs to be a disciplined interface between DE&S and its customers. It is for the customers – the Commands – to decide on their requirements, in line with the Command Plan agreed with the Defence Board. Command TLBs should be closely advised by DE&S which should only take responsibility for delivering projects it judges are technically feasible and properly resourced.

■ On science and technology, such advice plays an important role in acquisition decision-making, and should be factored in to the process from an early enough stage;

■ On logistics, the question of whether logistics support to the Forces is best carried out by DE&S, or elsewhere in defence should be examined as part of the detailed design of the JFC, working closely with CDM.

NEWSREEL

Sub work well on course

WORK continues to implement the decision to make Clyde naval base the main operating base for all of the UK's submarines. Peter Luff, Minister for Defence Equipment, Support and Technology told Parliament the deep maintenance of all submarines will continue to be conducted in Devonport. As the engineering support for submarines at Clyde will be delivered by the same contractor using similar materials and man hours, the Government has assessed that the cost of submarine maintenance will remain broadly the same.

Big in Japan

EUROFIGHTER partner companies have been in Tokyo to deepen the strategic partnership with Japan. Senior executives from BAE Systems, Alenia Aeronautica, and Cassidian in Spain and Germany discussed strategic next steps and held talks with Ambassadors of the four consortium member-nations – the UK, Germany, Italy and Spain. Eurofighter, its partner companies and the four member-nations are working to strengthen relations with Japan.

Prompt payers

THE MOD paid 94.75 per cent of its invoices from all suppliers within five working days over the last 12 months, according to the latest figures. The department, a signatory to the Prompt Payment Code, aims to pay at least 80 per cent within that target.

Attacker keeps coalition forces on the front foot

A NEW Imagery Management and Exploitation system has been delivered by a DE&S team to intelligence units in Afghanistan.

The Attacker project, an ISTAR system delivered by the Imagery and Geospatial (IMAGE) team, achieved initial operating capability last December.

In the past, imagery has been collected by, among others, Hermes 450, Reaper, Sentinel and Tornado, developed into intelligence and issued to commanders. It was mainly carried out in isolation and not easily available for wider dissemination.

Attacker aims to store collected imagery intelligence in a structured library and make it available to other analysts. This has been achieved through a set of interconnected Intelligence

Reference Libraries (IRLs) with exploitation software, by prime contractor Goodrich ISR Systems along with platform design authorities and D ISS engineers.

Project manager Colin Bates said: "Attacker uses the principle of the Nato Coalition Shared Database to provide a structured and distributed library system to store imagery intelligence with meta-data which makes information easily found and retrieved.

"This is a significant leap forward in achieving improved access to imagery and, through the implementation of Nato standards, interoperability with our coalition partners."

Attacker enables imagery to be collected once and used many times and establishes a UK model for future imagery storage and integration acquisition.

Dr Fox backs carriers to maximise capability



Above: Vice-Admiral Charles Montgomery, centre, starts the steel cut

'A tremendous asset for protecting global interests'

CONSTRUCTION ON the forward island structure for the first *Queen Elizabeth* aircraft carrier has begun in Portsmouth.

Employees and guests watched as Second Sea Lord and Commander in Chief Naval Home Command, Vice-Admiral Charles Montgomery cut the first steel.

Housing the bridge and navigation systems for the carriers, the forward island is fundamental to the effective command and control of the vessel.

The island also includes the vessel's long range radar, providing wide area surveillance up to 400 kilometres.

Vice-Admiral Montgomery said: "The *Queen Elizabeth* class will be joint assets for defence and, as such, will be a fundamental component of the UK's joint capability over the coming decades.

"By routinely carrying a Joint Force Air Group they will deliver air power from the sea wherever and whenever required and in a stronger and more decisive form than ever before."

Geoff Searle, Programme Director for the Aircraft Carrier Alliance, said: "With all but one section of the ship now in production, we are seeing significant progress, with thousands of people across the country working to deliver the nation's flagships to our armed forces."

The two-island configuration will mean carrier flying operations will be separate from the running of the vessels, resulting in maximum flexibility. BAE Systems will also build the aft island with production expected to start in the autumn.

THE FIRST of the Royal Navy's new aircraft carriers, converted to operate the Carrier Variant of the Joint Strike Fighter, WILL maximise UK Carrier Strike capability.

That was the message from Defence Secretary Dr Liam Fox in reply to the National Audit Office's June report into the project's value for money.

"The NAO noted that our decision to build the second new aircraft carrier makes financial sense, supports UK industry and the significant cost and capability advantages of the aircraft we now plan to fly from it.

"Converting one of the *Queen Elizabeth* class aircraft carriers to operate the more capable and cost-effective Carrier Variant of the Joint Strike Fighter fast jet will maximise our military capability and enhance interoperability with our allies.

"Operating the Carrier Variant fast jet will also over the longer-term offset the conversion costs.

"In the meantime we have rightly assessed that we can rely on our extensive basing and over-flight rights as we are doing to great effect in Libya."

The NAO report expressed concern that continuing difficulties in balancing the defence budget would leave Carrier Strike vulnerable to further change and that there were major risks in reconstituting Carrier Strike capability after a decade without it.

■ Carrier update: page 19



Towards a safer world

AW159 LYNX WILDCAT

AW159 Lynx Wildcat is at the cutting edge of digital design and manufacturing technologies creating a new aircraft for the UK Armed Forces with the aircraft engineer in mind

. . . technical excellence at its best



Vigilant back in the water

HMS VIGILANT is pictured in water for the first time since dry docking in November 2008.

As reported in last month's *desider* the Vanguard class ballistic missile submarine has been in Devonport undergoing her £300 million Long Overhaul Period (Refuel) carried out by Babcock.

The successful achievement of flood-up signals completion of around 80 per cent of the work programme on *HMS Vigilant*.



■ *HMS Diamond*, the third of the six Type 45 destroyers, has entered service following extensive sea trials.

Newly-appointed Head of Destroyers at DE&S, Cdre Stephen Braham, said: "This is a reflection of the continued impressive progress achieved on the Type 45 programme."

"Now, as *HMS Diamond* joins her two in-service sister ships, *HMS Daring* and *HMS Dauntless*, we can reflect that we have effectively moved past the midway point in accepting into service this superb class of ships."

"The balance for us is therefore subtly, yet increasingly shifting, as our focus moves from being one of executing a build programme to that of supporting a highly advanced and powerful in-service class of warship, capable of contributing effectively to a wide range of maritime, joint and coalition operations worldwide."

The ship's first operational deployment is due in a few months' time.

■ *Diamond* goes to 'war': page 21-23

Laptops make life easier on the front line

BRITISH troops will be equipped with the latest all-weather laptop computers to help them keep tabs on key pieces of kit.

DE&S has signed a £30 million deal to provide 12,500 portable PCs for disconnected exploitation of the Joint Asset Management Solutions (JAMES) capability, which went into service at the end of last year.

DE&S JAMES Capability Manager Stewart Ward said it would enable personnel to manage any of nine million pieces of Armed Forces' land-based equipment from wherever they were based in the world.

"The JAMES deployed system will assist with the management and maintenance of assets from vehicles to small arms, basically anything with a serial number, which could be on the parade ground in Warminster or on the front line of Afghanistan," he said.

"It knows where it is, where it has been, what it has done and what state it is in."

"If you need a 30mm gun it will tell you where one is available, and whether it is on a Warrior or a CVR(T), for example."

He added: "It gives visibility of assets from the front line all the way back to the depot and brings the whole of defence into a single view for the first time."

Laptops have already been delivered to personnel from 4 Mechanized Brigade in April.

The devices are built to withstand rain showers and duststorms and can cope with shocks, vibrations and survive being dropped from a height of 1.2 metres.

Peter Molyneux from manufacturer Getac said: "It looks rugged and it is. It's a notebook-tablet hybrid – troops can use the keyboard or if preferred the touch screen for data input."

"Our guys out there will be operating in difficult environments and the computer is an important tool, so it has to work."



Laptops, a vital part of front-line kit. Picture courtesy of *Soldier* magazine

DE&S socks it to the troops!

INNOVATIVE BACTERIA-ZAPPING socks which are 100 per cent waterproof are to be issued to troops in Afghanistan.

The knee length socks are filled with antimicrobial properties, similar to those found in medical dressings, and will provide troops with enhanced protection from the wet and cold conditions they may encounter in the field.

Secured under a £1.6 million, four-year contract with Norfolk based company SealSkinz, they are also much warmer than conventional socks.

Colonel Stephen James, DE&S' Defence Clothing team leader, said: "These new socks will be a real asset to our troops on the ground. They are warm and offer complete protection against the wet which is essential when the tactical situation

doesn't allow a pause to change into dry socks after wading. They will greatly help our forces to focus on the job in hand."

Andrew Dahl, managing director of SealSkinz, which is based in King's Lynn, Norfolk, added: "We are delighted to be awarded this contract."

"It has come about following significant development work and helps to demonstrate the real benefits of what is a unique and, for many still, an unusual product."

The socks will be issued to troops as part of their black bag, personal clothing allowance from late next year.

The SealSkinz waterproof socks use unique technology that combines a waterproof breathable membrane layer into a close fitting thermal sock.

Dynamic Integrated Telematics (DIT)

DIT securely monitors and reports on platform systems status from remote deployed locations. Exploitation of recovery usage data can provide more effective logistics, operations and maintenance of an entire fleet.

- Keeping assets in service
- Proactive maintenance
- More efficient logistics
- Improve operational effectiveness
- Enhanced situational awareness
- Improve duty of care
- Reduced support burden
- Secure remote management
- Option to provide real time alarms

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NEWSREEL

Carriers still on top

THE move to the F-35C (Carrier Variant) joint combat aircraft and associated modifications to the *Queen Elizabeth* class aircraft carrier will provide the UK with a world class capability from 2020, Peter Luff, Minister for Defence Equipment, Support and Technology has again underlined. "The joint strike fighter fleet will be jointly manned by the RAF and the Royal Navy. Navy and Air Commands are developing plans to sustain and then re-grow the skills and experience required to regenerate carrier strike capability," he said.

Fatigue life

FATIGUE life of the RAF Typhoon fleet is 6,000 flying hours per airframe which is sufficient to meet the planned out of service date of 2030, Peter Luff, Minister for Defence Equipment, Support and Technology, has said. Fatigue life of the RAF Tornado GR4 fleet is 7,000 flying hours per airframe, with a small number cleared to 7,500. Testing will verify an increased fatigue life of 8,000 hours sufficient to meet the planned out of service date of 2021.

Seminar date

FORMER 2nd Permanent Under-Secretary at the MOD Sir Ian Andrews will be the next speaker at the Defence Academy's lunchtime seminars. He will speak on 15 September in the Abbey Wood lecture theatre at 1pm. Bookings to 96161 4828

Staff switch to Abbey Wood confirmed

THE MOVE of MOD staff from Bath to Abbey Wood by March 2013 has been confirmed following consultation with trades unions.

Around 1,400 people employed at three sites in Bath (Enleigh, Foxhill and Warminster Road) will relocate to Bristol saving around £39.5 million over 15 years contributing to the MOD's continued rationalisation of the defence estate.

Defence Under-Secretary Andrew Robathan met local MPs, the local authority and trades unions and extended consultation to the end of June to consider points they raised.

Mr Robathan has decided that moving to Abbey Wood remains the most cost effective and efficient solution for defence. Moves are due to start in autumn 2012 and will complete by March 2013.

Relocation of these staff is in addition to the move of 1,200 DE&S staff who are already relocating to Abbey Wood by next March.

The Bath sites will be offered for disposal, with Foxhill and Warminster Road becoming available first and Enleigh being retained for a longer period until IT systems housed there drop out of service.

In line with usual MOD estate procedures, priority will be given to other Government

departments before they are offered for sale on the open market.

Mr Robathan said: "In these difficult times the MOD must continue to drive down support and estate costs wherever possible and this relocation will result in savings. This is why, after fully considering the concerns expressed to me, I have decided that, on balance, relocation from Bath to Abbey Wood represents the most cost effective and efficient solution for the department.

"I understand that the move to Bristol will represent a significant challenge for staff and we will provide them with a package of support to help them through the transition, including allowances for additional travel costs.

"We will work with the local authority and public transport providers to further develop our sustainable transport strategies for Abbey Wood and we will continue to work closely with the trades unions on all issues affecting staff."

This decision follows the Strategic Defence and Security Review which will result in the reduction of MOD staff numbers, including those based at Abbey Wood over the next four years. This has enabled DE&S to open up office space at Abbey Wood for other MOD organisations.

Puma 2 on debut flight



THE FIRST upgraded Puma Mk2 aircraft has made a successful maiden flight.

The one-hour flight was carried out from Eurocopter's facility at Marignane, near Marseille, France.

The trial installation aircraft is the first helicopter to be modified under the Puma Life Extension Programme which will extend the operational life of the Puma helicopter fleet and significantly enhance its capability, making it in many respects the UK's best performing medium helicopter in demanding hot, high and 'brown out' conditions.

The Life Extension Programme (LEP) delivers a major improvement in the aircraft including new Makila engines, a glass cockpit, modern avionics including a digital flight control system, integrated defensive aids and enhanced navigation and communications systems. These changes will improve the safety and performance of the aircraft.

The prime contract for Puma LEP development and production was placed with Eurocopter UK, based in Kidlington, in September 2009, with a challenging timescale which delivers the first modified

aircraft to RAF Benson in mid-2012 and completes in 2014. First flight demonstrates that the programme is making progress towards these goals.

DE&S Puma 2 Gazelle leader, Gp Capt Malcolm French, said: "I am delighted that the programme has achieved this important milestone. It is the first step on a programme of flight testing to proceed over the second half of 2011.

"Preparation for first flight has required a tremendous amount of hard work from the MOD and industry teams and their combined effort deserves emphatic congratulations."

Goodbye to the Nimrod

Waddington hosts fly-past to mark end of 37 years' service

Right: the final Nimrod makes a fly-past at RAF Waddington



THE FINAL two Nimrods – the R1 intelligence gathering version – have retired after 37 years' operational service.

Following the retirement of the Nimrod MR2 fleet last year, the two aircraft, in service with 51 Squadron, bowed out to a 700-strong audience of serving and retired RAF personnel at a ceremony held at RAF Waddington.

Chief of the Air Staff, Air Chief Marshal Sir Stephen Dalton, said: "There is no question this aircraft has given us the ability to do things that would be very much more difficult, and could have cost us more, if we hadn't had it."

The Nimrod R1 flew over Afghanistan in support of Operation Herrick for ten years, making it one of 51 Squadron's longest operational commitments.

Due for retirement at the end of March this year, the Nimrod R1 was given a three-month reprieve to enable participation in Operation Ellamy, supporting the Nato mission over Libya.

The replacement for the Nimrod R1 will be the Rivet Joint aircraft – known at DE&S as the Airseeker project – due into service with the RAF in 2014.

For now, RAF crews from 51 Squadron are already co-manning US Rivet Joint aircraft, continuing their support to operations.

Watching the Nimrod's final flight, RAF Waddington Station Commander, Group Captain Chris Jones, said: "The Nimrod has delivered a fantastic service to the RAF and at RAF Waddington since 1995. And it's a fitting way to say farewell."

... while CDM puts pen to paper on Airseeker support



CHIEF OF Defence Materiel Bernard Gray has formally signed the agreement to guarantee support to the UK's Rivet Joint systems.

Mr Gray was joined by Derek Whittaker, Airseeker's Delivery Manager, above left, and Paul Fielding-Fox, Airseeker Logistic Support Manager, in signing the Sustainment and Follow-on Development Memorandum of Understanding between the US and UK Governments.

The deal formally establishes a co-operative agreement through to 2025 for the support of the systems being procured from the US Government through a Foreign Military Sales case.

Valued at around \$850 million, the memorandum enables the UK to access spares to support its in-service equipment, provides US contractor assistance in country and on deployment, and covers deep maintenance of the aircraft fleet that includes capability updates every four years.

Met Office makes switch

RESPONSIBILITY FOR the Met Office is to pass from the MOD to the Department for Business, Innovation and Skills.

The MOD will continue to call on the Met Office, and its vital role in supporting the Armed Forces in the UK and overseas will not be affected by the transfer.

NEWSREEL

Crash findings are reversed

THE pilots in the 1994 Chinook crash on the Mull of Kintyre have been cleared of all blame. An independent review led by Lord Philip released on 13 July recommended previous findings that the pilots were grossly negligent should be set aside. Defence Secretary Dr Liam Fox said: "I set up this Review in the face of continued criticism of the official conclusion that the accident was caused by negligence to a gross degree and my own fear that an injustice had been done. The Review concludes that this finding should be set aside. I hope that this will bring some comfort to the families of the pilots and I would like to apologise on behalf of the MOD for the sorrow which was caused to them."

Gas detection

KETECH of Nottingham has been awarded a contract for Residual Vapour Detectors. The contract covers modification of the RVD design and then manufacture of several thousand of the detectors. RVDs are used by British troops as an 'unmasking aid'. They can detect residual amounts of nerve agents and mustard gas in less than a minute.

Dynamic move

GENERAL Dynamics UK is investing another £12 million at Oakdale in Gwent to localise all its Wales-based activities. The first phase sees a dedicated facility opened by the end of this year to deliver the key Scout SV programme for the British Army.



A Voyager aircraft, which will provide the RAF's future air-to-air refuelling capability, makes its first contact with a Tornado aircraft over the Irish Sea close to the Isle of Man. The Tornado is a BAE Systems-owned aircraft. Air-to-air testing began in late June at altitudes of between 10,000 and 30,000 feet at speeds of up to 325 knots. Wet contacts, where fuel is actually passed from tanker to receiver, was due to take place last month. Sorties have been conducted from Boscombe Down with QinetiQ support. The first Voyager, a specially converted A330 Airbus, is due at RAF Brize Norton in the autumn.

Picture: Airbus Military

Training building opens early

THE NEW facility for training personnel who will operate the RAF's new air tanker service was officially opened ahead of schedule on 20 June at RAF Brize Norton.

Service provider AirTanker has built the new facility alongside the AirTanker hub, opened earlier this year.

The building will be run by the training service integrator Thales Training and Simulation and will help train air and ground crew in classrooms and on a full flight simulator.

Work continues to support full introduction of the first aircraft, a converted A330 Airbus, into service later in the year. The A330-200 is a modern aircraft delivering high levels of capability, reliability, flexibility and economy.

When the full service operating 14 aircraft is up and running in 2016 there will be 500 people working on the programme, 200 civilians and 300 RAF personnel.

Military missions will be flown by and under control of the RAF.

Voyager wows RIAT to impress on public debut

VOYAGER HAS been flown by an RAF pilot at the Royal International Air Tattoo (RIAT), Fairford, for its first public appearance.

Fourteen aircraft and a complete support package are being provided to the RAF under a 27-year £10.5 billion Private Finance Initiative (PFI) contract signed with the AirTanker consortium.

In addition to the aircraft, the service will provide training and maintenance, and brand new purpose-built buildings at RAF Brize Norton, the RAF's air transport hub.

Defence Secretary, Dr Liam Fox, who attended the 15 July naming ceremony, said: "This magnificent aircraft is the future for the RAF's air-to-air refuelling and passenger transport capability."

Chris Dell, leader of DE&S' Strategic Transport and Air-to-Air Refuelling team, added that it was a pleasure to see Voyager on show to the public for the first time.

"When it comes into service Voyager will provide a step change in capability. The innovative PFI contract structure ensures the risk of ownership and availability



Voyager at RIAT and, inset, Dr Liam Fox
Pictures: Andrew Linnett and Andy Perryman

of the aircraft, including associated support and training to provide that capability lies with industry," he said.

Voyager has a colossal 60 metre wingspan and is nearly 60 metres long. It is a dual role tanker and transport aircraft and will replace the long-serving VC-10 and TriStar.

It is a considerable capability boost, able to carry almost 300 troops more than 6,000 miles and to refuel other aircraft with 100,000 litres of fuel – greater than two large petrol tankers. Voyager can refuel aircraft at a rate of 5,000 litres per minute – a

garage forecourt petrol pump delivers fuel at 40 litres per minute.

Chief of the Air Staff, Air Chief Marshal Sir Stephen Dalton, said: "Voyager is the airborne part of a flexible and cost effective whole-service contract which will enable the rapid movement of personnel around the world and provide unprecedented global reach to our combat aircraft."

Now Ambush shapes up to prove she has teeth too

Second Astute boat passes weapons handling tests

WEAPON SHAPES have been fired by *Ambush*, the second *Astute* class submarine, as part of its testing and commissioning programme.

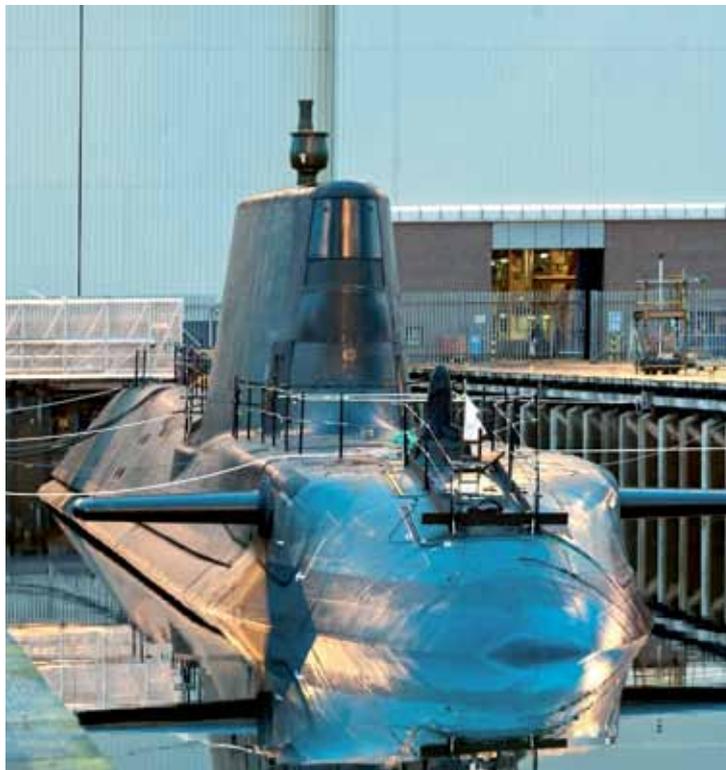
Successful launches were made from all tubes in a test of the submarine's Babcock-designed weapons handling and launch system (WHLS).

The *Astute* class system is smaller, quieter, and more flexible than previous Royal Navy submarines, optimising firing profiles for the range of weapon types that the system can carry.

The submarine is being built by BAE Systems, and a series of tests was carried out at its site in Barrow-in-Furness in June, involving firing of Tomahawk missile and Spearfish torpedo shapes which confirmed successful operation of the weapons stowage compartment (WSC) and launch system.

The WHLS comprises equipment to embark, store, reposition and load weapons into the torpedo tubes.

Configuration of the weapons in the WSC provides the highest packing density of weapons, with the capability to carry more torpedoes and tube-launched missiles than any other class of Royal Navy submarine.



Another milestone successfully passed: *Ambush*, pictured at Barrow-in-Furness

During the weapons trials a large crane lifted the weapon shapes onto special embarkation rails, from where they were manoeuvred into the WSC before being fired.

The weapons trials were witnessed by DE&S Chief of Materiel (Fleet) Vice-Admiral Andrew Mathews.

Babcock Project Director Gavin Borland said: "These trials have successfully demonstrated the integrity and operation of the

WHLS as we work towards the future launch of fuelled weapons during sea trials."

BAE Systems Commissioning Manager for *Ambush*, Jeff Nesbitt, added: "This was the culmination of a very busy period for the production and testing teams, where the weapons discharge programme and weapon embarkation had to be carefully integrated with other complex elements of the build programme."

More contracts mount up on next Astutes

BABCOCK HAS received the full contract to provide its weapon handling and launch system (WHLS) for the fifth submarine in the *Astute* class.

Babcock has designed and supplied WHLS for the first four *Astute* class boats (*Astute*, *Ambush*, *Artful* and *Audacious*) under earlier contracts.

The latest contract follows an earlier contract for the long-lead items, and is accompanied by a long-lead items contract for Boat 6.

The *Astute* class WHLS is made up of more than 20,000 components, it is capable of carrying more torpedoes and tube-launched missiles than any previous class of Royal Navy submarine, and is smaller, quieter, and more flexible, optimising firing profiles for the range of weapon types that the system can carry.

BAE Systems Head of Supply Chain – Complex Systems, George Teasdale, said: "The signing of the Performance Partnering Agreement

for the placement of the Boat 5 contract and the Boat 6 long lead opportunity demonstrates the long term commitment between BAE Systems and Babcock.

"BAE and Babcock have adopted a one-team approach to meeting the enormous challenges both commercially and technically of supplying such a complex scope of supply. Dedication and excellent support provided to the programme by Babcock have enabled the signing of the PPA."

NEWSREEL

Minister heads for conference

PETER Luff, Minister for Defence Equipment, Support and Technology, will be the keynote speaker at Modern Infantry and FIND 2011, two events on military equipment co-organised by Shephard and ADS, the UK's organisation for Aerospace, Defence and Security, at the National Shooting Centre at Bisley on 9-11 November.



Luke moves

LUKE Van Beek, above, involved in writing the maritime chapter of the 2005 Defence Industrial Strategy while a commodore in the Royal Navy, is the new Business Development Director at Raytheon UK. Mr Van Beek, who has moved from consultancy Mott MacDonald, was awarded a CBE in 2007 for his services to UK defence procurement.

Green MOD

BETWEEN 14 May 2010 and 13 May 2011, the MOD reduced carbon dioxide emissions from its office estate by 14.8 per cent, the latest figures show. Under the Green Government Commitments, the MOD is committed to deliver a 25 per cent reduction in greenhouse gases by 2014-15. The MOD is still collating emission data for June 2011 which will also include emissions from its operational estate.

New air traffic control tower gears up for full operations



Busy: Bastion's control tower, (left), has become as busy as a medium-sized civil airport tower in the UK

Bastion's controllers heap praise on DE&S teamwork

CAMP BASTION'S new air traffic control tower, set to achieve full operating capability before the end of the year, has been well received by RAF controllers.

The tower is currently handling around 14,500 aircraft movements per month at the Afghanistan base, up from just a handful a day five years ago. It is more than most civil airports in the UK.

"In terms of facilities Bastion's tower is one of the best we have in the RAF," said Sqn Ldr Tommy O'Flaherty, the senior controller at Bastion.

"Bastion air traffic control is the most challenging air traffic environment. This is a brand new facility, purpose built for the job."

It is testament to DE&S' Air Defence and Air Traffic Systems team (ADATS) whose work on Operation Maintop – to ensure controllers have the best facilities to cope with increased traffic in a unique operating environment – delivered initial operating capability inside 13 months.

Normal timescales of 18-24 months were compressed by ADATS' determination along with the work of 90 SU Aerials, FEKA (tower contractor) and the Royal Engineers. The project has involved up to 50 team members at various times who were also working on the rest of the day-to-day outputs of the ADATS team.

Maintop demonstrated the need for UK military to maintain specialist engineering skills to provide the speed of response that may not always be achieved through contractor support alone. ADATS retains these skills which underpin delivery of military air traffic control and air defence capability worldwide.

WO Anthony Vickers

of ADATS said: "This was a highly successful build and highlighted the distinctive qualities of the ADATS design staff and in particular the ADATS installation team.

"It is difficult to see how such a unique and complex task could have been carried out by any other agency."

Stephen Hodgson, ADATS Chief Engineer, added: "Maintop involved almost every aspect of the team – design, construction, logistics, installation, acquisition – but critically the management skills to deliver such a project of this scale, on time and under budget.

"This speaks volumes for the level of service and capability the team is able to provide. With compressed timescales and geographical constraints, the team's response was impressive and professional; delivery of some of the major equipment contracts by industry was particularly challenging.

"Indeed, the versatility of ADATS and 90 SU staff detached in theatre over the equipment installation phase was paramount to achieving the goal."

ADATS is now working towards full operating capability with installation and commissioning of fixed navigational aids. Work has already started with the installation of a Tacan (tactical air navigation) TRN 26 and equipment shelter.

Two instrument landing systems will be maintained by 90 SU personnel once installed and a non-directional beacon as a suitable area aid for non-Tacan equipped aircraft. By next month the team hopes to have relocated the Watchman radar and Secondary Surveillance Radar.

Mr Hodgson added: "We have gone from a portable cabin on stilts to a purpose-built tower, equipped with the latest facilities.

"ADATS has been a major player in this great achievement and it will continue to install more airfield navigation aids over the next year, to further enhance the capability at the front line."

Hard labour: more work is necessary before the tower achieves full operating capability



Life-savers see lives extended

DOUBLING THE life of fire extinguishers on a range of tracked military vehicles is likely to save up to £5 million through-life.

A range of fire detection and suppression systems are fitted to engine, winch and hydraulic bays as well as crew compartments in Titan and Trojan, Challenger 2 Main Battle Tanks, driver training tanks, CRARRV and Panther.

Until now the lifespan of the systems has been five years, because of general wear and tear and degradation of seals and materials. Changing the systems is labour intensive and needs planning to minimise downtime of the vehicles.

The Special-to-Role (STR) Systems team in DE&S' Combat Tracks Group has been looking to extend the five-year policy.

Andy Buss and Steve Atkin have managed the policy change. "We were keen to ensure that the life extension would not compromise the aim of the systems which is to save lives," said Andy.

Buy-in from equipment suppliers and the Design Authority brought significant technical hurdles to overcome. The team is now introducing accelerated life trials to show there are no hidden scientific reasons why a ten-year life or longer cannot be achieved.

Terry Smith, Special To Role Manager, said: "The benefits to the customer and the taxpayer through this



Extending the life of fire extinguisher systems: project manager Steve Atkin

change in lifing policy cannot be overstated. Not having to change fire extinguishers at their five-year point will significantly reduce platform downtime while delivering in-year savings of £1.2 million and a further projected £3.5 million through-life saving.

"Success of this workstream is prompting other project teams to look at their own extinguisher lifing policies with a view to adopting a similar approach to that of STR and hopefully achieve similar efficiency savings. I commend the team on a job well done."

Hub helps out Hercs at Brize

RAF HERCULES aircraft will be able to use hangar space at the new air transport hub at RAF Brize Norton in a contract signed last month with AirTanker.

The contract provides the RAF with exclusive use of one bay of the AirTanker hub as a temporary line maintenance facility for up to two C-130 aircraft over 16 months.

This includes all storage, heating, overhead lighting, power, cleaning and air services.

Amenities for up to 25 maintenance personnel are also provided on site by AirTanker in the new facilities at Brize.

The hub is a maintenance facility, flight operations centre and office accommodation for military and civilian personnel involved in the Future Strategic Tanker Aircraft (FSTA) programme which is set to begin at Brize Norton later this year.

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NEWSREEL

Typhoon boost in popularity

INTEREST in Typhoon from other nations is expected to increase following its role in current operations, Minister for Defence Equipment, Support and Technology Peter Luff has said. "Typhoon has already been exported to Saudi Arabia and Austria, where it is in operational service. It is also competing in other important markets. Oman has announced its intention to buy Typhoon, and India has selected it for the final phase of its medium multi-role combat aircraft competition. I expect an increase in interest following its highly successful air defence and ground attack roles in current operations, in which it has consistently demonstrated exceptional levels of reliability, performance, accuracy, and cost-effectiveness."

Foxhound boost

AXLETECH International, a General Dynamics company, has delivered the first drivetrain and suspension components to Force Protection Europe for DE&S' Light Protected Patrol Vehicle programme producing the Foxhound. Force Protection are building an initial 200 Foxhounds for the British Army.

Four more

FOUR more RAF Tornado GR4s – bringing the total to 16 – have deployed to Gioia del Colle in Italy, primarily in the reconnaissance role to further support operations over Libya.

UK is closing in on JSF Carrier Variant testing

DE&S IS hoping to acquire a Carrier Variant version of the Joint Strike Fighter aircraft for testing by the end of the year.

The UK has already bought three short take-off vertical landing aircraft (STOVL) to take part in operational tests alongside the US.

This was before the announcement of changes to future strategy in the Strategic Defence and Security Review last autumn.

DE&S' Joint Combat Aircraft team is currently negotiating with the Department of Defense to exchange the third of the STOVL aircraft, which has yet to begin final assembly, for a Carrier Variant.

It is a unique deal which has been agreed in principle between Chief of Defence Materiel Bernard Gray and his US opposite number Dr Ashton Carter, Under-Secretary



Above: six F-35A conventional take-off and landing test aircraft are pictured at Edwards Air Force Base in the Mojave Desert. The UK is set to buy a Carrier Variant for testing.

of Defense, Acquisition, Technology and Logistics.

The deal requires Congressional approval in the

US and Treasury agreement in the UK, both of which are anticipated by the end of this year. It is expected to save £100 million for the MOD.

The UK is a level 1 partner in JSF and currently has more than a dozen UK personnel at Edwards Air Force Base, including the nascent UK JSF Test and Evaluation Squadron, a UK weapons engineer and a mission systems expert.

In a critical year for the JSF development programme, performance statistics for all variants of the aircraft based at Patuxent River in Maryland, are well above expected levels in the number of flight tests performed and the value of test points achieved.

Currently at 'Pax River' there are four STOVL and three Carrier Variant aircraft in the developmental test programme.

It is here where the UK's F-35 test pilot and associated integrated test force is located, including eight engineer maintainers, two of whom are fully qualified F-35 crew chiefs.

"UK involvement in F-35 developmental flight test involves many facets of the programme and provides for a rewarding personal contribution as well as building significant UK insight and knowledge in the largest defence project in the world," said a spokesman for DE&S' Joint Combat Aircraft team.



Fuselage supply on target

BAE SYSTEMS has delivered the 50th F-35 rear fuselage and empennage (vertical and horizontal tails), pictured above, to its partner Lockheed Martin in Fort Worth, Texas.

Tim Boness, Production Director F-35, said: "Fifty down but more than 3,000 to go. It sounds like a drop in the ocean but we've come a long way since we started manufacturing back in 2004.

"With production orders now moving through at a rate of three per month and the US Air Force flying the aircraft for themselves there is a real buzz in the air. The goal for the 1,200 employees on the F-35 programme at Samlesbury is to be ready to meet the peak rate production of one aircraft set a day in 2016.

"It's a production challenge on a size and scale normally associated with commercial aircraft but we have a much more complex and advanced product."

BAE Systems is responsible for design and delivery of the aft fuselage and empennage for each of the three F-35 variants, as well as key areas of the vehicle and mission systems for the US Air Force, Marine Corps and Navy, the RAF and Royal Navy, and allied forces worldwide.



Carrier No 1 is quick off the blocks

THE FINAL rings of the forward hull section – the 6,000-tonne Lower Block 02 – of the first *Queen Elizabeth* class carrier have been brought together at BAE Systems Portsmouth.

Two huge ring sections of Lower Block 02 were joined together in a 30-minute move involving 26 remote controlled hydraulic transporters. Workers carefully manoeuvred a 3,700 tonne slice of the block over 25 metres across the company's production hall, where it was carefully lined up to join the rest of the hull.

The hull block is made up of five rings. The first were joined up last April and the block is due to leave for assembly in Rosyth next April.

Steven Carroll of BAES Surface Ships said: "Bringing together Lower Block 02 marks the beginning of an exciting stage in the block's life. The team will now begin the task of connecting the pipes, cabling, ventilation and machinery which runs throughout the block."

"As the block takes shape, the sheer size and scale of this engineering project becomes even more apparent."

Goliath gets ready to give Queen Elizabeth a lift

GOLIATH – THE largest lift capacity crane in Britain – has now been commissioned in Rosyth, another stage towards its task of assembling the *Queen Elizabeth* carriers.

It will see its first operational use in the autumn after a series of proving trials.

The partially-erected crane arrived at Rosyth earlier this year from China, where it was manufactured by Shanghai Zhenhua Port Machinery.

The last four months have seen a busy programme to erect, test and commission the crane, involving around 100 people.

The crane stands at a height of 68 metres to the underside of the main beams, with a span of 120 metres to straddle the construction area of the new carriers, and a lift capacity of 1,000 tonnes.

It will lift and place the carrier sub-blocks and components without disrupting the dockside.

Drivers are being trained on a specialist simulator in time for the crane's operational use.

Commodore Steve Brunton, Head of Capital Ships at DE&S,



All set to go: Goliath looms over the carrier dock at Rosyth

said: "Goliath has certainly changed the landscape at the Babcock yard. Seeing it close up and fully constructed at the handover ceremony was a very impressive sight, one which cannot be forgotten as its size really is quite breathtaking.

"I'm very much looking forward to seeing the crane in operation as it starts assembly

(this autumn) of the largest ships ever constructed for the Royal Navy."

Babcock project director Sean Donaldson said: "Assembly and offload ashore phases presented the project team with a number of significant risks to manage, and, working with ZPMC, this was achieved with no lost work days due to injury."

NEWSREEL

Spare parts contract

UK gunmaker Manroy has signed a £1.6 million contract with the MOD to supply spare parts for the 0.5in calibre Heavy Machine Gun. Delivery will begin as soon as production capacity allows. Glyn Bottomley of Manroy said: "This is a valuable win for us and further demonstrates the strength of our ongoing relationship with the MOD."

Show time

GENERAL Dynamics UK has announced a three-year partnership with the British Forces Foundation to help boost troop morale. Sponsorship will help the charity develop its entertainment shows for British servicemen and women worldwide. Shows on the front line can cost from £6,000 to £25,000 depending on staging and equipment required.

Ship named

THE last of three corvettes built by BAE Systems for the Royal Navy of Oman has been named *Al Rasikh* in a launching ceremony at Portsmouth naval base. Next year the first of class *Al Shamikh* and her crew will undergo the UK Royal Navy's Flag Officer Sea Training programme.

New role

DR Andrew Tyler, former Chief Operating Officer of DE&S, is the new chief executive of Marine Current Turbines, a tidal stream energy company. Dr Tyler left DE&S at the end of June.

New training will leave re-supply a cut above

WORK HAS begun at *HMS Raleigh* on its new bespoke training facility that will teach Royal Navy and Royal Fleet Auxiliary personnel how to safely transfer vital supplies from ship to ship while at sea.

Taking on supplies at sea is vital to maintaining global reach. During Replenishment at Sea (RAS) ships can come within 50 metres of each other, travelling at at least 10 knots, which equates to approximately 11 miles per hour. The ships are linked together by heavy tensioned wires which are used to transfer fuel, munitions and general stores.

DE&S signed a £25 million contract with Rolls-Royce Power Engineering in Filton, Bristol last January. The company will manage the construction of a land-based demonstrator, known as Heavy RAS (HRAS), to trial new equipment which will increase the amount of stores that can be transferred from the existing two tonnes to five.

The new facility will be part of *HMS Raleigh's* Seamanship Training Unit and will include a classroom block and RAS systems built around a 25-metre steel mast and steel ship structures, replicating those found on a supply vessel and the receiving warship. Building work is due to complete in 2014.

Commodore Dave Preston, Head of Afloat Support at DE&S, said: "We are delighted that



Left: Rear Admiral Tom Cunningham, Chief of Staff (Aviation and Carriers) and Rear Admiral Fleet Air Arm, (left) cuts the turf alongside Richard Dingley, Rolls-Royce, Senior Vice President Naval. Picture: Dave Sherfield

Above: how the new facility will look

construction has now begun on this important site. The RN and RFA crews will benefit from training for operations in this safe and controlled environment before undertaking it at sea."

Richard Dingley of Rolls-Royce added: "The new Rolls-

Royce HRAS system will deliver a significant improvement to operations, by accelerating the transfer of essential supplies between vessels.

"The new equipment is capable of handling much heavier loads, faster and more effectively, moving five-tonne loads at the demanding rate of 25 per hour."

... and this is RAS in action



Replenishment at sea: *RFA Fort Rosalie* supplies *HMS Albion*

HMS ALBION has proved herself the busiest ship in the Royal Navy for conducting replenishments at sea.

Most ships pass a test in replenishment at sea during Flag Officer Sea Training at Devonport, followed by the occasional refuel from a tanker.

But Plymouth-based *HMS Albion* has gone much further.

Six major replenishments have been completed in under three weeks with the longest being more than five hours. More than 200 Nato pallets of victuals, ammunition, oils and consumable general naval stores have been transferred onboard along with enough fuel to travel more than 3,000 nautical miles.

Petty Officer Craig Smith said: "In 20 years of service, ten of those as a seaman specialist, I have come to the opinion no RAS is the same. It is paramount you have confidence in two things; the kit and the people. To my mind, a RAS is perhaps the single most dangerous evolution carried out by the Navy in peacetime."

Action stations! Diamond prepares for war

And it's all on the
latest DE&S-procured
land-based training
system

See pages 22 and 23

'The Maritime Composite Training System enables us to put the building blocks in place before going to sea for the first time and doing it for real. MCTS also replicates the ship very accurately, which gives us very realistic training' – Cdr Ian Clarke, commanding officer of *HMS Diamond*

Royal Navy fights the war

Water streams down the Bridge windows as the waves break over the 4.5" gun and Sea Wolf missile launcher. The bow powers through the choppy English Channel swell as *HMS Iron Duke* races to confront the underwater threat of a suspected submarine contact off the UK coast.

The Type 23 is joined by her sister *HMS Richmond* while *HMS Daring*, the Royal Navy's latest and most powerful destroyer, moves in to offer protective air cover against an increasingly belligerent aggressor.

For the Operations Room staffs of all three ships it's a nervous time as the tension and anticipation mounts. One glance at the Royal Navy's Warfare Branch personnel in each ship reveals the combination of concentration, perspiration and claustrophobia so characteristic of potential contact with the enemy.

There is an air of confidence in the steady stream of firm commands, direction and guidance that is reiterated over radio circuits between the ships. A whistle blows, a shout of urgent warning of an unrecognised aircraft approaching....

A closer look reveals not one piece of real Operations Room equipment, yet it feels so familiar; banks of flat panel LCD screens faithfully replicating the kit that is used at sea in the real world.

This is synthetic training at the Maritime Warfare School at *HMS Collingwood*, a few miles inland from the Hampshire coast – you can't even see the sea. The three Operations Rooms are not separated by miles of water, but a partition wall. Each ship's crew can't see each other, yet they are just footsteps

apart as they 'fight' their respective roles. Experienced warfare training staff are blended into the numbers, monitoring the operation, adding complexity and value to the incident as and when required. It is fast-moving stuff – without, of course, the unpredictability of a Channel swell and weather.

This is the Maritime Composite Training System (MCTS), a £108 million investment by DE&S and delivered by BAE Systems to provide shore-based warfare operator training until July 2018. It has been schooling Type 45 Destroyer Warfare teams since October 2009 and later this month is set to go live, training crews for the rest of the Navy's surface warfighting fleet.

"MCTS brings a step change in the way the Royal Navy does its surface fleet warfare training," said Commander Clarke Brown, Requirements Manager with DE&S' Training, Stores and Boats team. "It is flexible and reflects the modern Navy. For warfare personnel it offers cradle to grave training. People will come in at the start of their careers and will revisit MCTS again and again as they progress through their careers."

MCTS is on two sites nearly 200 miles apart but connected by a secure wide area network (WAN). At *HMS Collingwood* there are three reconfigurable Warfare Team Trainers and eight Electronic Classroom Trainers with a slightly smaller but similar facility at Devonport consisting of two WTTs and one ECT. Through a huge number of permutations MCTS can replicate all platform types in various configurations. The system is the most radical change to maritime training for more than 40 years, replacing the now obsolete

simulators in Cook Building at Southwick Park (formerly *HMS Dryad*). Training at Cook involved a complete build of ship's Operations Rooms ashore, with real equipment, expensive to support and which, on occasion, even saw pieces commandeered to replace kit on ships at sea.

Training at Cook was good for its time, but fixed equipment (and hence ship class representations available) and manning limitations imposed by the Cook training cycle meant that it was an inflexible and unrepresentative training vehicle for the 21st century. A new class of ship meant building new equipment into Cook.

The MCTS approach offers flexibility across six in-service ship classes and three surface command systems. The almost endless configurations and level of complexity of training that can be delivered are a step change from the legacy systems.

MCTS uses off-the-shelf technology which makes it cheaper to maintain through life. It does, however run real operational software, training warfare operators on three command systems, DNA2, CMS and ADAWS, which cover Type 23 frigates, Type 42 and 45 destroyers along with *HMS Ocean*, *HMS Illustrious* and the amphibious ships *HMS Bulwark* and *HMS Albion*. Work is already in hand to consider training for sailors who will join the *Queen Elizabeth* class carriers later in the decade and the Type 26 Global Combat Ship after 2020.

Interoperability with the US and other Nato navies is also built into MCTS while further phases of the broader Maritime Synthetic Training (MaST) programme will seek to provide training on board ships that can be linked to MCTS to enable scenarios to be enacted across the maritime domain.

The contract began in 2005 but delays caused by the complexity of the system and emerging fleet priority in 2009 saw the project concentrate on Type 45 training – something Cook could not do. Now it is ready to accept around 1,000 career course trainees a year plus providing a further 66 weeks per year of continuation and team training for Fleet units and those coming back to learn more or maintain their warfare



at sea – on land

skills. Initial operating capability, where pilot courses will be run and validated internally, is set for autumn 2012 with full operating capability in September 2013. The contract, whose value has remained the same since signing, runs until 2018.

It is good news so far for stakeholders. Jeremy Tuck, maritime training leader with BAE Systems Mission Systems, said: "We are delighted to be involved in this important Royal Navy programme and have used our experience in maritime operations to develop a cutting-edge, versatile training environment for Royal Navy personnel to develop and practice their skills."

Cdre Tim Lowe, commanding officer of the Maritime Warfare School, added: "My staff were, like many, wary of the changes that MCTS will bring but, as a direct result of what we have seen, they are keen to get in and use the system as soon as possible."

For the Operations Room personnel involved in chasing submarines in the Channel, within a few minutes the scenario switches to dealing with hostile contacts in the Straits of Gibraltar (or wherever else the Navy would choose to operate), placing the ships' air

warfare teams under realistic pressure. An afternoon spent in Hampshire or Devon rather than a fortnight in the Mediterranean; for uniformed personnel it reduces the amount of non-operational time spent away from home.

Cdr Brown remarks on the efficiencies this synthetic training can offer. "When you consider the skills generated in MCTS you are able to completely de-risk the follow-on live training element. You can train people over and over again at minimal cost in comparison to training at sea with its weather vagaries and increased potential for equipment or asset failure."

Which begs a question: "Will we ever do all synthetic training and no live training? No, I don't think so. There is a live/synthetic balance and although we don't yet understand what that balance actually is, we will, given experience of MCTS."

"But if you have to send someone to war tomorrow you can drill them here today and you know they will go prepared."

"If they go live training they may get only a percentage of what MCTS can give them."

"That's the beauty of MCTS."

Industry helps project firm up

BAE SYSTEMS is the prime contractor, systems integrator and supplier of major elements of the Warfare Team Training solution.

DE&S provides JMNAN secure Wide Area Network.

VT Flagship Training built the *HMS Collingwood* building, provides facilities management and role players at *HMS Collingwood* and Devonport naval base.

MacDonald, Dettwiler and Associates provides the classroom-based skills training for generic individual and sub team skills training.

Thales provides electronic surveillance measures and Sonar 2087.

MBDA provides PAAMS software.

Selex provides electronic warfare command and control components.

Aerosystems International provide Link 16/Link 11 expertise and training.

Hewlett Packard provides the Command Support System.

Serco built the Devonport building.

Pennant provides computer-based training packages for CMS and DNA(2) command management systems.





Defence Secretary Dr Liam Fox said:

“This impressive milestone is testament not only to the Tornado as a cutting edge military aircraft but also to the skill and professionalism of the RAF aircrew, engineers, and support staff who have supported it in service for more than 30 years, and who continue to deliver its world leading ground attack and reconnaissance capabilities today in Libya and Afghanistan.”

Chief of the Air Staff, Air Chief Marshal Sir Stephen Dalton, said:

“Tornado has been used to deny enemy airfields and strike their hardware and infrastructure, enforce no fly zones, provide close air support to troops on the ground and it continues to be a world leading combat intelligence, surveillance and reconnaissance aircraft in Afghanistan and Libya.

“The range of sophisticated precision weapons and cutting-edge sensors Tornado carries and the ability to grow these capabilities further will provide the Royal Air Force with the rapid far-reaching air power it requires to protect the nation’s interests for many years to come.”

One million flying hours – and counting

The RAF’s ground attack Tornados, currently serving in Afghanistan and Libya, have clocked up a staggering one million flying hours over their service lives. Number 617 Squadron – known as the Dambusters – took the aircraft through the landmark in Afghanistan in early June.

The deep strike and reconnaissance aircraft were first flown by the RAF in 1979 and have been at the forefront of operational service ever since.

From its service in the Gulf spanning 20 years and two Gulf

Wars, through its operations in the Balkans and current deployments to Afghanistan and Libya, Tornado has proved itself in battle time and time again.

Tornado has a range of highly accurate precision missiles and bombs that can destroy a vast range of targets from aircraft and small moving vehicles on the ground to heavily fortified bunkers.

The aircraft also has a selection of high-tech sensors that can detect hostile enemies, pass live day and night video to troops on the ground and take detailed reconnaissance pictures as they have done over Helmand Province and Libya.

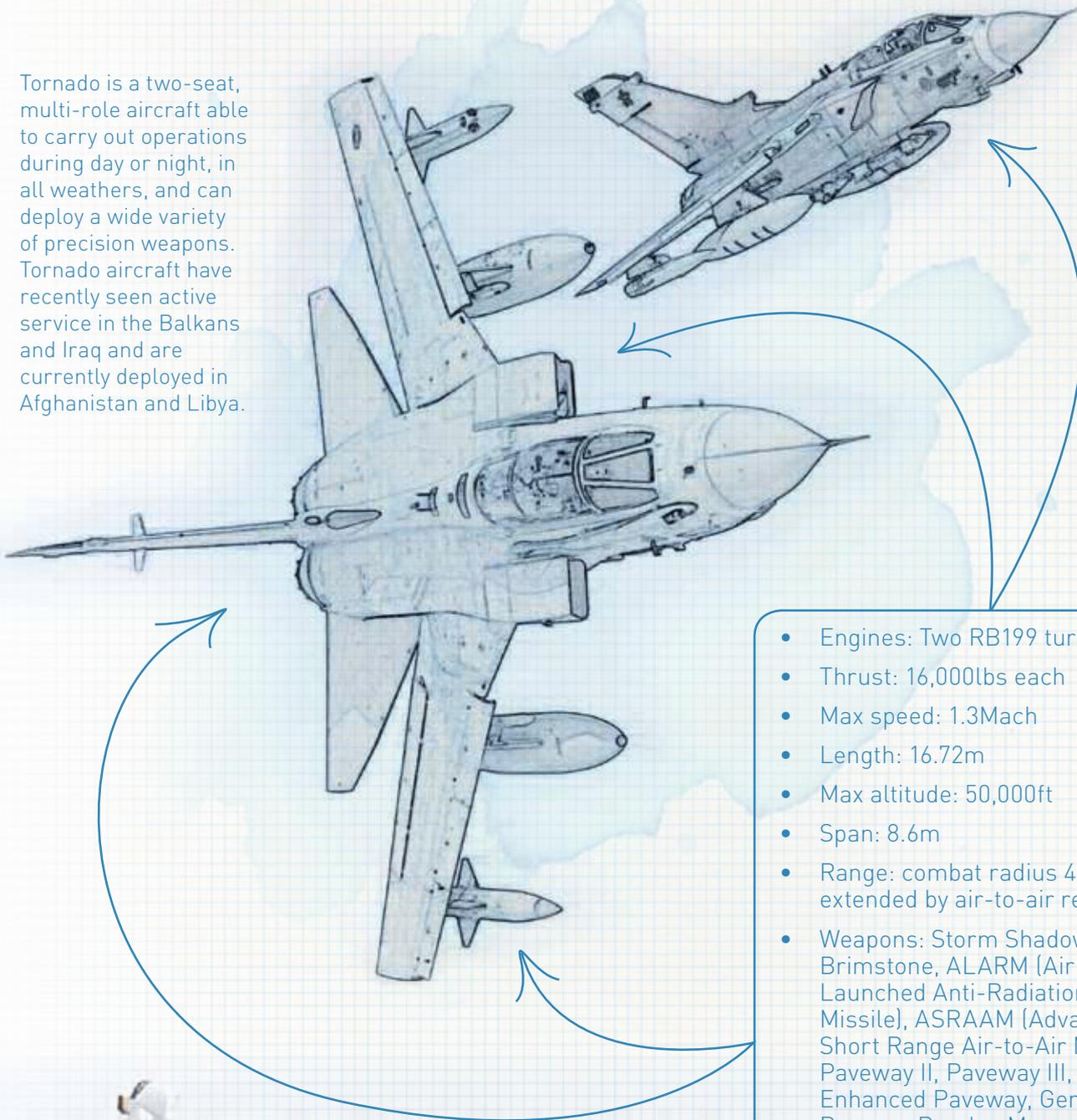
Gp Capt Andy Read, Deputy Head (Tornado) with DE&S’ FAST team, said: “This is a significant occasion for the Tornado ground attack aircraft, which has contributed so much to national and international defence. All those RAF and MOD personnel who have been associated with the project over the years, and not forgetting our industrial and international partners as well, can be very proud.”



Armed and ready: a Tornado GR4 takes off from Gioia del Colle in Italy for a sortie over Libya



Tornado is a two-seat, multi-role aircraft able to carry out operations during day or night, in all weathers, and can deploy a wide variety of precision weapons. Tornado aircraft have recently seen active service in the Balkans and Iraq and are currently deployed in Afghanistan and Libya.



- Engines: Two RB199 turbofans
- Thrust: 16,000lbs each
- Max speed: 1.3Mach
- Length: 16.72m
- Max altitude: 50,000ft
- Span: 8.6m
- Range: combat radius 460 miles extended by air-to-air refuelling
- Weapons: Storm Shadow, Brimstone, ALARM (Air Launched Anti-Radiation Missile), ASRAAM (Advanced Short Range Air-to-Air Missile), Paveway II, Paveway III, Enhanced Paveway, General Purpose Bombs, Mauser 27mm

Key Facts

One million flying hours would be enough for one aircraft to fly 16,000 times round the globe, to the moon and back 800 times or to the sun and back twice.

The RAF has five front line squadrons, Numbers 12 and 617 Squadrons at RAF Lossiemouth and Numbers 2, 9 and 31 Squadrons at RAF Marham. The Operational Conversion Unit, 15(R) Squadron is also based at RAF Lossiemouth.

Currently 617 Squadron is deployed in Afghanistan and 2 Squadron is deployed in support of operations in Libya.



Typhoon – a comin

Since its introduction to service the Typhoon has continually proved itself worthy of the confidence placed in it by its designers. Now it's performing an even more proactive role – on operations over Libya

Typhoon, the multi-role fighter performing UN-backed sorties over Libya, has come of age, according to the RAF pilots who are flying it.

Typhoon is working alongside Tornado GR4 aircraft deployed to Gioia del Colle in southern Italy as part of Operation Ellamy, the UK's contribution to Nato operations over the north Africa nation.

So far its performance is 'spectacular', to quote one of its pilots.

"I've now completed 30 sorties in support of United Nations Security Council Resolution 1973 so I feel qualified to say that the Typhoon has come of age," said the Gioia-based airman.

"From a pilot's perspective, the aircraft is spectacular. You could not find a more comfortable aircraft to fly. The cockpit is large by fast-jet standards and the information from the radars is displayed easily and accessibly. This allows you to function at 100 per cent capability throughout the sortie, not plagued by fatigue or a lack of situational awareness."

Since Typhoon entered operational service with the RAF in 2007, it has taken on responsibility for defence of UK and Falkland Islands airspace. Originally optimised for air defence duties, the declaration of multi-role capability in 2008 confirmed Typhoon's status as an agile, versatile and potent world class aircraft.

Typhoon's rapid deployment last March to Gioia, 72 hours from the initial UN mandate, and subsequent first mission on Operation Odyssey Dawn 12 hours later are testament to the deployability, versatility and relevance of this fourth generation aircraft. More impressive has been the change of role of Typhoon from an air-to-air aircraft to an air-to-ground fighter-bomber.

The pilot added: "Due to the aircraft's huge power it enables the flight from Gioia to Libya, at mach 0.9, to take just over an hour at 40,000 feet, even when armed with a range of weapons including Enhanced Paveway II 1,000 lb bombs, a Litening III Targeting Pod, AMRAAM and ASRAAM (advanced medium and short range missiles)."

Missions include dynamic targeting, where they are tasked while in the air to



g of age

investigate and identify possible targets and, if necessary, destroy those that have been positively identified. Many of these missions have intervened in situations where civilians were directly threatened by, or even under attack from, Gaddafi regime forces. Those forces have been destroyed, or have fled when one or a number of vehicles in a group has been targeted. There are also deliberate targeting operations, where pre-planned targets are attacked by a pair or a group of aircraft.

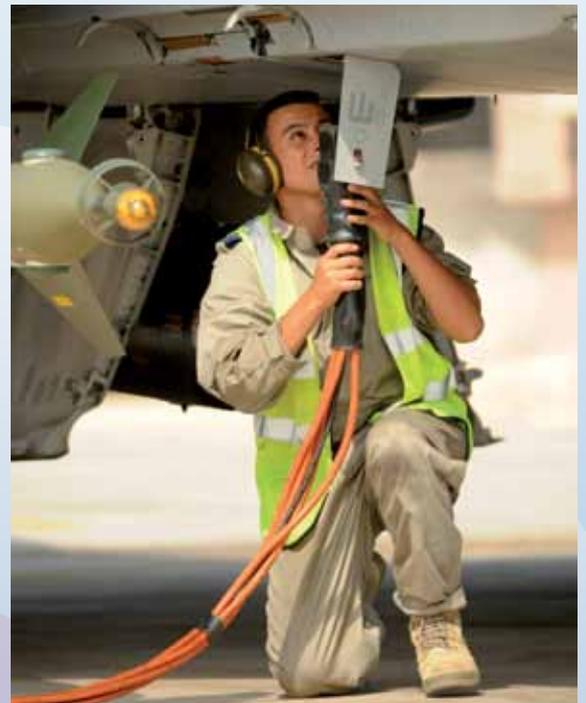
As Nato increases pressure on the regime, Typhoons have been involved in increasing numbers of strikes against targets such as command and control sites, communications nodes, storage areas, or ammunition bunkers. Every one of these attacks degrades the regime's ability to attack and threaten civilians.

"Overall, I've been fortunate to oversee the maturation of the RAF's fourth-generation multi-role combat aircraft," said the pilot. "More than that, as a service we've been fortunate to have at our disposal an aircraft that fulfils the RAF's mantra of being agile, adaptable and capable; as an American airman said to me, 'that's a lot of bang for the buck'."

Air Commodore Hugh Donohoe, Head of DE&S' Fast Air Support Team (FAST), acknowledged Typhoon's contribution to Operation Ellamy. He said: "The deployment of Typhoon to Libya from its forward operating base in southern Italy, which supports and maintains the coalition presence in-theatre, has been a significant undertaking made possible by the co-ordinated hard work and dedication of RAF and MOD personnel, with significant additional support from our international and industrial partners.

"This highly capable aircraft is performing an important role in enforcing UN Security Council Resolution 1973, which protects innocent civilians at risk of attack."

He added: "Not only is Typhoon fully established in a multi-role capacity, it is actually conducting joint operations alongside the Tornado GR4 and other international forces so that missions can be conducted to best effect."





No matter how much resource you commit, no matter how many great minds you employ, no matter how clear the analysis, it is impossible to predict with absolute precision when, where, and in what way Britain will find itself drawn into conflict in the future to protect the national interest and national security.

Who would have predicted that by the summer of this year the RAF would have flown more than 1,500 sorties in support of Operation Unified Protector, as part of a Nato-led, UN-mandated coalition, stopping the forces of the Gaddafi regime from using the skies to brutalise his own people and degrading his ability to do so from land and sea?

The performance of Typhoon in its first multi-role contribution to operations has been fantastic. For some time now we have relied on Typhoon to defend the UK and our dependent territories. Now Typhoon has truly come of age.

In the last few months, Typhoon has flown more than 1,700 hours with the average hours flown per aircraft increasing fourfold – proving its versatility, endurance and reliability.

The outstanding performance of Typhoon is increasingly impressing those countries who are considering upgrading their fleets, as was clear when I visited India recently.

Planning assumptions in the Strategic Security and Defence Review allow for our Armed Forces to respond to a number of different scenarios, concurrent or otherwise.

Of course, no-one wants the operations in Libya to take a day longer than necessary. But the bottom line is this – we can, and will, sustain operations in Libya for as long as it takes.

That is what our national interest requires, and that is what our commitment under a United Nations mandate to the people of Libya requires.

Air Power and the Royal Air Force are a central component of this.

When I became Secretary of State for Defence there were voices – strong voices – urging me to merge air operations fully into the other services.

But I am clear that the RAF makes a definable and unique contribution to Britain's defence – a contribution that it would be wrong to dispense with.

Some say the distinct heritage and tradition of the RAF is immaterial as it does not have a demonstrable monetary value.

I believe we cannot afford to lose the doctrinal understanding of air power and its effects which is burned deep into the collective fibre of the force.

The value of the RAF is not confined to history – far from it.

Today the RAF is operating across all four enduring air power roles on current operations in Afghanistan and Libya, in addition to the standing operational commitments of defending Britain and our overseas territories:

First, securing control of the air,

Air power will always take the fight to the enemy

Defence Secretary Dr Liam Fox argues the RAF and its aircraft remain critical to the 21st century battlespace

guaranteeing freedom of manoeuvre and action to coalition forces while severely curtailing the options of our adversaries;

Second, delivering intelligence and real-time information to support commanders and decision makers at every level;

Third, providing global reach through strategic lift and theatre support through tactical lift;

And fourth, delivering firepower rapidly and with precision. Air power remains critical to the 21st century battlespace.

Our future RAF must ensure that it remains at the forefront of aviation and of military evolution.

The roll call of iconic aircraft that the RAF has flown over its history is long and distinguished – Spitfire, Lancaster, Vulcan and Lightning among others.

These aircraft are now joined in retirement by the Harrier and the Nimrod which have served the people of the United Kingdom magnificently over the last four decades.

These decisions to retire them were not taken lightly.

Alongside the decision to reduce manpower, these were some of the most difficult, and alongside the decision to decommission *HMS Ark Royal*, they were the most finely balanced.

But to achieve the real savings required to put the defence programme towards balance, reductions in the number of platforms was essential.

The period later this decade in which the Tornado GR4 force is drawn down and the Joint Strike Fighter comes up to speed will be particularly challenging.



Above: the flight deck of a 101 Squadron VC10 K3 during a Libya refuelling mission. Two RAF VC10s are based at Trapani in Sicily as part of the UK contribution to the mission

That is why I am particularly pleased with the performance of Typhoon as a multi-role aircraft in Libya.

With the introduction of the world's first and only second generation E-Scan radar, Typhoon will remain at the forefront of aviation technology for years to come.

It is also why I am looking forward to the capabilities of the powerful, and more cost-effective, carrier variant of the Joint Strike Fighter, or 'Lightning II' as it will be known – to be jointly operated, of course, with the Royal Navy.

The overhaul in the consolidated transport fleet will see greater capacity and capability, with the new Voyager tanker and the A400M operating alongside the C-17.

With the additional capabilities provided by ISTAR programmes, the RAF of Future Force 2020 will have one of the most formidable and high-tech fleets in the world.

And let me be clear, the RAF will continue to rely as much on its people as on its platforms.

The human underpinning of the RAF – the commitment, talent and technical understanding of the men and

women who serve – will be the difference between success and failure.

I've seen for myself on many occasions what the RAF do – from my time as a GP at Beaconsfield to Tango ramp at Kandahar airport.

I know it's not all about fast jets. I see the work of those at the less glamorous but equally critical end, keeping the air bridge up and running, keeping our forces supplied; the force protection provided by the RAF Regiment; the medics, the mechanics, the armourers, the analysts, the air traffic controllers; all the support staff that keep the organisation delivering at the sharp end.

In Air Chief Marshal Sir Stephen Dalton, the RAF has a Chief of Staff who not only directs his own service with insight, commitment and tenacity but just as importantly who understands the application of military power across the three services.

He is supported in his efforts by some of the most capable and dedicated men and women in the Armed Forces.

There have been times in our history when the light blue line was the only thing that stood between us and defeat.

I know, if so called upon today, this generation will take the fight to the enemy, no matter what the cost.

The people of this United Kingdom know that the Royal Air Force will never let them down.

'Sand beast' – new Warrior packs punch on the front

Combat Tracks Group Platforms team at DE&S has delivered a new standard of Warrior Infantry Fighting Vehicle which has been proving itself on the front line in Afghanistan.

Designated TES(H) – Theatre Entry Standard (Herrick) – the vehicle has improved protection, mobility and habitability in response to the needs of those in theatre.

The original plan of the urgent operational requirement (UOR) was to deliver just modification kits to theatre. However, it soon became clear that the 30 modifications were too complex and so it became a full embodiment programme for around 70 vehicles in the UK. Despite this significant change of plan, the requirement was delivered to time and to cost.

The small team, led by Mark Jones, took 18 months from the initial requirements being signed off to designing, manufacturing and delivering the operational fleet to theatre.

Additionally a training fleet was provided two months before 3 Mercian

deployed to enable troops to familiarise themselves with the vehicle on their preparatory exercises.

Timings were tight as a trials programme with the Infantry Trials and Development Unit under Major Charlie Hunt and Laurie Humble ensured that the modifications were properly integrated while Mike Condliffe and Paul Bailey coordinated the embodiment and delivery programme with BAE Systems. Major Ann Richardson and Paul Fisher ensured that a comprehensive support package was delivered.

The key to the project's success has been the open communication between all stakeholders with the military element being clear in their requirements which enabled industry to be effective in their delivery. BAE Systems was the prime contractor and used the Defence Support Group at Donnington for the embodiment with DSG Warminster assisting with training fleet.

Many sub-contractors were used from the UK and Canada, some of whom had never supplied for defence before but

had the skills to provide what was needed and quickly.

The UOR has improved the air conditioning in the vehicle and there are plans to add fridges for cold water. Mobility has improved with new torsion bars and drive systems which has returned the vehicle to its original speed, height and braking ability. The vehicle can now move effectively, delivering its soldiers into enemy locations and enabling its 30mm cannon to be fired from better support positions. This agility has earned Warrior TES(H) the locals' nickname of 'The Sand Beast' while UK soldiers describe it as 'awesome'.

However the main effect is the marked improvement in the protection levels. This was brought home when a Warrior TES(H) was caught by an improvised explosive device recently. The blast threw the vehicle on its side and severely damaged it. Previously such an explosion would have killed or seriously injured the occupants. In this case the three crewmen survived with minor injuries.



Warrior front line

Brigadier Mark Milligan, Combat Tracks Group leader, said: "The levels of co-operation and communication at all levels have been fundamental. Furthermore, the willingness of BAE Systems and its suppliers to work hard to achieve the standards and quick turn around required for an UOR have been impressive, especially where this has not been part of their normal business.

"Warrior TES(H) has been a definite life-saver, which is deeply appreciated by the Army and about which all those involved in the project should be justifiably proud."

Minister for Defence Equipment, Support and Technology, Peter Luff, added: "Warrior vehicles are doing a tremendous job in Afghanistan and these numerous improvements are already proving their worth in theatre.

"This vehicle is extremely versatile, packing a punch with firepower, offering good mobility and high levels of protection for its crew. It also allows troops to get out into communities safely, maintain areas and provide reassurance to the local population."



DE&S Warrior TES(H) team in front of Warrior, from left: Michelle Murphy, Maj Charlie Hunt, Mark Jones, Whips Moore, Paul Bailey and Mike Condliffe





enabling better decisions

....Supporting maritime capability through-life

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Supporting decisions through the life of capability

A KEY determinant in delivering efficient through life support of capability is defining the data that will really be required from the system during its life, managing that data, and then understanding the information it presents to enable effective decisions on performance and availability, *writes Steve Wyatt, Strategic Development Manager for LSC Group.*

Twenty years ago the focus was to ensure that the requirements of capabilities and systems were sufficiently defined early in the acquisition to avoid cost growth and delays through misunderstanding or "requirement creep". The spotlight turned to Through Life Costs (TLC). Projects were approved on the basis of Through Life Support (TLS) arrangements and costs as well as Unit Procurement Cost (UPC). The support arrangements could now be properly addressed through the system requirements, design and development. Logistic support architectures and information management evolved to meet the need.

The constant downward pressure on costs across all stages of the project life together with the reductions in MOD personnel has resulted in industry presenting new commercial constructs to provide in-service support. Spares, repairs and update contracts have been replaced progressively by Contractor Logistic Support, Contracting for Support and Contracting for Availability as MOD builds confidence that industry can provide the capability, and industry increasingly understands and manages the

Advertisement feature

risk to which it is exposed. Delivering the required system availability at a defined level of performance demands information on all the factors that will affect these metrics eg;

- **Failures** – timing and prognosis;
- **Maintenance** – planned and completed;
- **Spares** – numbers, location and replacement lead times and efficiency of the supply chain;
- **Usage** – running times, profile and environment.

It is possible to collect vast amounts of data to support the understanding of these factors and in recent past the drive to ensure that enough data provided for any potential information demand generated an exponential growth of "shelfware" to underpin the complete Through Life Support processes. It is easy to criticise in hindsight

but the focus was in defining the data requirements early in the system acquisition and providing the information to all the right stakeholders; the consequences of scaling the data requirements from relatively simple systems to the complex systems of aircraft, ships and submarines were largely ignored.

Optimum effective use of resource is the aim of industry models. Pictured: two Royal Navy Type 23 frigates



Identifying the elements of a complex system critical to delivering availability safely and efficiently allows focus on only the data that is necessary. Specialist industry elements are developing models that support such decisions and then bring to bear the experience of improving logistic support in the air environment to build on the supportability engineering in maritime and business improvement in land.

An Availability Model (PAM) has been developed to support the Successor replacement submarine-based nuclear deterrent. Based on current Vanguard Class data it enables factors such as specific spares availability, particular maintenance regimes or equipment design alternatives to be seen right through to their effect on the delivery of Continuous At Sea Deterrence. Models have also been developed to support the selection of systems for the platform design with minimum through life cost.

The challenge now is to develop these models to deliver a dynamic understanding of in-service platform availability that can support a range of decision processes across a system or enterprise and enable the optimum effective use of resource in the increasingly resource-constrained environment of today.

An Availability Model (PAM) has been developed to support the Successor replacement submarine-based nuclear deterrent. Pictured: HMS Victorious



Programme goes to war on the GPS jammers

DE&S, QINETIQ and the Defence Science and Technology Laboratory (Dstl) have teamed up to improve signal acquisition for Global Positioning System (GPS) navigation systems.

The research initiative will help reduce the vulnerability of GPS systems to jamming or deliberate interference which can happen due to their very low power on the ground.

The Navwar Research Programme run by DE&S' Air Platform Systems team has been working with QinetiQ and Dstl to implement the first UK demonstration of Ultra Tight Coupling between an inertial measurement unit and a GPS receiver.

This is operationally significant as it will provide enhanced anti-jamming and the most robust navigation capability from GPS receivers without employing controlled antenna technology.

The QinetiQ team employed a version of their Q20 high dynamics civil GPS receiver to develop the integration software.

The advantage this gives a platform using the integration technique is that it can approach a jamming source almost four times closer before losing GPS signal tracking thus maintaining accuracy and effectiveness.

Rob Linham, head of the MOD's GPS Project Office, said: "Hardware demonstration of Ultra Tightly Coupled navigation systems has only been achieved by a small number of groups worldwide.

"This programme has given us a full appreciation of the technique and creates new opportunities for electronic protection capability for a range of applications."

The next steps are to transition the concepts into equipment upgrades and the next generation of complex weapons and airborne platforms.

Industry cements alliance

PETER LUFF and French Délégué Général Laurent Collet-Billon have hosted the inaugural UK-France Industry Day in London to forge closer ties between the two key allies and their military markets.

The 20 July event, attended by more than 30 defence companies, provided a forum for both governments to engage with industry and discuss issues relevant to last November's Franco-British Treaty.

Mr Luff, Minister for Defence Equipment, Support and Technology, said: "I look forward to British and French industry taking this opportunity to share experiences and build new alliances. This is a strategic relationship and, although there will be short term benefits, our real success will come over years not months. This is a marathon not a sprint and I hope our industries approach this relationship in that spirit."

The hosts welcomed the close relationship between the Association of Aerospace Defence and Security (ADS), UK, and Conseil des Industriels de Défense Français (CIDF), France.

□ The Quality Mentoring Scheme has been launched and is now available.

DQA-Policy has instigated a major programme for upskilling individuals within Quality, with a licensing scheme developed and aligned with the internationally recognised professional body for Quality.

This mentoring scheme aims to provide an opportunity for all MOD staff within the Quality function to improve themselves professionally.

More information go to DQA Policy – Quality Mentoring Scheme.

Support lessons learned steer Type 26 on course

STAFF FROM several marine and technology sites are reviewing general arrangements and maintenance cost information for the UK's new Type 26 Global Combat Ship (GCS) – the planned replacement for Type 23 frigates.

Valuable lessons from through-life support of the Type 22 and 23 frigates during Fleet time and upkeep periods at Devonport and Rosyth are being channelled into the assessment phase to influence the design of this new generation of ships.

The Type 26 assessment phase began in March last year with Babcock supporting development of design and in-service support as part of a joint team with the MOD and BAE Systems.

As part of Babcock's commitment Learning from Experience workshops were held at Devonport and Rosyth in June this year with representatives from MOD and BAE Systems.

These workshops gave warships support and integrated technology business units the opportunity to discuss engineering problems during maintenance periods which could be rectified early on in the design stages.

Chris Lees of Babcock said: "Babcock engineers have gained a vast range of experience from maintaining these frigates. This exercise identified recurring and unique issues which need to be prioritised and developed as part of the final design solution.



"Over the years, our staff have also introduced many innovative ideas for designs and equipment that have improved the performance of the vessels and the efficiency of their maintenance periods. All these issues were discussed at these workshops."

Cherry Proud of Type 26 MOD Support Authority added: "It is encouraging to see we are working together and openly discussing the present supportability issues. This has enabled the joint T26 project team to start considering how these issues should be addressed

The Type 26 joint team from DE&S, BAE Systems and Babcock pictured at the two workshops at Devonport and Rosyth

during the stage 1 design, which is planned to start early next year."

This assessment stage for the Type 26 GCS demonstration and manufacture programme is due to last four years with the first ship scheduled to be in service as soon as possible after 2020.

Front line future is the focus at Abbey Wood

THE FUTURE front line went on show at Abbey Wood as scientists displayed the latest technology to reduce the burden on the infantryman without reducing his effectiveness.

Ross Jones of the Defence Science and Technology Laboratory (Dstl) said: "We're having to look at novel ways to reduce weight; this includes researching materials not commonly used in defence to advise industry and academia how the weight of equipment can be reduced that way.

"Dstl's scientists have done a lot of analysis focusing on the mix of equipment on the soldier, and what benefit they are getting for that weight."

Kit included composite armour plating along with novel suggestions of how to reduce cumbersome batteries, including woven fabrics which can hold an electric charge.

Also on display was a new unmanned ground vehicle and examples of how using different materials for assault rifles, ammunition and their clips can make big savings on weight.

Mr Jones added: "We will continue to refine those concepts in collaboration with industry, academia and MOD colleagues like DE&S to ensure that UK troops continue to receive the best equipment to provide a technological edge."

Colonel Peter Rafferty, leader for the Individual Capability Group at DE&S, said: "Reducing the burden on the dismounted soldier is a priority. We work closely with our partners within Dstl, as well as in academia and industry, to identify and

develop technologies which we think will meet this need, effectively turning today's technology into tomorrow's fielded equipment."

Keeping track of defence assets

PROGRESS ON improvements to the way defence manages and accounts for assets through the Joint Support Chain was the focus of an event at Boscombe Down held by the Logistic Network Enabled Capability team.

Visitors heard how Log NEC systems bring improvements to visibility of stock and logistic and asset tracking information that will enhance operational capability and improve decision support across the whole of defence, through one version of available logistic materiel.

About 150 people from the three services, DE&S and industry attended a day of presentations on each of the projects and saw a demonstration of MJDI, the new inventory management system.

More information about Log NEC projects is on the team Intranet site or contact the communications team on 01980 664234/662553.



Looking forward: staff at Abbey Wood get a glimpse of future soldier equipment Pictures: Hannah Swingler and Vicky Torraca

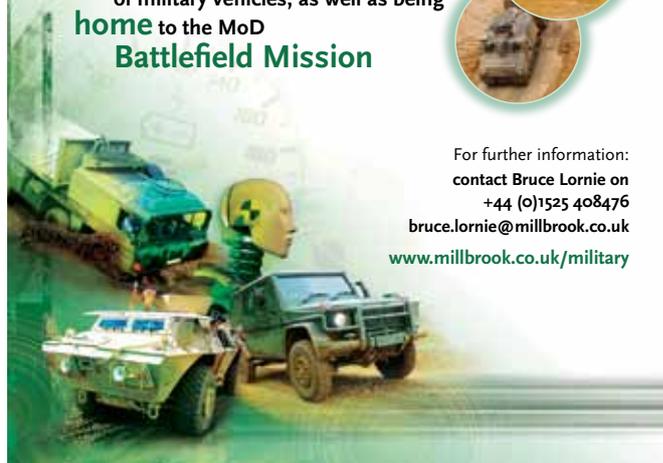


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Team will help others pass the test

A DE&S team has been formed to help project teams develop integrated test, evaluation and acceptance (ITEA) plans.

ITEA is all about reducing risk and achieving value for money in defence.

In support of this, the team has been established within DE&S' Trials, Evaluation Services and Targets (TEST) team, offering domain-specific defence evaluation advice to aid project teams developing ITEA plans.

Based at Abbey Wood, Boscombe Down and other major ranges, TEST is responsible for the Defence T&E Strategy and oversight of management and delivery of test and evaluation across the MOD.

The service provides a single focal point for ITEA advice and guidance, allowing project teams to:

- Effectively plan for integrated T&E,
- Encourage greater re-use of T&E information between DLODs,

- Have confidence that T&E events will meet their needs, helping to reduce timescale and cost.

Mark Harbige of TEST said: "The Defence Evaluation Advice team is initially focussing its attention on high value, complex projects due to be reviewed at initial or main gate within the next six months. By prioritising and working closely with the Test and Evaluation Co-ordination Cell, we will maximise the benefits of better ITEA planning, reducing duplication of tests and optimising test and evaluation resources when they are needed."

For more information contact Martyn Jones (DES-Wpns-DEACoord) on ABW 34697.

New campaign warns of social networking dangers



Who are you talking to online? A new MOD campaign reminds staff about guarding their personal information when using social media channels

A NEW MOD education campaign is warning service personnel and civilian staff of the importance of guarding personal information when using social media channels.

With the campaign comes new MOD guidance for personnel using social media sites like Twitter, Facebook and YouTube, warning users about the risks of releasing too much information about themselves or other operational details.

Called 'Think Before You...', the guidance will be incorporated

into Phase 1 training, when applicants first join the services, and into other mandated training materials for serving personnel.

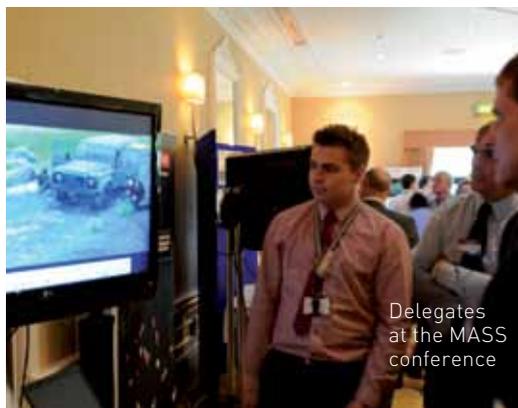
An MOD spokesman said: "Social media has enabled our personnel to stay in touch with families and friends no matter where they are in the world.

"We want our men and women to embrace the use of sites like Twitter, Facebook, LinkedIn and YouTube, but we also want them to be aware of the risks that sharing too much

information may pose. You don't always know who else is watching in cyberspace.

"The MOD Headquarters has its own Facebook, YouTube and Twitter feeds and we see no reason to stop our own personnel from tweeting or posting on their own walls.

The spokesman added: "But the MOD has a responsibility to warn personnel of the risks they could be exposing themselves to, hence the launch of this new campaign."



Delegates at the MASS conference

A CONFERENCE to inspire innovation in the future provision of general munitions has been judged a success.

The second MASS (Munitions Acquisition, the Supply Solution) Conference was attended by more than 100 people from the MOD and BAE Systems – Global Combat Systems Munitions.

With a central theme of 'inspiring innovation', the

Munitions conference inspires innovation

conference objective was to highlight the importance of innovation within the MASS partnering agreement and across the MASS stakeholder community.

The conference also set out the path to developing successful innovative practices within MASS.

Delegates considered questions like how to reduce the ammunition weight on the dismounted soldier, how to translate UK munitions requirements into export success and how to reduce energy and waste in the end-to-end munitions cycle.

Output from the conference will be considered further by key MASS stakeholders and specific innovation milestones will now be included in the MASS Joint Strategic Business Plan.

The long term MASS partnering agreement covers 80 per cent of the general munitions consumed annually by the UK's Armed Forces in theatre and on training ranges.

These include small arms, medium calibre, mortar bombs, tank, artillery and naval gun shells.



Veteran Eric flies the flag at Beith

AS PART of the synchronised flag raising event across the UK, Eric Graham from the Storm Shadow production team raised the 2011 Armed Forces Day flag at Defence Munitions Beith.

Eric, pictured left, said: "As a veteran of the Royal Scots Dragoon Guards with service in Germany, Belize and Northern Ireland, it is a great honour for me to raise the DM Beith Armed Forces Day 2011 Flag.

"My brother Michael, who also works at DM Beith, served in the Scots Guards; during his career he saw service in Hong Kong and took part in the Trooping the Colour ceremony.

"As a nation, and especially ourselves in the job that we in the MOD do, it is only right that we show our appreciation for the dedication of our Armed Forces who do a very difficult job often in very hostile conditions, risking injury and death to restore peace and a normal lifestyle to people living under oppressive regimes."

Montrose leads the way

Armed Forces Day in DE&S

WITH THE sound of her saluting guns booming across Plymouth Sound and the Armed Forces Day Flag proudly flying, *HMS Montrose* took centre stage in Plymouth.

The Type 23 frigate had the honour of firing a 17-gun salute as she steamed past Plymouth Hoe, where the First Sea Lord, Admiral Sir Mark Stanhope, and Minister for the Armed Forces Nick Harvey returned the salute in front of a large crowd.

Those on The Hoe would have noticed 35 schoolchildren from across Plymouth enjoying a rare chance to sail on board a Royal Navy warship.

The children were on the helicopter flight deck to witness the ceremonial sail-past at close range alongside the crew.

Having embarked on board by boat they were treated to a behind-the-scenes look at life in *HMS Montrose*, witnessing everything from firefighting to a hands-on demonstration from the boarding team, and tried out the captain's chair while he wasn't looking.

For one visitor from Pomphlett Primary School, Lois Teasdale, 11, the chance to visit *HMS Montrose* was particularly special.

Her father, WO2 Jez Teasdale, is responsible for the ship's weapons and was on hand to show her what he gets up to at work.

The ship's captain, Commander Jonathan Lett, said: "*HMS Montrose* is incredibly proud



of her links with the community in her affiliated town of Montrose and also in Plymouth.

"Armed Forces Day gave us the opportunity to reach out and connect with local people and we were overwhelmed by the numbers of people on the Hoe who came to witness our sail-past and salute."

Fire down below: youngsters, above, from Pomphlett School in Plymouth get a taste of firefighting as *HMS Montrose* leads Armed Forces Day at Devonport

■ Plymouth will host Armed Forces Day next year.

Armed Forces Minister Nick Harvey, a guest at the city's celebrations this year, announced the honour for the city.

"The warmth and hospitality Plymouth has shown our Armed Forces, our veterans, cadets and their families over the years has been outstanding and truly demonstrates the historic link between the military and the city," he said.

Edinburgh was the focus for this year's celebrations.



Clive earns his imperial reward

FORTY-NINE years' service has earned Clive Reid his Imperial Service Medal.

Mr Reid, left, spent 23 years in the Royal Navy from November 1961 before continuing with the MOD Guard Service.

He then served a further period as a valued member of the messenger team supporting project teams and business units in Unicorn and Gazelle House in Yeovilton before retiring last December.

He received his medal on 1 July from Commodore Malcolm Toy, D Hells 1, at Yeovilton.

Abbey Wood out in front

Thousands enjoy fun in the sun as the MOD hosts its annual sports day in Bath



ABBEY WOOD'S sportsmen and women showed their prowess with an impressive haul of titles as nearly 2,000 MOD staff joined the annual sporting battle in Bath.

There was a clean sweep of honours in the ladies' football, the tug of war and the volleyball where the finals were all-Abbey Wood affairs.

There was similar success in the compound archery events where Kay Smith and Robin Jarvis made it a double success for Abbey Wood with Robert Dunn weighing in with a third award in the men's recurve.

And Gary Chorley added another title to his MOD men's singles by joining Jon Freeman as the team to beat with a triumph in their men's doubles final. Seventy-two players took part in the tennis tournament with organiser Carl Crane (London) and Brenda Hazelwood (Ex-MOD) victorious in the mixed event.

Centrepiece was the athletics meeting with 67 athletes in 26 track and field events under the watchful eye of professional judges and timekeepers.

With strong performances in numerous events, Catherine Cheetham (Feltham) was awarded the Victrix Ludorum (Ladies overall points winner) and John Dickinson Jr (Bordon) winning the Victor Ludorum. The Jubilee Shield (Inter-Establishment Trophy) was a close

and entertaining contest and at the finish line, UKHO were just ahead of the athletes from Feltham.

Twenty-one archers competed in the MOD Archery Championships at the nearby Sulis Club in one of longbow, compound or recurve disciplines. At their presentation ceremony, the MOD Archery team was also presented with the newly created DSRA Sports Team of the Year Award for unprecedented success in 2010 CSSC archery competition.

Organised by the Defence Sports and Recreational Association, MOD Sports Day is the flagship event of a busy sporting calendar and with 11 different tournaments involving around 1,900 staff

running simultaneously, it is the biggest and best opportunity for MOD staff to enjoy some sport and meet like-minded colleagues.

Sports Day provides the appropriate balance between performance and participation and strongly encourages both. The athletics meeting witnessed a 12-second 100metres and the men's football tournament saw at least one red card awarded for 'over-enthusiasm' but there was also a number of rounders teams competing in fancy dress.

■ For more info on the Defence Sports and Recreation Association, contact Dom White on 01225 882483

RESULTS

ATHLETICS: Victrix Ludorum (Ladies' overall points winner): Catherine Cheetham (Feltham). Victor Ludorum (Men's overall points winner): John Dickinson Jr (Bordon). Jubilee Shield (Inter-Establishment Trophy): UKHO. Runners up: Feltham

CRICKET: UKHO B. Runners up: Cody CC (Farnborough) Plate winners: DST Leconfield

TUG OF WAR: ABW Rugby Runners up: Only Here for the Beer (ABW)

ROUNDERS: DIA Dodgers (Bath) Runners up: The Admirals (UKHO)

TENNIS: Men's doubles: Gary Chorley (ABW), Jon Freeman (ABW). Mixed doubles: Carl Crane (London), Brenda Hazelwood (Ex-MOD)

ARCHERY: Ladies compound: Kay Smith (ABW). Men's compound: Robin Jarvis (ABW). Ladies longbow: Gerry Gilmour (Retired) Men's longbow: Chris Quinn (Exeter). Ladies recurve: Caroline Sandford (Exeter) Men's recurve: Robert Dunn (ABW)

NETBALL: HQLF (Andover); Runners up: QinetiQ Farnborough. Plate: Centurion (Gosport)

ANGLING: Ade Blackwell (Ex-MOD) Runner-up: Carl Stringer (Donnington) Team: Ade Blackwell (Ex-MOD), Barry Tate (Ex-MOD), David Shepherd

VOLLEYBALL: Abbey Wood. Runners up: Abbey Wood North. Third: Double Entendres (DSTL Porton Down)

HOCKEY: Hydro Pirates (UKHO) Runners up: MOD Boscombe Plate: DIO (Sutton Coldfield)

MEN'S FOOTBALL: Land Reunited (Salisbury) Runners up: Dan Wise Utd (Gosport).

LADIES' FOOTBALL: ABW Ladies A Runners up: ABW Ladies B



Team's peak practice turns up a charity award

A TEAM from DE&S, who completed the Three Peaks Challenge last year, have been rewarded by the Fire Fighter's Charity for the money they raised.

The walkers, Jo Scott, David Hayward, Chris Smith, Ray Kessler, Rob Taylor and David Pickard were backed by drivers Richard Aspray and Adam Sutch in their quest to scale Snowdon, Scafell Pike and Ben Nevis.

They raised nearly £7,000, split between the firefighters and Help for Heroes. They have now been presented with a trophy by the Fire Fighters Charity for raising the most from the event. The team's contribution was more than ten per cent of the charity's total from the event.

Left: Rob Taylor, Adam Sutch, David Pickard, Richard Aspray show off the trophy on behalf of the team.

Nick's skills add more bite to Firestorm



Above: Nick Wood

Left and below: Firestorm helps call in accurate artillery fire

Change at top of Royal Navy training

REAR ADMIRAL Clive Johnstone, pictured below, is the new Flag Officer Sea Training – head of training for the Royal Navy and Royal Marines – and has taken up his new post after a ceremony at Devonport.

He replaces Rear Admiral Chris Snow who retires after 35 years' service in the Royal Navy.

Rear Admiral



Johnstone said: "I am clear that, in these difficult and uncertain times, good training protects the heart of the Royal Navy."

"I am delighted to be here in the south west with my family and looking forward to leading the many initiatives required to deliver a 21st Century training solution."

Top work earns a top award

SUPPORT FOR the Firestorm system which provides fighting troops with the capability to identify targets and call for aircraft or artillery fire to destroy them has won a DE&S engineer a leading award.

WO1(ASM) Nick Wood from the Artillery Systems team has been awarded the Worshipful Company of Engineers' Services Engineering Equipment Support Award 2011. He was selected from a field of six strong finalists across the whole of DE&S.

The award is presented to a service person (officer, warrant officer or senior ratings/non-commissioned officer) in DE&S.

The chosen person has to demonstrate how he has contributed the most, through the application of engineering skills, leadership, management and technical acumen, in the acquisition of new capability



or to meet material availability targets for any of the Armed Forces.

Nick's award recognises his role in justifying the fleet size of Firestorm and developing the through-life support solution.

By applying his excellent engineering skills and technical judgement to the problem, Nick's solution removed all support-

related risks with through-life savings of £5 million, earning him praise from the Treasury.

Nick has recently been promoted and is now WO1 to HQ 12 Armd Bde as the Brigade Artificer. He received his award, an engraved medal and framed certificate, at the Awards Livery Dinner in Plaisterers' Hall in the City of London last month.

Portsmouth goes the extra (green) mile

PORTSMOUTH NAVAL base is doing its bit as one of the biggest employers in the area to show it is committed to reducing its carbon footprint.

The Big Green Commuter Challenge is run by Portsmouth City Council every year to encourage people and businesses to leave cars at home and get to work by other sustainable means such as the bus, train, ferry, cycle, moped/motorbike, walk or car share for just one week and save 'Green miles'.

Staff were determined to beat last year's total of 2,409 green miles and this year figures show an amazing 9,269 green miles, equating to 3,643kgs of carbon saved.

Of the 14 large companies in

Portsmouth who entered the competition, naval base staff saw their hard work pay off with a creditable joint 4th.

As well as a Portsmouth City Council prize draw for all who entered their 'green miles' the naval base held its own draw including two bikes and five sets of cat eye lights



and cable locks kindly donated by Wiggles, the online cycle company. Prizes were awarded by base commander Commodore Rob Thompson alongside Dan Burdge a representative from Wiggles on 6 June.

... while the Princess Royal ensures base is on right road

THE PRINCESS Royal has officially opened the new link road off the M275 into Trafalgar Gate at Portsmouth Naval Base.

The road – built by the city council to reduce congestion and air pollution in the city centre – will be known as Princess Royal Way.

Before unveiling a plaque outside the gate The Princess was met by Deputy Lord Lieutenant of Hampshire Admiral Sir Jonathon Band.

Other guests at the ceremony included Naval Base Commander Commodore Rob Thompson.

Commodore Thompson said: "The new link road is proving a big hit with the many thousands of employees at the base and our many visitors too.

"It is providing greatly improved access in and out of the base and is cutting congestion in the city centre. And as we look to the future the road will help the base in its role as home to the majority of the surface fleet, including the new aircraft carriers."

Princess Royal Way is a direct route into the base or Portsmouth International Port off the M275. Instead of southbound vehicles having to enter the city centre and then double-back, they can make a direct right-turn to their destination.

A wall alongside the road has been decorated with a mural by local artists from Art and Soul Traders, showing ten naval ships through history, starting with the Mary Rose and ending with one of the new aircraft carriers now being built.

The wall will soon also feature artwork from pupils of nearby Flying Bull Primary School. The council put about £1.8 million into the £8 million scheme, with the Department for Transport, the MOD and the European Union contributing the rest.

Road to : the Princess Royal, with Naval Base Commander Commodore Rob Thompson, meets local youngsters as she opens the new link road to the base



Gareth is the top fueller

FLIGHT LIEUTENANT Gareth Evans, centre left, is presented with the 'Fuellers Prize' by Prince Edward and The Master of the Worshipful Company of Fuellers Michael Byrne at the Midsummer Court Reception and Dinner on 8 June.

Gareth was nominated for his exceptional record of achievement at DE&S' Defence Fuels Group including deployed operations supporting Nato air assets in the Mediterranean.

He received the prize aboard *HQS Wellington* moored on the Thames in central London.



Brecon
battlers:
Sqn Ldr Jim
Phillips,
Sqn Ldr Al
Salter and
Flt Lt Peter
Nankivell

Team scales the heights in soggy charity walk

FOUR MEMBERS of DE&S' A400M team raised more than £300 for charity after a soggy 40km trek across the Brecon Beacons.

Sqn Ldrs Jim Phillips and Al Salter, joined by Flt Lts Geoff Heard and Peter Nankivell and Jeff the dog, took up the Welsh Air Ambulance Team (WAAT4) Challenge in June with a 7am start from Brecon rugby club.

"You've probably all been for walks where you painstakingly avoid puddles," said Flt Lt Heard.

"By the half way point it became absolutely impossible to avoid the ravines rushing down paths and was entirely nugatory anyway due to the volume of water running down our legs into our boots.

"So fierce was the wind and rain, it was like having a pressure washer fired at us from the side as we traversed the long exposed ridge before dropping back down towards Brecon."

The team arrived back in Brecon in 10 hours and eight minutes, 40 minutes quicker than an A400M team last year. "That said, the winning team had been home about five hours before us though, avoiding any of the really bad weather," said Flt Lt Heard.

The team raised £310 for the Welsh Air Ambulance, Blue Lamp Foundation and Brecon Mountain Rescue.

Anyone interested in participating in next year's event, go to www.waat4challenge.co.uk

Mal makes it three titles in a row

CLYDE NAVAL base's Warren 'Mal' Malcolm has been crowned Scottish Fly Fishing Champion for the third year in a row.

He was one of 20 anglers who took part in the Scottish Command Fly Fishing Open at the Lake of Menteith in the Trossachs.

Best novice went to Clyde's Chaplain Rev Richard Rowe; Barry Prout won Best Fish with a Rainbow trout of 3lbs 8oz; Mal's two winning trout came in at 4lbs 11oz.

Mal said: "The conditions were hard going but I didn't think two trout would have been good enough to win the award for a third year in a row. I feel on top of the world."

Below: Mal, right, accepts his award from Richard Rowe, Chaplain of the Clyde base.



DINs - released this month

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

2011DIN04-099: This DIN concerns collection and delivery of MOD roadworthy vehicles within the UK to and from training parks (materiel) in support of exercises. The contract was awarded to Severn Vale Truck Movements in October 2010 for three years.

2011DIN04-097: This provides guidance to service and civilian personnel on the process and procedures of utilising the MOD Interim Vehicle Rental Contracts within the UK for their official travel requirements. Personnel should note these contracts are for the UK mainland only and not for use within Northern Ireland. However, if a vehicle is booked and delivered to a UK mainland site it can be driven to Northern Ireland or Europe as long as it is returned to the UK.

2011DIN04-094: This provides details of the break-out of sections from the Defence Fuels Group under its transformation to new parent organisations, timescales, new contact points and information for customers on services after 1 July. A further DIN covering new locations of these organisations following relocation of elements from West Moors to Abbey Wood will be issued next month.

Further information and more details on the latest DINs see:

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

Year of fundraising brings help to Alzheimer's sufferers



The fundraisers present their cheque to Jane Keech of the Alzheimer's Society

ALZHEIMER'S SUFFERERS are to benefit from more than £3,000 thanks to a year's fundraising by the Communications and Situational Awareness (CSA) team.

The team, which is part of the Fleet Wide Equipment Group has been supporting the charity over the past year with events including raffles, sweepstakes, sponsorships and dressing up days.

Each year, the CSA team holds a ballot to find a new charity to support and, this year, the Alzheimer's Society has benefited from their efforts.

Previous charities have included ACT, Guide Dogs for the Blind, Make a Wish Foundation, Bristol Children's Hospital, Cancer Research, Help for Heroes, the South West Children's Hospice and Leukaemia Research.

TWO MEMBERS of the Imagery and Geospatial Exploitation (IMAGE) team have been recognised for their contribution to development and delivery of a new approach to joint intelligence co-operation in the international environment.

Team leader Ian Smith and the UK's representative in the collaborative programme office in Washington, Andy Green, have been awarded US Department of Defense accolades, the prestigious Director of National Intelligence Award for Collaborative Leadership.

Working with colleagues from partner nations, they devised a new approach to create a future GEOINT architecture.

This will transform the information-sharing and collaboration that is vital to delivery of intelligence products from a one-way dissemination of US material to one in which all five partner nations (US, UK, Australia, Canada and New Zealand) can participate.

Ian said: "This award is an unexpected and therefore all the more appreciated recognition of a great deal of hard work and enthusiastic commitment by the whole IMAGE team, not just Andy and I.

"Working in the intelligence domain our activities are often unable to be discussed.

"When open material such as this can be shared it is a great boost to morale, especially given the significant personal commitment by team members when dealing with overseas partners in different time zones.

"We are now moving on to implementation of the Roadmap, with its multiple elements each of which give us new and exciting challenges."

DE&S and contractors line up to take praise

TWO MEMBERS of an industry team set up to support Army engineers repairing and maintaining military vehicles in Afghanistan have been rewarded with operational service medals.

Allan Holcroft and Andrew Asquith of Force Protection Europe were deployed to Afghanistan last year under Contractors on Deployed Operations regulations. Andrew was back in the UK in January while Allan followed suit a few months later.

The pair were presented with their medals by Major General Ian Dale, Director Land Equipment at DE&S.

Force Protection Europe's 14-strong team was set up last year to support Army engineers. The team works on Mastiff, Ridgback and Wolfhound vehicles that have been credited with saving soldiers' lives.

Keeping this fleet of heavily protected vehicles in good working order and repairing any damage caused by roadside bombs is crucial work to ensure maximum fleet availability for ongoing operations. The team also undertakes some maintainer and driver training for the MOD.

Major General Dale, said: "Allan and Andrew have been pivotal in the seamless deployment of the new Wolfhound tactical support vehicle into Afghanistan.

"In doing so, they brought with them the very latest knowledge of the platform from its comprehensive trials. Prior to deployment they ensured that the vehicles were fitted with the latest safety equipment, common across all



Andrew Asquith, left and Allan Holcroft are pictured with Maj Gen Ian Dale

Picture: Mark Flowers

protected mobility vehicles and that they were operationally fit when they hit Afghan soil. For their hard work and dedication, I extend my warmest gratitude."

Force Protection Europe's Managing Director David Hind said: "Our ability to field highly skilled engineers who know the vehicles inside and out is invaluable to the Army and it's an area that we will continue to invest in. I've heard first-hand that this commitment is greatly appreciated by our Armed Forces."

The day Portsmouth took on the mighty George Bush



PORTSMOUTH PERSONNEL have given themselves a big pat on the back for the detailed planning of the visit of the US aircraft carrier *USS George HW Bush*.

Ferrying 4,000 people back and forth to the ship was nothing short of a triumph.

Base Services Manager Commander David Hilton detailed six months of intricate planning.

"I met the US Naval Attache in London six weeks before the visit to ensure we had

everything in place. When you are dealing with 4,000 people a day going to the ship through the naval base it requires a great deal of planning," he said.

Commander Hilton and his team dealt with commercial contracts, security and preparing the jetty that was to become 'Little America' during the visit.

Catering was provided by contractor MLS under cover of a giant marquee.

The American government picked up

the bill for every element of the visit and a personal email from Rear Admiral Nora Tyson, (Commander Carrier Strike Group 2) to Commander Hilton illustrated how delighted she was with the visit.

"Everyone thoroughly enjoyed the port visit and the hospitality shown by the community and the Royal Navy," she said.

And Commander Hilton echoed those sentiments: "It was a great example of Team Portsmouth performing at its best," he said.

JSF members saddle up for gruelling canal ride

BRITISH MEMBERS of the Joint Strike Fighter (JSF) programme cycled the 184-mile Chesapeake and Ohio Canal path over a three-day period in June to raise cash for cystic fibrosis research.

The group, who all work within the programme at either NAS Patuxent River or in the programme office in Washington DC, were coerced and convinced that they could cycle 60 miles a day over stony ground through the wilds of western Maryland.

The pathway is a long distance cycle route that nestles between the, now largely derelict Chesapeake and Ohio Canal and the Potomac River in a beautifully shaded and serene scenic valley.

Highlights for most were the tranquillity of western Maryland, the history of Harper's Ferry and the roar of Great Falls.

Completing the route on mountain bikes and supported by friends and family, all found the route a challenge.

Encountering all manner of hazards along the way, including



We're the Brits in America: members of the Joint Strike Fighter programme on slightly slower transport

snakes, spiders, mosquitoes, 90-degree heat, downed trees and thunderstorms, the team completed their route from Cumberland MD to Washington DC in 27 hours of cycling. Colleagues, friends and family have helped the team raise more than \$2,000.

The cyclists were Mark Baker,

Emma Barker, Iain Barker, Steve Benn, Dan Blogg, Al Cartwright, Yvonne Cartwright, Jeff Seddon, Harv Smyth, Janet Young, Lisa Young, Bow Wheaton and Jacob Wheaton.

Cyclists were supported by a team made up of Gavin and Karen Maw and Alice and Suzi Wheaton.



Colin is the top rower

A ROYAL Navy submariner based at Devonport has set two British records in the men's heavyweight 40-49 age group at the annual Farnborough indoor rowing competition.

Chief Petty Officer Colin Leiba, above, a reactor panel operator on *HMS Talent*, achieved record times in two races on the same day. His 2 minutes 58.2 seconds for the 1,000 metres and 1 minute 19.8 seconds for the 500 metres each eclipsed the previous British records by 0.3 sec. These lead the world this year in his category.

PROUD TO SUPPORT OUR ARMED FORCES.

MADE IN BRITAIN

Our UK employees are proud to provide kit for Britain's armed forces. We design, manufacture and maintain equipment including the Warrior armoured vehicle, the 105mm Light Gun and the Tornado aircraft. But we're prouder still of the contribution and sacrifices made by our armed forces every day. Thank you.

BAE SYSTEMS

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