



Blocks away as carrier comes together
Queen Elizabeth is taking shape on the Clyde
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Helping to preserve a piece of history
Louisville volunteers restore Second World War gun
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Total Performance and why it matters

Turn to pages 04-05 for full details



Company-wide news from BAE Systems plc • Issue 2 2011

BAE SYSTEMS News

Prince honours Company for attracting, training and employing Saudi people

Royal recognition for Saudi success

Trusted

BAE Systems Saudi Arabia has been presented with the prestigious Prince Naif Saudisation Award in recognition of its efforts to employ Saudi nationals.

Under the patronage of HRH Prince Naif bin Abdulaziz Al Saud, Second Deputy Premier and Minister of Interior, the 7th Prince Naif Saudisation Awards Ceremony in Riyadh recognised private companies that have achieved high levels of Saudisation within their organisations.

Saudisation is the national policy in Saudi Arabia to encourage the employment of Saudi nationals in the private sector.

Prince Naif's commendation said: "The award recognises BAE Systems for its high quality work in attracting, training and employing Saudi people."

More than half of BAE Systems Saudi Arabia's 5,200 employees are now Saudi citizens.

Peter Wilson, Managing Director, BAE Systems Saudi Arabia, said: "The Company is a keen advocate of in-Kingdom job creation and training, and has a proven track record."

"This award is a clear recognition of these efforts and the contribution the



Left: Ian King, Chief Executive, recently joined other senior leaders in Riyadh to congratulate employees from BAE Systems Saudi Arabia's HR team on their award-winning Saudisation activities

Company has made towards its Saudisation plan and the employment of Saudi nationals."

The award was formally presented by Minister of Labour Engineer Adel bin Mohammad Faqih to Tony McCarthy, Vice President Human Resources and Business Operations, during the ceremony at the InterContinental Hotel, Riyadh.

Tony said: "This is the highest award in the Kingdom in terms of recog-

niton for Saudisation, and I would like to thank our HR teams across the Kingdom, and the business as a whole, for your efforts and continuous support in the attraction, recruitment, training and development of Saudi nationals.

"I would also like to thank our colleagues in the Royal Saudi Air Force (RSAF) for their support as the Company continues its efforts to meet and surpass our Saudisation targets."

Staff Pilot Brigadier

General Al Zamami said: "You have a good understanding of the labour market in the Kingdom and clearly you play a key role in maintaining and developing the abilities of both the RSAF personnel and your own employees."

"As part of the ongoing development of ability in Saudi Arabia, we are delighted with the investments you have committed in terms of technology and knowledge transfer and, more importantly, in terms of our people."

Tony added that in 2010 the Company not only achieved its Saudisation recruitment targets but also exceeded some.

WE ARE DELIGHTED WITH THE INVESTMENT YOU HAVE COMMITTED ... IN TERMS OF OUR PEOPLE

Staff Pilot Brigadier General Al Zamami, RSAF



Above: Kingsman Shaun Hannigan, a BAE Systems employee, on patrol in Afghanistan

'It didn't get real until I was shot at'

Bold

From the daily dangers of being shot at to the constant deadly threat of improvised explosive devices, it takes considerable adjustment to get back to the very different pressures of building the Astute-class submarines for the Royal Navy.

That is just the leap Captain James Baker from the Regular Army and Kingsman Shaun Hannigan from the Territorial Army have had to make on their return to

Submarine Solutions at Barrow-in-Furness in Cumbria from postings in Afghanistan.

They will be followed in the spring by graduate trainee Dan Mitchell, who is serving in Afghanistan with the Royal Logistics Corps.

What each of them shares is a long-standing interest in the Army, a desire to serve their country, and a drive to put their character and skills to the ultimate test.

Both agree that their service on the other side

of the defence coin has changed them and their approach to their job, giving them more confidence and understanding of teamwork and management.

Neither is due to be called up for further service in Afghanistan until 2012, and both have career and personal issues to weigh up if and when that happens – but both would consider returning.

Read about their experiences on page 03.

Rigged for silent running in Afghanistan

Innovative

The Norwegian Army has been taking a softly, softly approach in northern Afghanistan – two of its CV9030 infantry fighting vehicles have been using rubber tracks since December.

The 28-tonne BAE Systems vehicles are the heaviest to have run on rubber tracks on operations. The rubber track system is jointly developed by Soucy International in Quebec, Canada and Global Combat Systems Vehicles in Sweden – Soucy has designed and produced

Heavy fighting vehicles use rubber tracks

the tracks and GCS Vehicles has qualified the system in full-scale trials.

The tracks reduce vehicle weight by more than one tonne compared with conventional steel tracks. They also cut noise by a massive 10 decibels and vibration levels by 65 per cent.

"The reduced vibration levels are increasing the life expectancy of electronics, optronics and ammunition, which will significantly reduce

vehicle running costs," said CV90 Platform Manager Dan Lindell. "The tracks also improve stealth, reduce crew fatigue and increase mobility in many conditions, such as on snow and ice."

Major Per Rune Hansen is CV90 fleet manager for the Norwegian Defence Logistics Organisation. He said: "Our vehicle crews were a little sceptical of the rubber tracks at first, but once they used them, they became big fans and really appreciate the reduced vibration and quieter operation."

Noise and vibration from steel tracks are coming



Above: the rubber tracks cut noise, improve stealth, reduce crew fatigue and increase mobility

under increasing scrutiny because of ever-tightening health and safety legislation across the world. "Health and safety is another reason

we are pushing the limits of rubber track technology," said Dan. "There have been reservations about their robustness on heavier vehi-

cles, but rubber track performance and track life is increasing all the time, which is why Norway has bought the tracks."

OUR CREWS WERE A LITTLE SCEPTICAL AT FIRST BUT ONCE THEY USED THE RUBBER TRACKS THEY BECAME BIG FANS

Major Per Rune Hansen

Trials by the Norwegian Army in late 2010 were so positive that the two vehicles were sent to Afghanistan before the planned schedule was completed.

CV90 trials at 35 tonnes will take place during 2011.

Chief Executive's Message >



Consistent performance underlines ability

I hope you have taken the opportunity to review and understand the 2010 results. Once again it was a strong performance across the Company in a highly demanding economic and business environment.

Our strategy is well established and we have sustainable businesses in all sectors of services,

electronics and platforms and our home and export markets are all showing positive results.

Our proven ability to drive efficiencies and cost savings is down to the flexibility and personal commitment of everybody involved and I would like to thank you all for your efforts.

2011 will be equally as challenging and recent

OUR EMPLOYEES ARE THE HEART OF OUR ORGANISATION

events in the Middle East and Japan are testament to how uncertain the world is.

Our commitment to driving the strategy, efficiency improvements and ensuring that investment in Business Development and key resources and technology are not cut back are

what makes delivery of our business plans and strategy achievable.

Our employees are the heart of our organisation and the recent Employee Opinion Survey results show pleasing improvement in areas of Responsible Business,

where much of the Company's focus has been over the last two years.

The message on improving leadership engagement and communication was also clear. In this environment, we must all rise and take this feedback seriously. I hope you will see improvements over the next few months. I and my leadership team are committed to the challenge.

It is our drive for Total Performance, not just what we do but how we do it, that embodies the resilience of the Company and ensures that we are well placed for future success. Our plans for 2011 are clear. I know I can rely on your commitment to deliver them.

Ian King
Chief Executive

Businesses act on employee survey results

Performance

The Employee Opinion Survey results have been released and show significantly improved scores across five of the eight dimensions: Culture and Values, Management Effectiveness, Performance Management, Process, Policies and Practices and the Team and Work Environment.

Of particular note were the positive results in the areas of ethical standards, health and safety, and the lifecycle management process, where major effort has been made by the businesses over the last two years.

The feedback also indicated three key areas where we can improve – employee engagement, trust in leadership and career development and reward.

The EOS results are taken very seriously and the first step in making positive change was a senior leadership workshop, hosted by Ian King in February.

Free debate followed and honest, two-way communication with employees was highlighted as a priority.

"Communication is a personal challenge for everybody," said Ian.

"I will address this as a matter of priority and have tasked the leadership team to do likewise. I hope that in the coming months our

Listening to teams over issues raised in EOS is a priority for leadership

employees will start to see improvements in their businesses."

Each business has been tasked to come up with an action plan for the coming year to engage with these issues.

Activities including workshops, employee forums, open-invite meetings and individual business cascades of the results are being planned and carried out.

BAE Systems Australia and Saudi Arabia have held senior leadership workshops to formulate further ideas and are now starting to formulate and roll out site action plans.

Increasing trust in leadership is a high priority at BAE Systems, Inc., where senior leaders have stepped up their visibility among employees through "town hall" meetings and other measures.

The survey results underscore the importance of these efforts.

IT IS VITAL OUR EMPLOYEES REALISE THAT WE HAVE LISTENED TO THEM AND WILL ADDRESS THEIR CONCERNS

Linda Hudson, President and CEO, BAE Systems, Inc.

Linda Hudson, Inc. President and CEO, said: "It is vital our employees realise that we have listened to them and will address their concerns."

The Programmes & Support Operating Group is taking an innovative approach. The leadership is encouraging line managers to share the results and agree actions with their teams at a local level.

A toolkit is being developed to help managers do this, based on external benchmarking and good practice from within BAE Systems, which will include a summary of the EOS results, guidance on running an engaging team discussion, with alternative approaches suggested, as well as advice on how to action plan and where to go to get help.

The key message from Ian was that in this climate of major economic uncertainty this increased communication needs to focus on how we are performing against our strategy, how each employee's contribution matters to the strategy and how we intend to win and succeed in the marketplace.

In the zone >



Above: a glimpse of the future awaited visitors attracted to BAE Systems' eye-catching presence at the recent IDEX 2011 in Abu Dhabi. At the heart of the stand-alone, two-storey pavilion was the Innovation Zone – a showcase for new and futuristic technologies, focusing on active protection, autonomy and biometric surveillance. Simon Keith, Managing Director East, said: "Innovation and technology is the cornerstone of BAE Systems and in our Innovation Zone we enjoyed showing our stakeholders current developments in these exciting areas."

Be wary of weird emails

Imagine the following scenario. You receive an email from an unfamiliar source. The strangely worded message, riddled with spelling mistakes, urges you to take immediate action by opening an attachment or clicking a website link. What do you do?

STOP. It is likely you are the intended victim of a "spearphishing" attack. Open the attachment or activate the link and you could unwittingly infect your computer – and the Company network – with

malicious software. With their hooks into the network, cyber attackers can steal Company information, and because their malware is highly sophisticated, the attack can go undetected.

Could this really happen? It can, and does. During the recent holiday season, dozens of government employees in the US and other nations received what looked like an electronic White House Christmas card.

Recipients were prompted to download a link that launched a malicious

executable file. Once the file was downloaded, the attackers gained access to the victims' computers.

This attack was small and targeted enough that it went undetected by network sensors. And it netted gigabytes of data from the US government and other organisations.

It takes just one person clicking on one malicious link or file to infect the entire BAE Systems network.

To avoid becoming a victim, complete the "spearphishing" training module, introduced in

February as the second of 12 IT Security modules being offered this year. The training will help you identify the hallmarks of a phishing attack, such as:

- unsolicited e-mails that come from people or organisations you don't know
- odd phrasing and errors such as typos, spelling mistakes, and bad punctuation
- emails sent at an unusual time, such as the middle of the night.

Watch for notices on how to access this and other IT Security training courses.

15 years and still going from strength to strength

Trusted

"The BAE Systems Chairman's Awards scheme is a powerful mechanism for capturing the best practices, insight and innovative solutions that BAE Systems employees create every day," says Dick Olver.

Which is why, 15 years after the Chairman's Awards were first celebrated in 1996, the scheme grows ever more popular and prestigious.



Through its four categories, the scheme aims to

recognise excellence in the successful exploitation of innovative ideas, the transfer of best practice, the delivery of outstanding support to the customer and supporting our culture of Total Performance.

Ultimately, the publication and sharing of these new ideas, new technologies and new ways of working are how we as a company can continue to secure sustained competitive advantage.

In challenging times, such

as these as we face a dynamic and uncertain environment, our greatest strength is our people and their ability to outperform on all counts.

That is why the Chairman's Awards are supported fully by the Executive Committee and the most senior people in the business.

The 2011 Chairman's Awards Scheme has been formally launched and the nomination phase is now open.

In support of this launch,

the intranet site has been refreshed and updated with all the latest information to help you nominate.

The process is simple to follow and co-ordinators around the business are on hand to offer help and guidance for both team and individual submissions. Individuals and core team members, whether employees, customers or partners will all be supported in their nominations.

The scheme is a great

opportunity to share achievements from around the business and recognise those who truly make a difference to the Company.

"I encourage everyone to think about these four categories and consider which applications to make in 2011," says Dick Olver.

The nomination phase will close on 1 June 2011.

For further details, please go to the Chairman's Awards Global Intranet site



Above: Chairman Dick Olver

A changed outlook on life

Submarine Solutions employees James Baker and Shaun Hannigan have returned to the UK from Afghanistan but their service on the front line has changed them both, and each has a new approach to his "day job". James, 30, took a two-year career break to

serve in the British Army, and was second-in-command of A Company 1 Mercian during a six-month operational tour in the Sangin district of Afghanistan. He is back as a manufacturing integrated work team manager. Shaun Hannigan, 26,

volunteered to join a troop of Territorial Army (TA) soldiers serving with the 1st Battalion Duke of Lancaster's Regiment in Helmand Province and is now back in his job as a quality control support engineer. Here they give a glimpse of their experiences.

James Baker: winning the trust of the locals

"At no point has any soldier said 'I'm not going out of that gate'. I have seen soldiers utterly exhausted, bringing an injured mate into the FOB (forward operating base), and then get up and go out on patrol again the next day. It is very humbling and I'm extremely proud of them."

James's company was deployed at a FOB in Wishtan, a suburb of Sangin comprising mainly families who have fled earlier fighting in other areas. This complicates the task of winning over the local population.

He said: "There is no traditional tribal demarcation so it is hard to identify key leaders within the local population that you can do business with. You have to get to know people compound by compound."

Because of IEDs the roadways and alleyways can be too dangerous to use, so progress is made by "Grand Nationaling" between the compounds.

James said: "You put a ladder against one compound wall and climb over, pass another up and use that to climb down, checking for threats as you go."

"We use our interpreters to gain access to compounds, negotiating with the local population to maintain their consent. It's tiring and has its moments."

Counter-IED training is continued on at least a weekly basis. The men also work



Left: aerial lifeline – a Chinook leaving the base at Wishtan, after dropping off supplies

with specialist counter-IED teams to clear devices and make areas safe for the local population.

James said: "The counter-IED teams who go out and clear devices are highly trained and extremely impressive. However, they rely on us, the infantry, to suspect that it is a device in the first place, and to protect them as they clear it."

James could spend 18 hours a day co-ordinating his company's activities from the

I HAVE SEEN SOLDIERS UTTERLY EXHAUSTED, BRINGING IN AN INJURED MATE, AND THEN GET UP AND GO OUT ON PATROL AGAIN THE NEXT DAY. IT IS VERY HUMBLING

James Baker

Operations Room but, when possible, he would deploy with a patrol. "It is important I understand what is going on, and that I don't get trapped in an ivory tower," he said.

James also stepped up to command the company, during the company commander's leave – an experience he enjoyed.

The company has seen soldiers killed and injured but James said the injuries would have been a lot worse without the first-class medical help on the ground and the back-up facilities.

James firmly believes that the Afghan National Security Forces are the way forward to secure a peaceful Afghanistan; but he adds that the conflict will be won or lost in people's front rooms.

He said: "People at home will decide if it's a good thing or a bad thing, and from coming home and talking to people I think we have that support in spades."



Above: on duty in Wishtan – Captain James Baker at his forward operating base in Sangin Province

Shaun Hannigan: making it more secure

"In the TA we go on two weeks' camp every year. When I first got out there it was like I was starting another exercise. It didn't get real until I was first shot at."

During Shaun's first month on routine patrol in the Nad-E-Ali district with the Rifle Platoon Anzio, that only happened once, while he was in the guard tower.

It became a daily occurrence when his mission changed.

Shaun became part of a "disruption company", posted wherever they were needed – searching those arrested, carrying out operations in the desert in support of US troops, and working

alongside the Afghan National Police.

"The first time you are shot at you duck. Then you realise that it won't touch you and you get used to being shot at every day – you learn how to tell when they are going to fire at you," he said.



Above: on patrol in Helmand Province – Kingsman Shaun Hannigan

IT'S A 24-HOUR JOB OUT THERE. ANYTHING CAN HAPPEN AT ANY TIME OF THE DAY OR NIGHT. THEY'D BE FIRING AT US AT FIVE IN THE MORNING

Shaun Hannigan

from underneath a tractor." One of his colleagues got shot in the face. Shaun said: "I think I froze for about a second, but then your training comes in and you know what you're meant to be doing. We rushed to help the guy who had been shot."

Shaun added that the perception of what was normal at the end of a tour of duty was totally different from that perception at the start of the tour.

"It's a 24-hour job out there. Anything can happen at any time of the day or night. They'd be firing at us at five in the morning sometimes."

There were times on a Friday or Saturday night, trying to play cards by candlelight and being bitten by mosquitoes, when Shaun would think he should have been down at the pub back home in Ulverston, but that thought disappeared as the weeks went by.

And there was plenty of support from people back home including almost daily calls from his girlfriend.

Shaun said: "My girlfriend accepted that I went, my family was behind me, and so was my local pub, although they weren't happy that I was risking my life."

Shaun is confident that what the Army is doing is worthwhile. He said: "It is an experience that changes your outlook on life."

"Even if we only influenced a small village I think we did some good, going in and making it slightly more secure for the local nationals."

Laser beam lights way to safer seas

Innovative

Pirate attacks on commercial shipping are on the rise worldwide. But the bandits may have met their match in a new system that is being developed by BAE Systems.

It is a non-lethal – but effective – laser beam that can be used up to 2km away from the vessel under attack, to warn off the pirates or at shorter distances to stop them aiming weapons at the ship.

Bryan Hoare, from Strategic Capability Solutions (SCS), led the maritime security programme that incorporates anti-piracy, and worked

Team develops non-lethal capability to combat piracy

with the Company's Advanced Technology Centre (ATC) to develop the capability.

Bryan said: "The media coverage we received when we announced the trials of laser distraction generated a huge amount of interest in the capability across the globe – and from a wide range of industries."

"It has also created interest from many of BAE Systems' businesses who can see the benefits

it can bring to their own programmes."

The ATC's experience in laser technology was fundamental to developing the new system, and delivering a set of successful trials. Safety was paramount throughout the development programme – the teams fine-tuned the laser to ensure that there would be no lasting effect from its use.

Piracy is on the increase, according to the International Chamber of Commerce's International Maritime Bureau, with 430 attacks worldwide in 2010 – up from 406 the year before.

As pirates increase their range of operations and their capabilities, commer-



Above: the glare from the laser makes it impossible to aim weapons but does not have a permanent effect

cial shipping agents are interested in finding any way of preventing attacks while avoiding the use of armed guards on vessels.

BAE Systems conducted a study of pirate behaviour and launched a Company-wide capability study.

Using the capability of the ATC's Optics and Laser Technology Department, researchers conducted a number of experiments to

assess the feasibility of laser distraction as a non-lethal weapon that would have no lasting effects to distract and deter potential attackers from a distance.

The research team has successfully demonstrated a suitable laser in land-based trials in varying conditions and over different ranges.

Roy Clarke, BAE Systems capability technology lead

for laser photonic systems, said: "The effect is similar to when a fighter pilot attacks from the direction of the sun. The glare from the laser is intense enough to make it impossible to aim weapons such as AK47s or rocket powered grenades, but doesn't have a permanent effect."

Roy added: "We successfully showed that the laser works not just at night, but

THE EFFECT IS SIMILAR TO WHEN A FIGHTER PILOT ATTACKS FROM THE DIRECTION OF THE SUN

Roy Clarke, capability technology lead for laser photonic systems

also in full daylight. But there are many more requirements to meet before we can place a non-lethal laser system on commercial ships."

The laser distraction system could use its own targeting capability, or integrate with existing ships' radar and sensor systems to control the direction and power of the beam.

It could therefore work semi-autonomously and would also include security features to ensure it could not be used by pirates if they managed to board the ship.

Spotlight on Total Performance >

It's not just what we

This year we are building on the momentum we established in 2010 to develop understanding among employees and leaders of how their day-to-day activity helps develop our culture of Total Performance. Across the business there are many examples of individuals and teams living the values and helping to develop our culture of Total Performance – here are just some of the ways they are doing it ...

How imagination and innovation drive success

Beneath the surface

Tethys and Triton – Greek gods who ruled the deep oceans. Now their namesakes are exploring a different but equally complex world: the internet. A great tool of communications, but also a place where subversive and criminal activity can flourish: which opens up an opportunity for a fast-mover like BAE Systems Detica.

Tethys and Triton are network analysis platforms, using a patented and highly effective processing architecture that gives them a huge performance edge over other competitors.

Tethys has a flexible architecture, making it a great investment for customers in a world of constant technological change. Triton has immense scale: it is the first fully capable 40 gig network analysis platform available.

Customers are already impressed with the innovation packed into these two products. The UK Government said: "Tethys plays a vital role in the protection and security of the nation and its interests."

Being so far in advance of the field, and with the flexibility to be continuously improved, these platforms are going to deliver a huge competitive advantage in the cyber security market in the next few years.

Seeing infrared

When the US Army needed a system to deflect missile attacks on its Chinook helicopters in Afghanistan and Iraq, the ever-busy Quick Reaction Contract team leapt into action.

But a tight focus on the project and a can-do attitude meant that the resulting Advance Threat Infrared Countermeasures (ATIRCM) contract was delivered in record time, and its performance impressed even the men and women on the front line whose standards have to be of the highest.

"We put a lot of time with the customer



Above: infrared countermeasures on US Chinook helicopters are saving lives in theatre

into developing a production process that breaks new ground in reliability and speed," said ATIRCM Program Manager Tom Kirkpatrick. "It was intensive, demanding, but highly motivating."

Lt Col Ray Pickering, Product Manager for Infrared Countermeasures for the US Army, told the team that what it had done was "in keeping with the finest traditions of military service" – an accolade that crowned a project that has made BAE Systems the go-to company for countermeasures.

Electric warrior

Right at the leading edge of protection for combat vehicles, trucks, aircraft and vessels is electric armour. The science is established, but turning the theory into a practical piece of equipment has been demanding. Only BAE Systems has been able to begin to engineer Electric Protection Systems (EPS) into a field-ready product.

"The US Army and Marine Corps have been testing EPS and it has performed far better than either conventional armour or competitor offerings can manage," EPS Program Manager Jahn Dyvik

explained. "EPS is lightweight, high-protection, and immensely flexible."

Expert judges at the US Army Research Lab were impressed by BAE Systems ability to go further and faster than anyone else has been able to with the new technology. But in the end, the innovative electric armour represents not only a technological breakthrough but the promise that the servicemen and women of the future will be safer thanks to the EPS team's ground-breaking work.

ISTAR performer

Unmanned aerial vehicles (UAVs) are the hottest things in air capabilities for customers right now. BAE Systems' contribution is a mould-breaking aircraft delivered with unprecedented speed and really giving the competition something to think about.

Mantis is in the Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR) category. But not just any old ISTAR. It is the largest twin-engined craft of its kind in the world. And it was the result of setting testing goals but allowing people to take responsibility to deliver their part of the programme.

What is just as impressive as the technical spec is the project management. BAE Systems delivered Mantis – from concept to first flight – in only 19



Above: BAE Systems Detica has developed two platforms which will deliver a huge advantage in the cyber security market



Above: Mohammed Al Ayeesh, who is now the Commander of the RSAF, presented an award to Abdulaziz Al Shehri to thank him for the cost savings he generated

months. That exemplified the teamwork across the globe from the UK to Australia where Mantis made its first flight, the use of new technologies and the application of rapid engineering that makes this UAV a benchmark for customer service, and a shining example of how a team can work

when people are empowered and trusted to deliver.

Chris Clarkson, Engineering Director, Information, Platforms and Services, said: "When I look at Mantis I just feel an incredible sense of pride. It was a huge challenge for the team to deliver what we had to do in the time available, but I would bet that no other company could have equalled what we did, much less beaten it."

Safe ships

A heavy workload. The integration of five businesses. And a safety challenge. That was the agenda facing Surface Ships in 2009. The team there realised that whatever the difficulties, the

WE PUT A LOT OF TIME WITH THE CUSTOMER INTO DEVELOPING A PRODUCTION PROCESS THAT BREAKS NEW GROUND IN RELIABILITY AND SPEED

Tom Kirkpatrick, ATIRCM Program Manager



Above: the Mantis unmanned aerial vehicle was delivered – from concept to its first flight in Australia – in just 19 months

WHEN I LOOK AT MANTIS I JUST FEEL AN INCREDIBLE SENSE OF PRIDE. IT WAS A HUGE CHALLENGE TO DELIVER WHAT WE HAD TO DO IN THE TIME AVAILABLE

Chris Clarkson, Engineering Director, Information, Platforms and Services

do, it's how we do it



ket in the next few years



Above: against the backdrop of the USS Theodore Roosevelt, the Halmatic Pacific 950 multi-role RIB shows off its paces

TETHYS PLAYS A VITAL ROLE IN THE PROTECTION AND SECURITY OF THE UK AND ITS INTERESTS

UK Government

A radical approach was needed and Project Pegasus was the answer. Halmatic was relocated to a £1.5m modern facility at Portsmouth Naval Base, but the transformation of the operation went far beyond that.

"We re-engineered the whole way Halmatic operated," said Paul Jordan, Head of Transformation. "The production system, the enterprise management system, the safety approach – pretty much everything."

"It took six months from project approval but we knew we had a hidden jewel here: it was a question of polishing it."

Halmatic is now back in profit, delivering on time, and doing what it does best: producing RIBs, specialist small craft and interceptors that are used by armed forces across the world.

Energising solution

Every householder knows that energy bills have been rising lately. For a business of any size, energy costs spread across many sites can be a real headache, as well as hard to reconcile with our values.

"That's where the Utility Cost Take Out (UCT) Process comes in," said Jack Enright, Director of Operations at Electronic Solutions. "Not only did we have an opportunity to use this method to save money by using energy more sensibly, we could also help the environment by reducing emissions and waste."

The UCT team pioneered an easily transferable audit process that can assess existing buildings for rapid savings while maintaining maximum effectiveness. Reductions in energy and water use of between 14 and 40 per cent were achieved across 11 major Electronic Solutions sites in the US.

Interest in their achievements has spread beyond BAE Systems with presentations of the tool at national and international events. "This is a real win-win," added Sean Delehanty, Principal Engineer of Energy Management. "Smaller impact, smaller bills, better environment. UCT is here to stay."



Above: using a BAE Systems-developed skeleton bob, Amy Williams triumphed at the 2010 Winter Olympics in Vancouver to become the UK's first individual gold medal winner in 30 years

This sporting life

Not everyone is interested in technology. And not everyone is interested in defence. But most people are interested in sport – especially if it is mixed in with some patriotism.

Recognising this was one of the reasons why BAE Systems has developed a five-year partnership with UK Sport to apply the skills and talents of our best engineers and technologists to the pursuit of sporting excellence and medal success.

It gave our people the chance to work across boundaries, tackle genuinely new problems, and boost our reputation with people who had little idea of the range of expertise we have in BAE Systems.

In sport – just as in combat –

hundredths of a second can make all the difference between success and failure. Just ask the British skeleton bobsledder team, now using new sleds developed by BAE Systems engineers.

"Using the skills and knowledge we routinely apply to fighter jet aircraft and future military capability and applying them to an international inter sport was a fascinating exercise," said Owen Evans, BAE Systems UK Sport Partnership manager.

"Our team got a lot of out of it in terms of fresh thinking and tackling challenges that pushed our boundaries. The equipment we designed and manufactured was tailored to each athlete and we all feel very proud to have played a role in such a great British success."

Money-saving solution for RSAF earns royal approval

Abdulaziz Al Shehri is an aircraft maintenance supervisor working on the Hawk programme in Saudi Arabia. But he is also an ideas man whose willingness to think of new ways of tackling old problems has really paid off.

"I work in a team of five, carrying out scheduled aircraft inspections on the Royal Saudi Air Force's Hawks. It's hard work, but enjoyable – obviously everything in the aircraft needs to operate at maximum performance and it's our job to check that it does," Abdulaziz explained.

"Our team is really close and supportive. There's a mixture of Saudis and Brits and we get on very well, working together as friends."

"This is really important as we and

the other teams all have to rely on each other every day. We all have to make sure that the safety of the aircraft is never compromised.

"Part of our inspection is to look at the wing nose rib. In 2008, I had the idea that instead of taking the wings apart, we could inspect them with a fibre optic camera inserted in an inspection hole.

"We tested this and it works. So inspecting this part of the aircraft now takes an hour or less rather than 16-24 working hours. I'm proud to have had an idea which is saving the Company money and time. I even had a letter of commendation from Prince Sultan of the Saudi royal family."

Abdulaziz's idea was approved by the Royal Saudi Air Force and saves almost 3,000 man hours per year.

Flying boats

Halmatic has been one of the finest brands in the military small boat sector for 50 years. But when BAE Systems acquired Halmatic, it had become a neglected and loss-making business with an uncertain future.



Above: the Davy Jones character who is helping to promote safety in a new campaign

level of accidents we were facing was simply unacceptable.

The result was the Safety First programme, a new and imaginative effort to improve awareness of the importance of safe working.

"Our aim was a pretty simple one," said Steve Messam, Head of SHE Surface Ships. "We wanted people to come to work thinking safety, work safely, and go home at the end of a safe and productive day."

The results speak for themselves – a 51 per cent reduction in lost work day cases and a 50 per cent reduction in major injuries. And outside recognition is coming already – three external safety awards so far.

The campaign has not stopped there. The recent introduction of Davy Jones – a fictional character who highlights the importance of Safety First in a fun and innovative way, has shown that there is always more that can be done with a bit of imagination.

Safety can sometimes be taken for granted. As Surface Ships has demonstrated, fresh thinking can ensure that doesn't happen.

Why a diverse workforce is good for business

Bold

In the first event of its kind at BAE Systems, speakers and participants from around the world gathered in Arlington, Virginia, in December for the 2010 Inclusion and Diversity Symposium sponsored by Land & Armaments' Women's Leadership Network.

The two-day event focused on the need for greater diversity and the contribution that inclusion can have on the organisation's success.

In all, the symposium drew more than 140 participants globally, with a combination of speakers and participants representing the US, UK, Sweden, South Africa and Israel.

The agenda included presentations, workshops and candid, round-table discussions from company leaders and women and men who



‘DIVERSITY ISN'T A SOCIAL ISSUE. IT'S A BUSINESS ISSUE. OUR SUCCESS DEPENDS ON A MORE DIVERSE WORKFORCE’

Hannah Sesay, Vice President, Safety, Health and Environment

have achieved senior level success in defence and other industries.

Participants were given an inside look at some of the challenges global leaders have faced and overcome, and the barriers women and minorities continue to come up against as they work to achieve success and recognition in their fields.

"This symposium helped make it clear that diversity and inclusion are integral to our business objectives and our strategy," said Hannah Sesay, L&A's Vice President, Safety, Health and the Environment and one of the symposium's organisers.

"Diversity isn't a social issue. It's a business issue. Our organisation's success in the future depends on our incorporating a more diverse workforce and managing that workforce effectively."

The importance of inclusion to the organisation's

‘IT'S TIME TO WIDEN THE LENS AND TAKE A CLOSER LOOK AT THE BARRIERS THAT STAND IN THE WAY OF OUR PROGRESS’

Hannah Sesay, Vice President, Safety, Health and Environment

L&A symposium highlights the positive impact of inclusion

operational performance and future success was highlighted at the event.

"There is a substantial business case for inclusion and diversity," said Hannah.

"What worked in the past won't guarantee our success tomorrow. Diversity and inclusion are no longer public relations issues. They're paramount to the success of a global organisation.

"It's time to widen the lens and take a closer look at the barriers that stand in the way of our progress.

"The future of our organisation rests on our ability to see inclusion as essential, and diversity as the new order of business."

Participants were treated to a panel discussion featuring the Hon. Barbara Barrett, former US Ambassador to Finland, and Linda Hudson, President and CEO, BAE Systems, Inc.

Tackling the issue of women and leadership, Linda shared her own stories of the challenges she faced as she moved up the leadership ladder in the defence industry. She promised to make diversity a priority in 2011 by establishing a committee to address the issue.

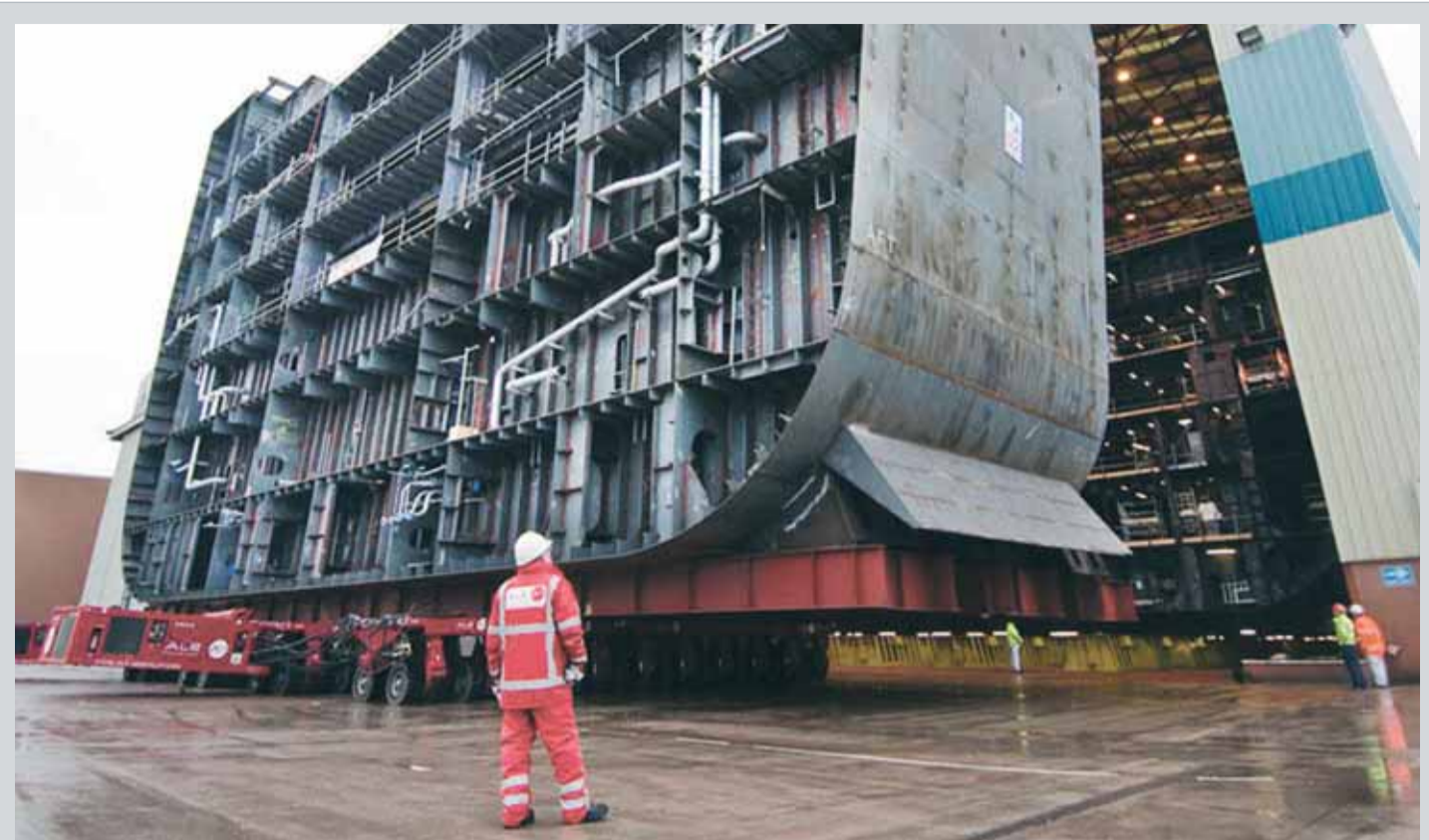
During the symposium's second day, participants heard from women defence leaders, including retired US Army General Malinda Dunn, South African National Defence Force Major General Ntsiki Memela-Motumi, and retired Israel Defence Forces Lieutenant General Orit Adato.

The three women provided a global perspective, exchanging candid and sometimes humorous stories about pursuing military careers while also working to balance their family and professional lives.

Frank Pope, President, L&A, closed the conference by acknowledging that the number of women and minorities holding senior leadership positions at L&A is low in comparison to BAE Systems, defence competitors and industry in general.

Indicating that this must change, he also cautioned that success would require more than changing the numbers.

"There's a bigger picture," he said. "In order to take full advantage of how diversity can help us effectively compete and win, we must not only embrace diversity and inclusion, we must learn how to manage a multi-cultural workforce."



Above: the towering hull section is inched into the shipyard hall at Govan to line up with the rest of the block which will form the midsection of the Queen Elizabeth aircraft carrier

Carrier coming together

Like pieces of a gigantic model construction kit, two sections of the hull for the first of the UK's new aircraft carriers have been slotted together at BAE Systems' Govan yard on the River Clyde in Glasgow.

Construction of the Queen Elizabeth took a huge step forward as workers at the Surface

Ships yard moved the sections together, a structure now so big that it fills an entire hall at Govan and extends beyond the doors onto the yard, providing a spectacular view from across the river.

Highlighting the skill and technology involved in British shipbuilding today, it took a team of 20 employees and remote



Above: the section beginning its 100 metre move across the shipyard

controlled transporters just one hour to move 1,221 tonnes of steel more than 100 metres across the shipyard.

The hull section was then manoeuvred carefully into position to line up with the rest of the block.

Steven Carroll, Queen Elizabeth Class Project

Director at Surface Ships, said: "Seeing the mid-section of the carrier come together brings into sharp focus the sheer scale and complexity of this engineering feat.

"With construction under way at six shipyards across the country, it is one of the biggest engi-

neering projects in the UK today – second only to the London 2012 Olympics – and we're all very proud to be a part of it."

The two sections form the mid section of the hull up to the hangar deck. Workers will now outfit the block, which on completion will weigh more than 9,300 tonnes and stand 23 metres tall, 63 metres long and 40 metres wide.

It will embark later this year on the next stage of its journey from the Clyde on the west coast to Rosyth on the Firth of Forth on the opposite side of Scotland where the Queen Elizabeth will be assembled in the dry dock.

A clear view is a real advantage

Trusted

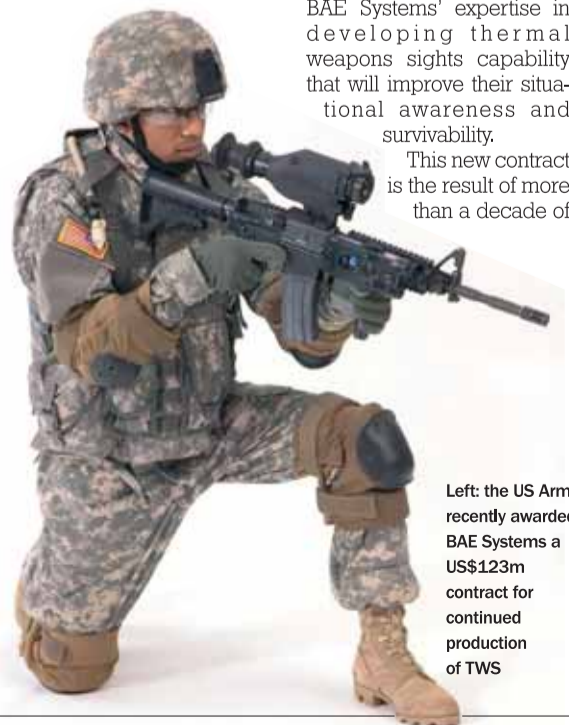
In the gloom of the battlefield, knowing where the enemy is can mean the difference between mission success and failure.

That advantage has now been handed to

Canadian Army latest to benefit from thermal weapons sights

Canadian soldiers. They are the latest to benefit from BAE Systems' expertise in developing thermal weapons sights capability that will improve their situational awareness and survivability.

This new contract is the result of more than a decade of



Left: the US Army recently awarded BAE Systems a US\$123m contract for continued production of TWS

hard work by Electronic Solutions Soldier & Vehicle Solutions employees to meet the needs of Rheinmetall Canada, the provider of the Rheinmetall Defence Group's range of products in Canada, explained Dennis Long, Program Manager for BAE Systems.

Rheinmetall Canada will integrate BAE Systems' uncooled thermal weapon sights (TWS) with its 40mm grenade launcher's fire control system as part of the Canadian Army's Close Area Suppression Weapon System.

Dennis said: "Our sights provide a tremendous day and night advantage in detecting, observing and engaging the enemy. Simply put, they help soldiers achieve their missions and return home safely."

In the late 1990s, systems engineers and business development personnel at BAE Systems worked to make sure that the thermal weapon sights worked with a specialised ballistic computer on Rheinmetall Canada's products. The sights' software was then upgraded to be com-



Above: BAE Systems' uncooled thermal weapon sights will be integrated with the Canadian 40mm grenade launcher's fire control system

patible with the computer.

"It can be difficult to have multiple software configurations on one system, such as TWS, without interfering with the high-volume production line. It is key to develop a production process for the unique configuration products that will not disrupt the main line," Dennis said, noting that BAE Systems will produce 400 of these specialised sights for Canada on the same manufacturing line that produces thousands of US Army sights without the specialised software.

"We created a non-interference process, and that was the biggest feat for the whole job – to keep costs low while still producing a best-in-class product."

Dennis added that BAE Systems had previously gone through a similar process for personal weapon sights for the Canadian Army whose displays use both French

and English, while those for the US have English alone.

The Company now provides thermal weapon sights to eight countries.

The US Army recently awarded BAE Systems a US\$123m contract for continued production of thermal weapon sights, bringing the total TWS contract value to more than US\$1bn since 2004.

BAE Systems late last year also acquired OASYS Technology, which specialises in the design and manufacture of electro-optical systems and subassemblies for aerospace, defence, industrial and commercial markets. The Company is now looking at all its current customers as an opportunity base for OASYS products, according to Dennis.

BAE Systems has delivered more than 91,000 thermal weapon sights to support operations of the US Army and its allies in Iraq and Afghanistan.

Typhoon soars past the 100,000 hours mark

Achievement is testament to fighter's reliability and versatility

Trusted

The world's most capable swing-role fighter has swept past a significant milestone.

The operational fleet of Typhoons, in service with six air forces, has now achieved more than 100,000 flying hours.

And that, says one man who has flown the aircraft since it came into service in 2003, is testament to its sheer versatility and performance capability.

BAE Systems Chief Test Pilot Mark Bowman joined the Company the previous year, as the Typhoon emerged from its development phase and went into production.

"Your first flight in a Typhoon is one you don't forget. It's one of those aircraft that quite literally takes your breath away."

Typhoon now has the job of protecting UK airspace. BAE Systems personnel, working with the RAF, make sure the UK's fleet of Typhoons is ready to respond at all times to defend national airspace.

Mark Bowman said: "The Typhoon's performance capability surpasses any other aircraft currently flying in the world today.

"There's a phrase used by pilots called the 'Typhoon grin'. It's on the face of every pilot when they fly Typhoon for the first time. They literally cannot believe just how manoeuvrable the aircraft is."

The UK's contribution to the 100,000 hours was achieved through the combined efforts of the RAF at RAF Coningsby in



Above: the Typhoon, now in service with six air forces, has clocked up its flying hours record in seven years



YOUR FIRST FLIGHT IN A TYPHOON IS ONE YOU DON'T FORGET. IT'S ONE OF THOSE AIRCRAFT THAT QUITE LITERALLY TAKES YOUR BREATH AWAY

Mark Bowman, BAE Systems Chief Test Pilot

Partners and customers celebrate

Eurofighter Typhoon is Europe's largest military partnership programme – a four-nation collaboration between the UK, Germany, Italy and Spain that has so far put a total of 260 aircraft in service across Europe and the Middle East. The flying hours milestone was recognised at an event at Eurofighter headquarters in Munich, Germany in January, when senior representatives from the Eurofighter programme, Eurofighter management agency NETMA alongside senior staff from all six customer nations including those from the export customers, Austria and the Kingdom of Saudi Arabia, celebrated the achievement.



tion in full swing, all 148 Tranche 1 aircraft have been delivered and the retrofit programme is bringing them to their latest configuration.

Typhoon's biggest advantage is not just its manoeuvrability, according to Mark Bowman.

"It's the ability to integrate all of the various sensors aboard the aircraft, and the way they're blended together to give the Typhoon its overall performance and handling qualities. That's what makes this such a world-beating aircraft."

Mark added: "The quality of this aircraft, and the roles it can perform in terms of air-to-air and air-to-surface, are needed now as never before on the world stage and it's great that we can deliver such attributes in a single package.

"There's an old pilot adage that 'if it looks right, it probably is right' – and there's no doubt that inside and outside, this aircraft will do the business for many years to come."

Lincolnshire, RAF Leuchars in Scotland, and Mount Pleasant in the Falkland Islands, as well as in a range of operational deployments that tested the readiness, durability and reliability of the Typhoon.

It has also flown in the bitter weather of the Baltic region, the temperate climate of the Tyrrhenian coast in Italy, and the torrid heat of the Arabian Peninsula.

Achieving its 100,000 hours of flying time shows the maturity of the aircraft,

and its reliability as a defence system. It achieved its first 5,000 flying hours in November 2005, and 10,000 hours followed in August the following year.

By August 2008, Typhoon had broken through the 50,000 hours target, and the increase in activity matches the steady delivery of aircraft to customers in the six air forces currently flying Typhoons – in the UK, Italy, Germany, Austria, Spain and Saudi Arabia.

With Tranche 2 produc-

Company helps injured soldiers to ease back into civilian life

Bold

For some soldiers, returning to the UK to recover from injuries will not just mean the end of front-line service, but also possibly the end of their military careers.

However, BAE Systems is on hand to help ease the transition to civilian life by helping the UK MOD develop the concept of "recovery placements" for long-term wounded, injured and sick.

The scheme provides personnel with temporary work placements with industry partners to help prepare for a return to active duty or aid their transition to civilian life.

For example, BAE Systems Surface Ships recently hosted a half-day liaison visit for soldiers to its Govan shipyard in Glasgow.

Fraser Kennedy, HR Manager Defence Partnering within Shared Services, explained the benefits: "Many people join the Army immediately after school, expecting to have a long career in the forces.

"Severe injury can cut short their career and for some, having to make new life choices can be as traumatic as the injuries they have suffered.

"The Defence Career



Above: a group of injured Army personnel visited Surface Ships at Govan as part of the Defence Career Partnering programme to help them with their transition to civilian life

Partnering programme acts as an industry focal point for the MOD's 12 recovery centres so service personal can get a better understanding of what opportunities and careers exist beyond the military.

"And apart from helping

service personal, it's also a great way of demonstrating working in partnership with the MOD," added Fraser.

After the Surface Ships site visit, Lieutenant Colonel Carl Lightfoot from Army Recovery Capability said:

"All the students found the visit informative and staff helpful and supportive. It generated a significant amount of thought and discussion among the students and plenty of positive feedback during the post-visit debrief."

News in brief >



Above: GCS Munitions employees from Birtley are introduced to their new workplace at Washington

New home for GCS Munitions employees

Global Combat Systems has received the keys to its new munitions facility at Washington in the UK and all 350 employees have toured their future "home".

The £75m investment on the site of the old Dunlop factory at Washington, Tyne and Wear, will ensure even better supplies of ammunition to front-line troops while securing jobs in the North East of England.

Achieved on time and to budget, the handover of the development is an important milestone in the business's transformation programme to move from Birtley, which has served its employees for nearly 100 years.

After the handover, Birtley workers, who had significant input in the

new site, were given a tour and a presentation on its major benefits, and the plans to move employees there.

The move marks a remarkable turnaround since 2002 when Birtley was losing money and facing closure. The change is largely due to the MASS (Munitions Acquisition – the Supply Solution), the 15-year £2bn partnering agreement that commits the UK MOD and BAE Systems to working together.

Derek Dowson, Birtley's longest serving employee who started work there in 1964, said: "People ask me if I will be sad to leave. I have a lot of memories from working at Birtley, but I am looking forward to moving to the new site. You just have to look at the new facility to realise there is no comparison."



Above: more than 1,600 RG31 vehicles have been delivered under the MRAP programme

South Africa wins upgrade contract

Land Systems South Africa has won a contract worth more than US\$130m, through its teaming agreement with General Dynamics Land Systems Canada (GDLS-C).

Under this contract, employees in South Africa will provide survivability and mobility upgrades to RG31 Mine Resistant Ambush Protected (MRAP) vehicles.

The RG31 is a combat-proven mine-protected armoured personnel carrier designed, developed and manufactured by BAE Systems in South

Africa. A powerpack providing higher performance, new suspension components and transfer cases, will be incorporated into the survivability and mobility upgrade kits.

Johan Steyn, Managing Director Land Systems South Africa said: "We appreciate our ongoing relationship with GDLS-C as well as the confidence that the US military has in the RG31 vehicle. Readiness and Sustainment is an important part of our business and through these programmes we continue to protect the lives of US soldiers."

1,001 gun US salute for M777 howitzer

An order for 46 M777 howitzers from the US Department of Defense takes the total number of guns ordered to 1,001.

The order comes as BAE Systems continues deliveries of M777 to Canada and Australia, in addition to the US.

The revolutionary M777 is the world's first artillery weapon to make widespread use of titani-

um and aluminium alloys, resulting in a howitzer which is half the weight of conventional 155mm systems.

The success of M777 on operations in Iraq and Afghanistan is reflected in a global interest in the howitzer.

The guns are produced by Global Combat Systems through its sites at Barrow-in-Furness in the UK and at Hattiesburg, Mississippi.



Above: restored to its original condition, the 40mm MK 1 MOD 6 anti-aircraft machine gun will travel with the LST 325 Memorial museum ship and will be used in displays and parades



Above: USCS employee volunteers from Louisville and the crew of the LST 325 Memorial in front of the refurbished gun mount

History lesson in restored naval gun

Trusted

A Second World War-era naval gun has been restored by BAE Systems volunteers in a project to preserve a piece of history for future generations.

A group of crew members from the Landing Ship Tank (LST) 325 Memorial visited US Combat Systems in Louisville, Kentucky, at the end of last year for the unveiling of the refurbished 40mm MK 1 MOD 6 anti-aircraft machine gun.

US Combat Systems (USCS) employees at the site volunteered their time

Volunteers help to preserve museum piece for future generations

after work and on weekends to refurbish the rusted gun mount.

The LST 325 Memorial is a fully functional Second World War LST museum ship based at Evansville, Indiana. Its crew of volunteers sail it to various ports including Louisville. They have even sailed it across the Atlantic to the US from Greece.

So why did employees

work to refurbish an old relic when they produce modern weapons such as the Advanced Gun System MK 45, MK 110 and MK 38 MOD 2?

To preserve a unique piece of history that is linked to both USCS and to the Louisville site. USCS's legacy Northern Ordnance company made 40mm mounts in Minneapolis during the Second World War, and Louisville, when it was a US Naval Station, overhauled 40mm mounts into the early 1990s before the facility was acquired by legacy company United Defense.

The gun came from the USS Donner which was being decommissioned at the James River Reserve Fleet in Virginia.

The goal was to refurbish and restore the gun to its original condition, mount it on a trailer, and display it alongside the ship and in parades.

For such a major undertaking, the crew of the LST 325 Memorial looked to BAE Systems employees.

The project was a world-wide BAE Systems initiative, as Global Combat Systems (GCS) Weapons in Sweden

assisted by providing technical data and checking for parts. Bofors originally designed the gun mount in the 1920s and GCS still produces 40mm and 57mm versions. The 57mm derivative gun is in production today in Louisville as the MK 110.

Plant Manager Greg

Malyszek served as MC at the unveiling, where Kenny Adams, executive director of the LST 325 Memorial Board, spoke about the importance of preserving history so that the youth of tomorrow can view artefacts first hand. He also spoke of the generosity of USCS employees, who volun-

teered more than 600 hours to help finish the project.

Jeff Parsons, USCS MK 110 MOD 0 project lead, thanked all the volunteers, who came from all areas within the Louisville facility, for their hard work. Many of them worked more than 20 hours on the project, along with a few who put in more than 100 hours.

"Demonstrating responsible behaviour by supporting this worthwhile project to preserve an important historical artefact truly shows our commitment to Total Performance," Jeff said.

“SUPPORTING THIS PROJECT TO PRESERVE AN IMPORTANT HISTORICAL ARTEFACT TRULY SHOWS OUR COMMITMENT TO TOTAL PERFORMANCE”

Jeff Parsons, USCS, Louisville

UK apprentices keep the skills flowing in pipeline of talent

Commitment to expand country's largest scheme

Bold

With more than 1,000 apprentices on sites across the UK, BAE Systems runs one of the country's largest training schemes.

Now the Company has committed to recruiting an additional 290 apprentices in 2011, providing recruits with the opportunity to work on complex, large-scale engineering programmes, including the Astute attack submarine, the Typhoon fighter aircraft and the Type 45 anti-aircraft destroyer.

Nigel Whitehead, Group Managing Director of Programmes & Support, himself a former engineering

apprentice, said: "The contribution that apprentices make to our business cannot be overstated."

"Our Company is reliant on having a pipeline of talent, and the apprenticeship scheme gives us the right mix of skills and enthusiasm we need to constantly innovate and move forward."

Apprentice challenge

BAE Systems apprentices have the opportunity to support the Armed Forces in many ways – not least in the Company's Apprentice Innovation Challenge.

The nine-month programme gives those taking part the opportunity to develop solutions to some very real problems faced by troops returning home from active duty.

The challenges were set by clinical staff from the Royal Centre for Defence Medicine, based at Queen Elizabeth University Hospital in Birmingham – formerly known as Selly Oak.

The first challenge is to develop a device that will help to improve the rehabilitation of an injured person or amputee through bed-based exercise.

The second is to develop a device for patients unable to move their heads to have a wider view of what's going on

around them – with the potential for further development to help them read or watch TV.

Both challenges are based on real-life problems faced by members of the Armed Forces returning from duty – as the apprentices taking part found out at the launch ceremony.

They met Darren "Swift" Swift, who told them about his experiences since losing both his legs in a terrorist attack while serving in Northern Ireland.

The teams of apprentices have until the end of October to research, design and manufacture a prototype before presenting it to the judging



Above: apprentices and their managers in this year's Apprentice Innovation Challenge have been set the task of making life easier for injured service personnel

panel led by Simon Wright, Head of Engineering for Programmes & Support.

Rewarding experience

Elsewhere, Company apprentices have had their skills recognised

in the BAE Systems Apprenticeship Awards.

Apprentice Rachael Carr, a wind tunnel engineer from Military Air & Information in Warton was named BAE Systems Apprentice of the Year. This was a double

celebration for 22-year-old Rachael, who completed her apprenticeship in 2010, when she was named Technical Apprentice of the Year.

Nigel Whitehead said: "The BAE Systems Apprenticeship Awards

“BAE SYSTEMS' APPRENTICESHIP SCHEME GIVES US THE RIGHT MIX OF SKILLS AND ENTHUSIASM WE NEED TO INNOVATE AND MOVE FORWARD”

Nigel Whitehead, Group Managing Director, P&S – a former apprentice

recognise the very best. Our 1,000 apprentices are crucial in ensuring that we sustain our position as a leading UK engineering and manufacturing company.

"Many of BAE Systems' senior managers started as apprentices, and as an ex-apprentice myself, I'd thoroughly recommend the training programme as a career option."



Above: former British soldier Darren Swift, who lost both legs on active duty, was guest speaker at the apprentice challenge launch

Science fair showcases Brains behind BAE Systems

More than 25,000 students converged on The Big Bang Science Fair at London's Excel Convention Centre in March for three days of events and activities designed to celebrate science, technology, engineering and maths (STEM).

With activities ranging from welding with chocolate to flying balloon penguins, visitors had the

chance to marvel at just how much science and engineering is transforming our world and everyday lives.

As part of our commitment to education activities with a science and technology focus, BAE Systems was a lead sponsor of the event alongside Shell and Siemens. BAE Systems

and the Royal Air Force put together a joint stand



packed with activities that offered visitors the chance to meet our robot mascot Brains, see our "Secret Life of Robots" theatre show, fly in a Typhoon cockpit, and learn more about the "Future of Flight" with our unmanned aerial vehicle exhibits, Demon and Taranis.

Furthermore, visitors to the stand got the chance to play our

new mobile game, "Brains' Atomic Adventures", which has been developed for Apple and Android phones to support our schools outreach programme in the UK and to encourage children aged 8-14 to study science and technology subjects at school.

You can download the game by visiting the Apple or Android app markets.