PULLING TOGETHER
ASTUTE MAKES MOVES IN AMERICA

FIX, FOCUS AND GROW – STRATEGY FOR THE MARITIME BUSINESSES
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CRITICAL MILESTONE ACHIEVED AS CARRIER SUPER BLOCK COMPLETED
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MANAGING DIRECTOR’S WELCOME

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Maritime aims to showcase the breadth of capability, and many common areas, across the three naval businesses. If you have a story to share, contact Jo, Andy or Martin (details below).

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Your involvement is key to future success

Welcome to the first edition of Maritime, the magazine for everyone working within Maritime Services, Naval Ships and Submarines.

This new magazine embraces the opportunity presented by the unified Maritime structure to communicate across the lines of business.

Over the last nine months, I have visited our sites and met many of you. I have consistently seen, and been very impressed by, the level of pride and passion in the work you do to deliver world-class products and services to our customers. I have experienced first hand the tremendous breadth of knowledge and capability we have within Maritime, and heard your views on your challenges and achievements.

I believe there is real value in sharing more of our experiences and successes across Maritime. To do that we must recognise the way we communicate with each other is continuously changing. There is a strong commitment within the management team to keep everyone regularly informed with the opportunity to share your views with us. We use a range of channels to do this such as the intranet, employee TV system, video blogs, roadshows, team briefs and listening forums. As these methods continue to evolve, the speed in which news reaches you will increase. The role of a traditional newsletter has to change to reflect this.

A printed magazine has an important part to play in our communications strategy, particularly in an environment where many of you don’t have PC access, but it needs to be more features-led to ensure the information is interesting and relevant for all. This is why we have launched the new Maritime magazine to replace the existing newsletters.

The magazine will be published quarterly and features stories from across the lines of business. The key to its future success is involvement; if you have any stories to share, or there are particular topics that you would like to know more about, contact the Editorial team (details on this page).

Enjoy your new Maritime magazine.

Sea Wolf on track

Air defence

Maritime Services has achieved a significant milestone following confirmation from the customer, Short Range Air Defence, that development requirements have been fulfilled for the Sea Wolf Mid Life Update (SWMLU) missile system programme for Type 22 and Type 23 Frigates.

With closure of the development element of the £310m SWMLU contract, design and support responsibility will transfer to the Sea Wolf In-Service Support project. The manufacturing element is on track for completion shortly, with all remaining ships upgraded over the next four years.

Advances in technology mean that the updated Sea Wolf missile system can detect a cricket ball-sized target travelling at twice the speed of sound close to the horizon, and intercept it in the medium to short range. SWMLU programme will also improve the system’s maintainability, reliability and calibration processes.

Les Gregory, Products and Training Services Director, Maritime Services, said: “SWMLU offers far superior performance than legacy programmes in a far wider range of operational scenarios. The fact that we have reached this important milestone, completing the development of SWMLU, is testimony to the commitment, expertise and tenacity of the project team and all those who have supported them.”
An ageing Barrow plant maintenance store has been transformed into a state-of-the-art wood manufacturing facility that will supply a range of services – from mock-ups to wedges and ladders – to the Astute and Successor submarine programmes. The £500,000 investment could enable more woodwork to be brought in house.

The new Submarines facility replaces the old Shipwrights' Shop, which has been earmarked for demolition under redevelopment. The business had to decide whether to retain the shipwrights’ activities as a core manufacturing capability or buy the services in. Analysis highlighted the cost and schedule benefits of retaining in house and the store was identified as the best location.

Now the four shipwrights have moved into the new facility – and have given it an emphatic thumbs up. Not only does it comprise a more efficient layout with more up-to-date tools and machinery, it is also a cleaner, safer and more energy efficient working environment.

We are reaching maximum throughput and need to create back pressure in the programme to drive the boats up the hall – Nick Warburton, p9

Revamp boosts panel line safety

Production improvement

Major improvements to the panel line at Naval Ships’ Govan site will radically improve the safety of employees working in the area and improve capability for lifting and turning panels.

The previous transportation system, used during build stages of the QE Class carrier programme, was not suitable for lifting and transporting the heavy panels. Jonathan Cairns, Production Engineer, said: “Due to the size and weight of the panels, grabs and overhead cranes were being used to facilitate lifts and this was a real safety issue for people working in the area.”

Recognising the need for a safer system of work, the Govan team has invested in this significant upgrade. The enhanced system can now lift and turn panels weighing up to 50 tonnes, eliminating the use of overhead cranes and ensuring compliance with regulations. Upgrade of the seam-welding machine includes a new access platform, improved lighting, automatic seam tracking and touch screen technology control panels. Jonathan said: “Before the new system was put in place large panels often had to be broken down into smaller pieces before being transported for welding. This will make the process much quicker, safer and more efficient.”

Store turned into timber top shop

An ageing Barrow plant maintenance store has been transformed into a state-of-the-art wood manufacturing facility that will supply a range or services – from mock-ups to wedges and ladders – to the Astute and Successor submarine programmes. The £500,000 investment could enable more woodwork to be brought in house.
01 Radar products
Minister visits Cowes

The capability of Maritime Services’ radar products, and the £2.5m refurbishment programme under way at Cowes, was given a high profile showcase when Minister for Defence Equipment, Support and Technology, Peter Luff, visited the facility, accompanied by Isle of Wight MP Andrew Turner.

The Minister toured radar production and test areas and met some of the team responsible for delivering the Sampson multi-function radar – in service on the Type 45 – and the Artisan and Type 996 teams.

02 Advanced Technology Centre
Wireless testing given go-ahead

The aim of the Advanced Technology Centre (ATC) to introduce revolutionary wireless communication for both ship construction and operational deployment moved a step closer with the green light to start further testing.

The wireless system uses short-range 60 GHz wireless hot spots, distributed around the ship via a fibre optic backbone. It will make communications faster and more efficient during construction, and provide a portal for operational communication services, ranging from personalised entertainment to internal communications during emergencies.

03 Fundraising
Keswick to Barrow Walk

Records are expected to tumble again when 2,500 walkers and runners line up on 12 May for the 44th annual Keswick to Barrow Walk, the biggest annual BAE Systems-related fund-raiser.

That will be the greatest number of starters yet for the 40-mile trek, and the target of £250,000, with a stretch target of £300,000, would be the most money yet raised. More than 300 walkers will start the 23-mile Coniston to Barrow sub-event, in its third year.

Type 45 milestone
Defender returns from final trials

Defender, the fifth BAE Systems-built Type 45 Destroyer, has completed her second, and final, stage of sea trials off the west coast of Scotland. She now undergoes final integration and testing before her handover to the Royal Navy later this year.

During 27 days at sea, Naval Ships personnel worked alongside the Royal Navy. Defender’s extensive programme of trials, included final testing of the ship’s power and propulsion, combat systems, navigational and communications equipment. Paul Rafferty, Type 45 Programme Director, said: “The trials demonstrate the progress we’re making, and provided an opportunity to put the ship through her paces and prove her outstanding capability in preparation for acceptance off contract in July.”

Commander Nicholas Boyd, Defender Senior Naval Officer, said: “Defender’s second set of sea trials mark another milestone in the life of the ship and her company, as we prepare to join the fleet later this year. They gave us the opportunity to operate her sophisticated equipment and systems, putting our experience and training into practice.” BAE Systems is on track to complete delivery of all six Type 45s to the Royal Navy by the end of 2013. Defender is due to set sail for her home port of Portsmouth in July.

Dauntless deploys

HMS Dauntless, the second Type 45 Destroyer built by Naval Ships, left Portsmouth on 4 April, for a six-month routine deployment to the South Atlantic. Relieving HMS Montrose, she will maintain a continuous presence protecting British interests in the region.

It is her first operational deployment since she was commissioned into the fleet in 2010. With the support of Naval Ships and Maritime Services, she has undergone an intensive period of sea trials and training to prepare her for operations. Maritime Services’ Fleet Time Engineering then worked closely with the Ministry of Defence to ensure HMS Dauntless’s operational capability (see page 22).

Commanding Officer, Captain Will Warrender, said: “We are now ready to provide a reassuring presence in the region and protect British interests.”
HMS Lancaster returns to fleet

A sleeker, faster HMS Lancaster returned to the operational fleet at the end of March, after 16 months of extensive upkeep at Portsmouth Naval Base. The refit, part of a £17.9m contract with BAE Systems, significantly upgraded the warfighting capability of the 20-year old Type 23 Frigate, leaving her ready to fulfil future operational commitments.

Preparation started a year before the refit began, giving the team a clear picture of the work that was needed. Both propeller shafts were replaced and she received an extensive package of sea tube replacements, the main inlets providing salt water to the main machinery cooling systems. Both rudders were removed for inspection and insert repairs to the hull carried out. A new coating of underwater “intersleek” paint, along with the transom flap at the stern (an underwater spoiler), will cut fuel consumption by up to 15 per cent.

The ship has had upgrades to her Sea Wolf guided-missile system, command system, communications and an automatic 30mm gun system installed. This has boosted her defensive capability, improved the ship’s situational awareness and makes future systems upgrades easier as operational requirements evolve.

Roy Ashton, Project Manager Ship Delivery Team, said: “We started on 27 September 2010 and the contract completed 16 March 2012 and we had a lot of challenges to overcome. Everyone from the ship’s staff, the customer and Superintendent Fleet Maintenance really pulled together to deliver this.”

Captain Andy Glennie, Superintendent Fleet Maintenance at Portsmouth Naval Base, said: “This has been one of the most difficult Type 23 refits in recent years and everyone in Team Portsmouth can be really proud of the part they played in delivering Lancaster back to the Fleet, on time and with significantly more capability than when she left it 18 months ago. But that’s not the end of the story as the newly established COM (Class Output Management) will provide constant oversight of the ship and ensure she receives continuous engineering support in the years to come.”

Roy said: “We developed a really good enterprise culture that has overcome significant challenges throughout the project and we delivered Lancaster to the contracted dates and to budget, at the end of the project. She went back into the fleet in good shape.”

Roy and the Naval Base team are now focused on their next project, HMS Iron Duke, which will undergo a similar package of work.
‘To deliver we must remain focused’ – that’s the message as strategic objectives roll-out across the three BAE Systems Maritime businesses.

Strategic objectives are being rolled out across the three Maritime businesses, as all employees get to grips with their role in helping to achieve business imperatives, the key objectives, for a year identified by Managing Director Andrew Davies as “a critical year for defining the future of Maritime.”

During a recent management workshop, Andrew told leaders from Maritime Services, Naval Ships, and Submarines that the group had made “excellent progress” over the last six months, and the business represented “attractive long-term potential and opportunity for growth”.

However, Andrew says that all three businesses face significant short-term strategic and programme challenges, the key priority being to remain focused and to deliver. That is why the imperatives for each of the lines of business are grouped under Fix, Focus and Grow – fix immediate challenges, focus on the mid to longer-term targets, and the developments and improvements needed to achieve them, and grow the business for future success.

There are nine overarching Maritime objectives, designed ultimately to help BAE Systems achieve its objectives – particularly to support customers, improve financial performance, and drive value from platform and services activities. They are to:

- meet 2012 financial targets
- continue to focus on improving customer satisfaction and programme execution
- progress towards recognised leading positions on safety, diversity and inclusion, and environment
- develop and agree a future roadmap for meeting the surface shipbuilding Terms of Business Agreement requirements
- agree a framework to identify and deliver Submarine Enterprise Performance Programme savings opportunities
- develop a strategy for Maritime Services
- achieve the interim acceptance programme for the Khareef Class Oman Corvettes, as contracted
- maintain programme delivery of the QE Class carriers, Astute submarines, and Successor Trident replacement submarines.

The ninth objective, to complete the sale of the Trinidad and Tobago Offshore Patrol Vessels (OPVs), has already been achieved (see page 24), giving the group an encouraging start to 2012.

Andrew also discussed the role of Maritime during the workshop, and outlined its five main areas of focus:

- defining strategy through the Integrated Business Planning process
- setting the tone through business imperatives
- setting objectives for the lines of business
- delivering performance management and governance
- providing oversight of the strategic and enterprise level relationships, such as the Aircraft Carrier Alliance, Terms of Business Agreement and Submarine Enterprise Performance Programme.

The managing directors from each business also delivered presentations as part of the workshop to outline their imperatives and objectives to deliver the strategy set for this year.

Andrew said: “The imperatives clearly outline the 2012 priorities for each of the businesses and everyone has a key role to play in delivering them.

“There is a vast amount of knowledge and expertise within Maritime and the workshop provided a valuable opportunity for the management teams to fully understand everyone’s challenges and how we can work together to make this year a success.”
THE IMPERATIVES FOR EACH OF THE LINES OF BUSINESS ARE GROUPED UNDER FIX, FOCUS AND GROW – FIX IMMEDIATE CHALLENGES, FOCUS ON THE MID TO LONGER-TERM TARGETS, AND THE DEVELOPMENTS AND IMPROVEMENTS NEEDED TO ACHIEVE THEM, AND GROW THE BUSINESS FOR FUTURE SUCCESS
Naval Ships
Safety is the number one priority in Naval Ships, as the business continues to strive towards the goal of zero accidents. This year also sees a drive to reduce the cost of quality by 20 per cent, with a focus on getting things right first time.

Naval Ships got 2012 off to a flying start with the sale of three Offshore Patrol Vessels (OPVs) to Brazil; the team is now working to deliver the first two ships this year. The Khareef OPV programme continues to bring its challenges, but the team is making huge progress towards delivering these ships.

On UK programmes, large hull sections of the first QE Class carrier will be transported to Rosyth from Portsmouth in spring and from the Clyde in the autumn. Defender, the fifth Type 45, will be handed over to the Royal Navy in summer, with Duncan embarking on sea trials later in the year. The Type 26 team is focused on delivering the Stage One design, while the business continues to seek international design partners in the Global Combat Ship programme.

Consolidating the company’s combat systems capability for the surface fleet, Naval Ships has secured the industry technical authority role for the Royal Navy and is focused on helping to achieve the customer’s vision of establishing a shared computing environment across all its warships.

The business is working closely with the Ministry of Defence to determine how best to deliver complex future warships in the UK, in line with Terms of Business Agreement commitments.

Maritime Services
Maritime Services Managing Director Rory Fisher took his MD Roadshow the length of the country, from Hillend in Scotland to Cowes on the Isle of Wight, addressing employees at six core business locations. He explained how individual objectives support Maritime Services’ business imperatives, and how these help BAE Systems achieve its objectives.

Rory stressed that in 2012, Maritime Services needs to deliver on its commitments and build a “service excellence” business. He urged everyone to “think safe, act safe, be safe” in every task undertaken.

Immediate priorities include delivering midlife update programmes for both the Sea Wolf missile in the UK and the Saudi minehunters. The business will also have a key role in the Brazilian Offshore Patrol Vessel programme, and is tasked with establishing an engineering and supply chain strategy with Naval Ships.

In the mid-term, an overall strategy and structure must be established for the new business, while keeping focus on current programmes. These include achieving key milestones for the Artisan radar and Maritime Composite Training System, and ensuring Type 45 class output management supports fleet deployment. The business will also be looking to optimise its contribution to naval base services and warship availability and support.

Maritime Services will seek to further develop its support and services to the Surface Ship Fleet, and seek export opportunities for its radar expertise. Similarly the business will look to optimise naval base expertise and to implement its training services strategy to optimise its expertise in this field.

Submarines
Submarines’ principal customer, Director Submarines Rear Admiral Simon Lister, has said that no other defence programme has the same commitment from the UK Government as the submarine enterprise. However, that investment was conditional on “improving our performance, reducing cost and improving sustainability”, which would rely on the personal effort of every individual.

Admiral Lister addressed a series of Senior Management Conferences by video. The conferences focused on business imperatives and the “7+4” vision for seven Astute and four Successor submarines, and the strategy for achieving them.

Key messages from the conferences are being cascaded to operations teams and functions. There will also be access to Admiral Lister’s video, in which he warns that “if you don’t adhere to our spending plans now, the future programme becomes more difficult to deliver. There is no more money in the programme.”

The immediate priorities for Submarines are delivering power range testing propulsion trials and exit from Barrow for the second Astute class submarine, Ambush, as well as resolving any outstanding barriers to programme delivery on the other boats. The business must also deliver resourcing requirements for the Successor programme.

The longer term objective is to deliver both Astute and Successor programmes. In order to do that the Genesis enterprise resource planning system must be embedded and the Successor Integrated Product Development Environment toolset delivered. Delivery of the MD’s safety, environmental and quality objectives, and developing affordability initiatives in support of the Submarine Enterprise, will both support these objectives. Looking further into the future, Submarines has to optimise its contribution to the Successor deterrent submarine programme and the role of the Combat Systems business across the submarine fleet.
DRIVING FOR A DRUMBEAT

Astute project teams look to a production-line approach as the submarine programme approaches peak activity.

With fabrication well advanced on the fifth Astute class submarine Anson, and Ambush, Artful and Audacious at intensive phases of production, a new approach is planned.

Work to create a production “drumbeat” includes assigning production personnel to build phases rather than to a boat, ensuring expertise and learning transfer from one boat to the next.

Another initiative is to create programme momentum from the later boats. Head of Boats 5, 6 and 7, Nick Warburton, said: “We are reaching maximum throughput of work and need to create back pressure in the programme to drive the boats up the hall.”

Recent developments include:

**Ambush**
Preparations and work package completions are driving towards exit and sea trials. These include the dredging of Walney Channel, while power range testing for the full propulsion system will begin later this spring. This will be followed by Fast Cruise, a work-up period for the crew. Final inspection of compartments has progressed, as has handover of compartments and systems to the crew.

**Artful**
Initial fill of the reactor system has started, to be followed by first cold and hot operations to test reactor system integrity. This was thanks to a big team effort to ensure documentation and regulatory approval was in place alongside production readiness.

A Project Readiness Review team, chaired by Artful Project Manager Darren Platt, met weekly in the run-up to initial fill, with the team incorporating lessons learned from earlier boats.

David Paton, Head of Operational Nuclear Safety, and chair of the Operational Readiness Review (ORR), said: “The presentation to the ORR panel was the best we have ever seen. This gave more confidence of readiness and helped de-risk external regulatory approval.”

**Audacious**
The first boat fit of the redesigned Sonar 2076 modular bow array, forms part of the combat system “design for cost reduction” changes and will be quicker and easier to install. The team is also taking a new approach by machining the rudder, hydroplanes and shaft simultaneously.

Main Machinery trials have started, and the Forward Engine Room Module was shipped into units 3 and 4 at the start of April.

**Anson**
“Back pressure” is being driven here, as the team tackles a shorter build duration. Nick Warburton said: “We are working to mitigate the challenges, especially down the critical reactor line.”

The increasing number of units arriving in Devonshire Dock Hall, is creating pressures of space and competition for paint resource. Nick said: “We are looking at a more strategic approach, such as creating a tented paint cell area for all units.”

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12,000 tonnes of HMS Queen Elizabeth are so far assembled – already bigger than an entire Type 45 destroyer
The Queen Elizabeth Class aircraft carrier (QE Class) programme has reached a critical milestone with completion of the first “super block” at Rosyth. The 8,000 tonne Lower Block 03 has been joined to the Upper Blocks at the east coast assembly facility, to produce the distinctive outlines of the Royal east coast assembly facility, to produce the vast Olympic venue for the two massive aircraft carriers to the work project management elements of building Carroll, has likened the engineering and on track, ¿

There are now some 12,000 tonnes of the first-of-class already assembled in the dry dock. One block is bigger than an entire Type 45 Destroyer – and there is still a lot more to come. The man responsible for keeping the Naval Ships element of the programme on track, QE Class Project Director Steven Carroll, has likened the engineering and project management elements of building the two massive aircraft carriers to the work of producing the vast Olympic venue for London 2012.

Over the next ten months, BAE Systems and its partners in the Aircraft Carrier Alliance will deliver almost the entire ship to Rosyth in seven major blocks. Three of these – Lower Block 05, Lower Block 02 and the forward island – will be transported from Portsmouth for HMS Queen Elizabeth this spring. The largest and most complex section of steelwork, Lower Block 04 (LB04), will come from Govan – it is due to be loaded out and shipped by barge in November.

Steven said: “LB04 is 11,500 tonnes in weight – substantially bigger than LB03 (8,000 tonnes), which was transported from Govan by barge in August. LB04 is so large that we built it in two sections in the blocking hall. On 9 April we moved one half round and joined it up with the other side. It will be loaded out onto the barge in November and taken to Rosyth.

“We’ve also started work on the second aircraft carrier HMS Prince of Wales. LB03 is coming on really well at Govan, after cutting steel in May last year, and production has started at Portsmouth on LB02.”

Meanwhile, work is gathering pace at Scotstoun on a key section of the carrier – the aft island, which houses the flight command centre (FLYCO). Portsmouth is building the forward island, which will accommodate the ship’s navigation facilities and the bridge.

When the blocks are transported to Rosyth they do not arrive on the east coast as empty “steel boxes”. Steven said: “Many of the compartments are completely fitted out when the blocks leave the shipyards, so that when they arrive in Rosyth we can begin integrating, testing and commissioning all of the ship’s systems during the assembly phase. The ethos of the build strategy is for the partners to carry out as much of the work as possible in the build yards, so that our teams can concentrate on assembling the ships at Rosyth.”

It is a hugely complex programme – and one Steven believes everyone involved will remember for years to come. “In terms of the engineering and project management, it’s right up there with the Olympics. There are 10,000 people working on this programme across the UK, and there’s still a lot of work to do.”

Signing up to better design

Managing the design, information, criteria and outputs throughout the build of a submarine, will in future be done on a cross-submarine enterprise basis, improving the design and speeding up design reviews and inspections.

That is a key objective of the Engineering Directors’ Forum, formed under the Submarine Enterprise Performance Programme (SEPP), which has already issued a generic set of design management arrangements as a guidance document for all submarine projects. BAE Systems Submarines Engineering Director Stuart Godden said: “We looked at how we managed the design today, and tried to capture how we wanted it to be.”

Now each of the projects – Successor, the seven Astute-class submarines, and in-service Astute combat system – will draw up its own design management arrangements from this central document. The forum meets every six weeks to address issues of common interest, promote collaborative working and generate safety related policy.

Stuart’s colleagues on the forum are John Van Griethuysen (Ministry of Defence) Steve Garwood (Rolls-Royce) Barrie Sadler (Babcock) Captain Pat O’Neill (MOD Submarine Combat System Group Leader) and Mick Ruxton (MOD In-Service Group Leader).

Stuart said: “All four SEPP partners will sign each of the design arrangement documents, making sure we have a common understanding of standards.” Improved design should also make the submarines more affordable.
Maritime duo go for growth

Recruitment drive

BAE Systems’ stand at the National Engineering and Construction Recruitment Exhibition at the end of April was manned by Submarines, with Naval Ships keeping a watching brief. With the design phase under way for both the Successor nuclear deterrent submarine and the Type 26 Global Combat Ship, the two Maritime businesses are looking for suitably qualified recruits to man these key programmes.

Submarines is looking to recruit 280 people this year for the Successor programme. Managing Director John Hudson said: “The Successor programme to design a replacement for the Vanguard Class is gaining momentum. A key objective remains the recruitment of professional engineers.”

By the end of 2012 there will be 1,000 people working on Successor, and at least that number of jobs will be supported through to the Government’s “main gate” decision in 2016.

The business is also looking for around 70 temporary employees and recently invited a number of local and national job agencies to the Barrow facility.

The recruitment campaign is being given a facelift in a bid to widen the net of potential recruits. Resource Project Leader Marianne Stables said: “We are using digital media and developing an animated graphic that demonstrates just how technically challenging the product it is.”

With 200 people already working on the Type 26 programme, the team is expected to grow to 400 over the detailed design phase. They will be based in Filton and Scotstoun.

Sara Lewis, Type 26 Human Resources Manager, said: “The Type 26 design phase offers an exciting opportunity at the cutting edge of ship design for people with the right skills.

“Alexander Mann Services, BAE Systems’ recruitment partner, attended the NEC event on our behalf to highlight the programme’s attraction for qualified engineers.”

Furness College revamp is hel
ensure that vital skillsets rem
in Barrow as activity ramps up
the Successor programme
Forty-four new apprentices began their employment with Submarines on 5 March – the first intake from 136 apprentices being taken on this year. The remainder join in September, making up Submarines’ highest intake for five years.

The increase helps meet manpower requirements for the sixth and seventh Astute Class submarines and the Successor programme. The apprentice intake is likely to remain high for three years to ensure required skills are maintained.

The March intake, five females and 39 males, includes designers, welders, fitters, pipe fabricators, electricians, caulkers and steelworkers. The September intake will also include planners, non-destructive test engineers, commissioning engineers, business administrators, drillers, and logistic operatives.

The partnership with Furness College, where apprentices spend the majority of their first year, has been strengthened through exchange visits, between shipyard and college training personnel, and through developments in the new workshops and classrooms located in the new college building.

Paul Rennie, Apprentice Training Team Manager, said: “All those involved feel it is important to continually develop the partnership and instil new ideas.”

A dedicated Submarines team, led by Operations Process and Capability Manager Alan Cockburn, is working on redeveloping and improving the submarine “mock-up” at the college. This mimics the working environment that apprentices will encounter on board the submarine.

Alan’s team is taking the opportunity to develop an holistic approach. For example, from receiving a pipe work package a job will be followed through fitting and installation to testing and commissioning. There will also be different trades working on the mock-up at the same time, recreating some of the challenges posed by working on board. Apprentices are involved in designing the revamped mock-up, and in its construction.

Other improvements are evident in both classrooms and workshops. In the former there is at least one third more space, extensive use of natural light, and state-of-the-art overhead technical data projection. Paul said: “It is an altogether better learning experience for the apprentices.”

Each workshop has its own mini-classroom area with data projection. Techniques can be videoed in close-up and put up on the screen while apprentices work at their bench.

For the first time, there are separate dedicated structural and pipe welding areas, each with screened booths complete with the latest down draught extraction. Some of the tutors have undergone Submarines’ Training the Lean Way programme, and many “lean” techniques are reflected in the workshop organisation.

There are nine new conventional lathes and a new mill, and two computer numerically controlled (CNC) lathes and two CNC mills, as well as a more modern guillotine and press break. Steve McAlloone, Head of the Engineering Department, said: “There is much more opportunity for apprentices to become familiar with the new technology.”

Another innovation is a schedule of site visits for first year apprentices. Paul said: “Each discipline area will spend between 12 and 16 days in the different training areas at site. This will allow the on-site teams to enhance relationships with their first years before the end of the college period. It also gives apprentices visibility of some of the staff they will work with, and some of the site skills they will need.”
Royal recognition
Queen’s Silver Medal crowns year of achievement

Accepting a Queen’s Silver Medal from Prince Charles at St James’s Palace has been the icing on the cake in an outstanding 12 months for Naval Ships’ Learning and Development (L&D) team. Apprentice and Adult Training Manager Wendy Fry received the medal from Prince Charles for The


She said: “I am delighted that we’re being recognised for our development within the programme. The L&D team has done so much over the last three years with the apprentice programme. Being presented with an award by Prince Charles has wrapped up what has been a very successful year”.

Significant development has seen the apprenticeship programme recognised through a range of awards in both the south east and the north of England. These include Grade 1 Ofsted and an award for the apprenticeship programme in the South East. In Scotland, the programme has scooped a hat-trick of trade awards – The Best Apprentice Programme, Best Adult Apprenticeship and The Best Practical Apprenticeship Programme.

Wendy believes the apprenticeship programme is proving such a success because it produces “well rounded” individuals, who have learned the skills of their trade but also developed personally, through activities such as work in the community.

She said: “We have three in-house training centres on our Scotstoun, Govan and Portsmouth sites, which have undergone extensive renovation. We put training into context by using simulations of their future working conditions and legacy and future platforms. Their skills and knowledge are crafted from an environment similar to real time projects.

“These are the future skills of the Company and we are now looking at how they progress from their apprenticeship programme, and what opportunities are available to them in the future.”

Sharing solutions to common problems
Operating better together

Heard the one about the Barrow Operations Director, who hails from the Clyde, demonstrating his shipbuilding facilities to the Clyde Operations Director, who hails from Barrow? It happened in March and illustrates what the BAE Systems Programmes & Support Operations Council is all about. New Council Chairman, Clyde-born Submarines Operations Director Alan Dunn, hosted council colleagues, including Naval Ships Clyde Operations Director, Barrow-born Tony Williams. Alan said: “Having experience of different manufacturing units in other sectors is beneficial. It’s only by sharing experiences and practices that we can see where best practice is and promote it across each area.”

The Council comprises the Operations Directors from Maritimes’ Submarines and Naval Ships businesses, and from Global Combat Systems (GCS) and Military Air & Information (MAI). As they toured Barrow, council members shared issues, experiences and practices. Alan said: “We seek to share best practice, especially in safety and quality, and identify commonalities and differences. Issues we face in Subs might be encountered on the Clyde or in Portsmouth, or may have been addressed at GCS. If there’s a common problem, we can share the solution.”

The Council also wants to raise the profile of Operations and Manufacturing by identifying talented individuals and exposing them not only to other Maritime sectors but also to GCS and Air, to “develop more rounded Operations professionals”.

ABOVE: ROYAL SALUTE CROWNS GREAT YEAR FOR WENDY FRY AND HER TRAINING TEAMS IN SCOTSTOUN, GOVAN AND PORTSMOUTH

ABOVE: TARGETING BEST PRACTICE – TONY WILLIAMS, LEE SMURTHWAITE (GCS MUNITIONS) AND ALAN DUNN TOUR AMBUSH

BAE Systems Maritime
Maritime award winners help to inspire

Big Bang sparks young minds

Science and engineering exploded into life for 56,000 visitors to the three-day Big Bang Fair at The NEC, Birmingham, last month – and helping to inspire the thousands of youngsters were Maritime’s two BAE Systems Apprentice of the Year Award winners.

Overall Apprentice of the Year, Submarines steelworker Tom Crowe, and Naval Ships Craft Fabrication Apprentice Award winner, David Crawford, manned BAE Systems’ Technology “Now and in the Future” stand at the event, alongside five other award winners. They helped to demonstrate exhibits and explained about BAE Systems and their own career paths.

Submarines Corporate Responsibility Adviser Claire Hanghian, who project managed the event for BAE Systems, one of the event’s four major sponsors, said: “Tom and David and the other award winners did a fantastic job. They really engaged with the young visitors and were great ambassadors for the Company."

Claire herself got a pat on the back for her organisation from Programmes & Support Group Managing Director Nigel Whitehead. The stand, mounted in conjunction with the RAF, featured a popular RAF ejector seat and helmet. The Demon unmanned aircraft from Military Air & Information and the Terrier combat vehicle from Global Combat Systems also featured, as did a Maritime interactive capability touch screen.

The BAE Systems Education Roadshow team staged several performances over the three days, and a number of senior BAE Systems Education, Communications and Engineering personnel lent their support.

Shows including BBC’s Bang Goes the Theory, Gastronaut Live and Re-think the Future, and SKY’s Brainiac Live!, added celebrity glitz and young scientist and engineering awards were presented by Universities and Science Minister David Willetts.

Below: Heavy traffic at the company stand and (above) popular roadshow robot, Brains

Buoyed up by yard mentors

Community

Nine students from Barrow’s Furness Academy will prepare for their GCSE exams this summer with a massive boost in confidence and application, thanks to working with Submarines volunteers.

Over nine weeks they built model submarines to demonstrate the principals of buoyancy.

A special open night at Barrow shipyard saw eight of the students dive, surface and hover their boats in a giant water tank, witnessed by parents, Furness Academy staff and Submarines personnel.

Furness Academy Principal Douglas Blackledge said the students were lucky to have a “world leader in engineering” on their doorstep. “All of the things they have learnt here will live longer in their memory than what we are trying to teach them!”

He believed the confidence they had gained from this project would carry through to their exam preparations.

Submarines Operations Director Alan Dunn sponsored the project: “The aim was to inspire confidence and capability, so congratulations to you guys for completing this programme. You should be proud of yourselves.” Some of the students had shown interest in coming back as an apprentice.

Alan said: “If just one of them does so, it would be more than I had ever hoped for from the project.”
The new charity will assume responsibility for the work of BAE Systems, which was awarded a £16m contract last October to restore the ship. The restoration team is led by Project Manager John O’Sullivan. He said: “BAE Systems has enhanced its in-house skill base in traditional shipbuilding and carpentry by bringing in specialist companies, T Neilson and Company and Bell Rigging, who both have a great deal of experience in working on historic vessels.”

Recently, structural repairs have been made and the ship has also been completely re-wired, upgrading mains and catering systems, with all lighting upgraded to LED. The biggest job of the past year has been the striking of the top masts. Ian Bell and his team of riggers were tasked with removing the top masts and their associated rigging using modern rope access methods. Rope is used to gain access to difficult-to-reach locations without using scaffolding, lifts or aerial work platforms. The riggers descend, ascend, and traverse ropes for access, and work suspended by a harness. Ian still uses techniques that have been used for hundreds of years, constructing and using ropes as they would have in Nelson’s day – but modern materials offer advantages in terms of durability.

Ian’s approach to Health and Safety is also of the 21st century. He and his staff are trained to the highest safety standards of their industry. John said: “We spent a lot of time planning the work to remove the masts. We made sure there was no chance of risk to anybody. The fact that we kept Victory open to visitors throughout is proof of that.”

Ian and his team are extremely experienced, regularly working on important historic vessels such as HMS Warrior and the Cutty Sark. Their expertise is often employed...
for film and television – their reconstructions can be seen in the *Pirates of the Caribbean* movies.

Victory is being restored thanks to the coming together of traditional techniques and modern technology. “We benefit from being able to hire the expertise of companies such as Bell Rigging and T Neilson and Company. But we also have the considerable global in-house resources of BAE Systems to draw on,” said John.

“The Design Services Office is a great example of this. We can get information from them on the structural performance of items on the ship thanks to computer modelling. They have an incredible 3D model of the ship, which has staggering detail. Having that available helps considerably and, coupled with the knowledge and experience of our people, we have a very capable team. I can’t think of another company as well equipped to do this job.”

In order to maintain these specialist capabilities, John hopes to have BAE Systems apprentices working alongside Neilson apprentices on Victory, sharing best practices. He said: “Our requirement is to look after the ship and we need to have the transferable skills to do that.”

John is proud to be carrying on the work to preserve HMS Victory for further generations. He said: “We have records from the 1800s and you realise that a huge amount of blood, sweat, tears and enthusiasm have gone into preserving Victory. It’s an incredible feeling knowing that we are continuing that work. We are a part of history.”

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**Seb makes the grade**

Weeks of hard study paid dividends for Portsmouth-based Maritime Services management accountant Sebastian Lea, when he notched up the highest aggregate grade from 3,066 candidates across the world sitting a top management accounts exam. That was in his penultimate Chartered Institute of Management Accountants (CIMA) exam – Seb has since also passed his final exam and is well on the way to chartership.

He joined BAE Systems through its Finance Leader Development Programme, after graduating from Southampton University in 2009. Since then, Seb has enjoyed secondments with Land Systems in Telford, Underwater Systems in Portsmouth, and is now embedded in Maritime.

He said: “As part of the finance graduate scheme we have to attain our CIMA professional qualification within three years, which means a lot of study. I lost my social life for a month but it was certainly worth it!”

Seb, who is pictured receiving the personal congratulations of Maritime Finance Director Robin Imms, just has a panel interview hurdle to overcome before becoming a Chartered Management Accountant. Robin said Seb was a shining example to colleagues throughout the Maritime group, as personnel are encouraged to gain chartership to help demonstrate the professionalism of the three businesses.

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“WE HAVE A VERY CAPABLE TEAM. I CAN’T THINK OF ANOTHER COMPANY AS WELL EQUIPPED TO DO THIS JOB”
Save fuel, save lives

Energy management

Ever increasing fuel prices and threats to supplies make reducing fuel consumption a major UK Ministry of Defence priority. The MOD wants a 50 per cent fuel consumption reduction in deployed operations, such as Camp Bastion, Afghanistan. Supply operations can carry a high cost in terms of logistical resources. Fuel required by forward bases needs to be delivered by protected convoys exposed to risks such as improvised explosive devices, insurgent attacks, and poor roads.

BAE Systems’ Energy Solutions and Services (ES&S) team – part of Maritime Services – and Lead Contractor in a collaboration involving the MOD, the Canadian Department of Defence and the British Antarctic Survey, has shown fuel consumption of armed forces in the field could be cut by up to 40 per cent. ES&S has developed a revolutionary Energy Management System that controls generators, incorporates storage and intelligently manages demand to meet operational requirements.

Head of ES&S Chris Courtaux said: “The ultimate aims are to demonstrate a system that will reduce fuel demand and generator usage hours in a Main Operating Base, deployed in theatre. We will also be looking to integrate our system with existing generators and deployed distribution systems and power circuits with a minimum of change. Our solution will enable the MOD to reduce fuel usage and provide more operational effect. Crucially, it will also help save lives in the supply chain responsible for delivering power to operational bases in the field.”

Simple idea cuts confined space risk

Green light for safe working

Often the simplest ideas are the best. The latest innovation for improving safe working in confined spaces at Submarines’ Barrow site is a prime example. More than 200 traffic light style boxes are being made in the Submarine Machinery Installation and Test Establishment (SMITE) to revolutionise the way the safety status of a confined space is indicated.

A confined space must be checked for gases and other risks once every 14 hours. Until now, paperwork at the working area entrance has recorded when the space was last inspected and whether it is safe to enter. But that relies on paperwork remaining in its slot and people reading paperwork before entering.

SMITE Manager John Ashurst and Principal Mechanical Commissioning Engineer Dave Thompson wanted a more obvious and visual way of alerting people to the safety status of a confined space. John said: “Dave and I thought a traffic light system would be very visible and easily understood. We thought if the light system changed from green to amber to red as the 14 hours approached, and had an audible alarm, it would be a much safer way of preventing people entering a confined space inappropriately.” They passed their ideas over to Dave’s electrical equivalent, Andy Bundu, who designed and developed an electronic timer alarm circuit and Sheet Metal Shop designer Paul Fugler modelled a unit to accommodate it. A sample unit was connected up in the New Assembly Shop (NAS) for trial, and proved effective. Keith Burton, Team Leader NAS Services, said: “As soon as the production lads see a red, or even an amber, light they give us a call. “You can see it from one end of the shop to the other.”

Now third-year electrical apprentices Dan McMurray (pictured) and Kelsey Rawlinson are putting together 200 of the smaller traffic light units, and 45 larger boxes.

John Ashurst said: “I think this is something that everyone in the yard will understand, and has potential benefit for other businesses as well.”
Maritime businesses drive improvement across all aspects of SHE

Measuring up to new safety target

A new way of measuring safety performance is set to drive improvement across all aspects of Safety, Health and Environment (SHE). The Recordable Accidents measure widens the focus from workplace accidents to any work-related accident or ill-health condition that requires more than simple first aid treatment.

Each Maritime business has set a target for improvement in Recordable Accidents during 2012 and is being measured on a monthly basis. Naval Ships has set a 20 per cent Recordable Accidents reduction target for 2012, and has switched the focus of SHE communications from Lost Work Day Cases to the new measure. Process improvements, and improvements to the working environment, are being implemented in support of the measure.

The business has also changed its data recording systems to assess injury and ill health. It has set an improvement baseline for each site and programme by analysing incidences from 2011 in the new context. Data is monitored by the Safety, Health and Environmental Leadership Team, chaired by Operations Director Tony Williams. Communication starts with the Board and trade union safety reps, and is flowed down through a weekly poster and toolbox talks.

As from 4 April, all Maritime Services personnel come under the business’s line-led SHE delivery team. Maritime Services data is monitored monthly by the Management Team. A ten per cent reduction target has been set and is being communicated across the business. Information will flow down via weekly posters and toolbox talks at Portsmouth Naval Base and general communications for the rest of the business.

Submarines will gradually switch to the new measure from the Lost Time Accidents measure in the Managing Director’s 2012 objectives, with the aim of replacing the latter objective by June. Ian Worrall, Head of SHE and Security, said: “We had 180 Recordable Accidents last year and have committed to a ten per cent reduction on that.”

Recordable accidents include work-related injury or illness resulting in death, unconsciousness, days away from work, restricted work activity or job transfer, or medical treatment beyond first aid. It might include dermatitis, occupational asthma, or musculo-skeletal condition.

Recordable Accidents will provide a common SHE target for BAE Systems businesses across the globe. It also widens the scope by bringing more aspects of SHE into the measure than purely safety. There will be a common five-year reduction target for all businesses, likely to be either 40 or 50 per cent against a 2011 baseline.

“OUR RECORDABLE ACCIDENTS OBJECTIVES WILL BE BALANCED ALONGSIDE RISK MANAGEMENT AND SAFETY CULTURE”

Ian Worrall said: “In the Maritime businesses there is a greater likelihood of having a work related ill health issue, which can have more long-term effects on employees”. Steve Messam, Naval Ships Head of SHE, added: “The Maritime community has embraced Recordable Accidents and these objectives will be balanced alongside risk management and safety culture.”
Lieutenant Commander Ian Molyneux

Remarkable bravery remembered

Lieutenant Commander Ian Molyneux, who was fatally shot on board HMS Astute in 2010, has been awarded a posthumous George Medal for tackling the gunman. The citation says that Ian “knowingly put himself into extreme danger in order to try to safeguard others from personal injury”.

Southampton City Council Leader Royston Smith and Chief Executive Alistair Neill, who eventually disarmed the gunman, received the same honour.

First Sea Lord Admiral Sir Mark Stanhope said: “Ian demonstrated courage of the highest possible order. His selfless actions displayed incredible presence of mind and singular bravery.”

Lieutenant Commander Molyneux’s widow, Gillian, said: “On behalf of myself and our children, I wish to express how extremely proud and humbled we all feel to know that Ian’s remarkable bravery has been recognised with such a prestigious award.

“Ian is so desperately missed, but his memory will live on through his four beautiful children and in the hearts and minds of all who knew him.”

Mrs Molyneux and Admiral Stanhope led a formal Royal Navy commemoration of her late husband. They presented a new memorial prize and dedicated a classroom at the Astute Training Facility, HM Naval Base, Faslane.

The Molyneux Prize will be awarded each year to the most outstanding newly qualified submariner – the inaugural prize was presented to Engineering Technician Joshua Millard.

Mrs Molyneux, together with the First Sea Lord, then dedicated the Molyneux Room, in an event attended by senior Royal Navy Staff, crew members from HM Submarines Astute and Ambush, and the current cohort of trainees.

The Astute Training Facility is operated by FAST Training Services, a joint venture of BAE Systems (Maritime Services), L3 Communications and Babcock. Frank McAleer, FAST Training Services Chief Executive, said: “Lieutenant Commander Molyneux was a good friend and supporter of FAST during the creation of the training facility, and FAST are proud to sponsor the Molyneux prize.”

Lieutenant Commander Molyneux also worked closely with teams from the Submarines business, when he was based in Barrow assigned initially to Ambush.

Astillute makes moves in America

Asthute sails through her most important sea trials to date, while on 142-day deployment to North America

First-of-class submarine HMS Astute “surpassed every expectation” on her most demanding stint yet at sea – a 142-day deployment to North America, which featured the boat’s most important series of sea trials, including firing her main weaponry for the first time.

During the deployment the submarine “battled” against USS New Mexico, America’s newest and best Virginia-class hunter attack submarine. She deep-dived, fired her Tomahawk Land Attack missiles and sailed a total 16,400 miles.

The deployment also included the first “salvo” firing – two Spearfish torpedoes fired simultaneously – by a British submarine for 15 years.

HMS Astute Commanding Officer Commander Iain Breckendale said: “We are looking forward now to a bright future – this is a submarine of tremendous capability. We met and surpassed every expectation. She is just better than any other submarine I have ever been on.”

Kevin Critchley, Head of Astute Programme, said: “All the feedback is that Astute is a fantastic submarine, a huge improvement in capability, and
more than proving her worth. The salvo firing demonstrates sufficient confidence in the submarine and crew to be able to focus on having two teams firing a torpedo at the same time.”

Kevin added that there were still improvements to be made, and first-of-class issues to address, during her base maintenance period at HM Naval Base, Faslane, before the submarine returns to sea for further trials later in the year.

Commander Breckenridge said: “First-of-class Astute is still on trial and she is a first of class, which always brings its own problems, but we are beginning to look beyond those problems and see the promise.

“We fired four Tomahawks, aimed at a corner of Eglin Air Force Base, to test for accuracy, and we fired six Spearfish torpedoes. Our sonar is fantastic and I have never before experienced holding a submarine at the range we were holding the USS New Mexico. The Americans were utterly taken aback, blown away with what they were seeing.”

The Fellowship 2012 exercise featuring “cat and mouse” scenarios with USS New Mexico, was witnessed by the UK First Sea Lord, Admiral Sir Mark Stanhope, and US Chief of Naval Operations, Admiral Jonathan Greenert – accounting for much of the 18 stars worth of American and British naval authority that assessed HMS Astute during her deployment.

Commander Breckenridge, whose first submarine was the diesel-powered HMS Olympus, said: “This is the future – Astute is on its way, and she is still a trials boat. She is one awesome piece of kit – and I am very proud of the fellowship that has formed in a very fine crew.”

The oldest of those, 50-year-old Chief Petty Officer John Adam, said: “To serve on this boat in the twilight of my career has actually been the highlight of my career.” The youngest crew member is 19-year-old stoker Jonathon Ball, who said: “I volunteered for this because it was the bigger challenge – and submarines are a lot more interesting than skimmers!”
Availability up, costs down
Transforming surface ship support

An availability service, whose second phase began on 1 April, is transforming the way Royal Navy ships are supported throughout their service careers. The Surface Ship Support Programme (SSSP) has introduced Class Output Management (COM) to Portsmouth, Devonport and Clyde naval bases. It is managed by the Surface Ship Support Alliance, a combination of the UK Ministry of Defence, BAE Systems Maritime Services and Babcock.

SSSP Programme Manager, Commander Steve Morgan said: “The aim is to improve the management of complex legacy warship upkeep and maintenance, maximise availability within an agreed budget, transform support for in-service warships and drive down enterprise costs.”

The SSSP Proof of Concept phase saw the creation of a joint MOD/BAE Systems team to manage the support of the Hunt Class Mine Countermeasures Vessels (MCMVs) at Portsmouth. A similar team was formed at Devonport between MOD and Babcock to support Type 22 Frigates.

Phase 2 sees the COM approach applied to more classes of ships; Type 23 Frigates, (T23 COM), Type 42 Destroyers, CVS Aircraft Carrier (Strike COM), Landing Platform Helicopter, Landing Platform Dock, (Amphib COM), and Sandown class MCMVs (Sandown COM). Phase 3 of the programme will look to include future additional warships like Type 45 Destroyers, Queen Elizabeth Class Carriers and Type 26 Global Combat Ship.

The industry-led COM teams are the focal point for budgetary control and provide a single point of contact for all day-to-day class support matters. The aim now is to schedule support on a needs basis in fleet time with durations tailored to meet requirements.

Dean Kimber, SSSP Head of Strike COM and Maintenance Development, BAE Systems Maritime Services, said: “In terms of delivery, this is a real opportunity for BAE Systems, giving us the chance to work with our

Working to keep 45s at sea

“We just got HMS Dauntless away on deployment. Next is prep for HMS Diamond’s deployment and HMS Dragon, about to enter service. We supported HMS Daring while on operations and she’s about to return for an extended maintenance period. Our support to Type 45 is continuous.”

That is the view of Lieutenant Adge Cutler. He and Warrant Officer Calum Kerr are two of four project managers working within Maritime Services’ Fleet Time Engineering (FTE). They work with the MOD ensuring ships and crews are ready for deployment when and wherever needed. As Service Provider for work on board ship, FTE works with the Class Output Management (COM) community to plan programmed maintenance tasks, defects, enhancements and warranty work. The focus is delivering the full package of work to time, cost and quality.

Adge said: “Financial pressures mean that the success of any support period is influenced by material preparation and the effectiveness of the management partnership. It is vital to get the process correct.”

Calum added: “We see the package of work eight weeks before the scheduled deployment and begin de-conflicting tasks – that’s up to 300 maintenance items, plus defects. Daring and Dauntless each had a further, resource-intensive capability upgrade package.”

The COM team and its sub-contractors work alongside. Between 50 and 60 contractor involvement forms are raised in a four-week maintenance period – often at short notice. De-conflicting
partners in a more cohesive way. It will allow us all to make good, long-term support decisions. At the working level, relationships are really strong with people quick to understand what’s best for the enterprise. It’s great to see BAE Systems, Babcock, the Royal Navy and the MOD working in teams and coming up with really good solutions, sharing ideas – it bodes well for the future.”

“WE WERE ABLE TO IDENTIFY THE CORRECT SKILL SETS EARLY AND COPY OVER A LOT OF THE ENHANCEMENTS DIRECTLY ONTO DAUNTLESS”

work is a real challenge. Adge said: “From the pre-deployment preps for Daring, we were able to identify the correct skill sets early and copy over a lot of the enhancements directly onto Dauntless.” Daily project reviews were held on Dauntless, with work orders only being issued to production when all materials, resource, tools, and permits were satisfied. As a consequence, Dauntless was on schedule throughout her entire programme of work.

Surface fleet closer to shared computing

A common core combat system across the Royal Navy’s surface ship fleet has come a step closer with a major contract award to Naval Ships’ Combat Systems group.

The contract is to upgrade the Combat Management System on board the helicopter carrier HMS Ocean and the landing ships HMS Albion and HMS Bulwark. The upgrade on HMS Ocean will be completed by the end of 2013, with sea trials early in 2014.

It is based on the first operational deployment of a Shared Computing Environment (SCE), which will enable the deployment and management of a single, common computing infrastructure across all warships. This is the first step in an incremental design approach to the UK Ministry of Defence Maritime Combat System Technical Authority’s (MCS TA) common core combat system initiative.

There is also a potential future deployment of the SCE on a Type 23 frigate, to de-risk the computing environment currently being designed for the Type 26 Global Combat Ship programme. In a parallel activity, the BAE Systems-led MCS TA team, which includes MOD, Thales and QinetiQ, will progress a number of potential technology interventions aimed at ensuring future capability programmes are aligned to the common core combat system vision.

BAE Systems TA lead Steve Carter said: “We are managing the investigation into ten interventions, which broadly consist of ideas for deploying new capability and equipment differently for greater value. The aim is to make the best use of the SCE infrastructure as it becomes available.”

The SCE is derived from the Common Combat System developed for the submarine fleet, and currently being fitted to Astute boats three and four. There are active links between the Naval Ships and Submarines project teams to align discussions with key suppliers.

The SCE has already been trialled on board the Type 23 frigate HMS Argyll, to prove the concept and demonstrate its connectivity with the ship’s combat system. This was in support of a Type 26 assessment phase, and was a continuation of work conducted at the land based test site in Portsmouth, during which a number of combat systems from various suppliers were hosted and run on the SCE. The land-based tests proved that major system components can run within a shared environment, on shared hardware, and the HMS Argyll trial proved they could be run on board a ship at sea.

There are a range of operational benefits in having an SCE running major ship systems on common hardware. Having less equipment also reduces the acquisition and through-life costs, and reduces spares holdings, maintenance and training time. It will also make future system changes, to increase capability, quicker and easier.

Lieutenant Commander Rob Kitt, the MOD’s Combat System Evolution lead, said: “The SCE can deliver not only cross-business savings but, more importantly to the front line, a faster and more flexible means to insert military capability into our ships when they really need it.”

www.employeepublications-baesystems.com/maritime
Work is well under way at Portsmouth on delivering the first two of three Offshore Patrol Vessels (OPVs) being supplied to Brazil by BAE Systems under a £133m contract. The contract, signed at the start of the year, achieves a key Maritime business objective for 2012 and both Naval Ships and Maritime Services will be involved in the ships’ setting to work, equipment integration and sea trials.

The first of the 90-metre vessels, Amazonas, will be delivered this summer, to be followed by the second, Apa, and the third, Araguari. They will provide the Brazilian Navy with enhanced maritime capability in the near term, pending acquisition of future ships under a major surface fleet renewal plan known as PROSUPER.

Under the contract, BAE Systems is also supplying ancillary support services and a manufacturing licence, which includes a design information package enabling the Brazilian Navy to construct further OPVs in Brazil. Around 80 Brazilian Navy personnel will arrive in Portsmouth for training this year. This will help support the country’s naval re-equipment programme and strengthen its maritime industrial capability.

Maritime Managing Director Andrew Davies said: “This is a significant step forward in our relationship with Brazil. The OPVs are highly capable ships and I am sure they will be a tremendous asset to the Brazilian Navy. We are looking forward to working together and hope this will be the start of a long-term partnership with Brazil in the maritime sector.”

Rear Admiral Francisco Deiana, the Brazilian Navy’s Director of Engineering, said: “The acquisition of three OPVs from BAE Systems will make an important contribution to our ability to provide security and protection to Brazil’s jurisdictional waters and in delivering our commitments to the Brazilian Maritime Authority.”

He added that this procurement was in addition to the scope of the PROSUPER programme, which includes a further five OPVs, five Frigates and one logistic support vessel. Director – Brazil, Julian Donald, said the country, which recently overtook the UK as the world’s sixth largest economy, could provide a significant export opportunity for Maritime. He said: “We are looking to market the breadth of our capability into Brazil, which includes licence to design and build in country, potentially working with Brazil to meet its Frigate requirement, and potentially naval base management.”

The current contract’s ancillary services include operator and maintainer training, base and onboard spares, and interceptor RIBs (Rigid Inflatable Boats, built at Portsmouth). The 2,100 tonne OPVs are capable of speeds in excess of 25 knots, are armed with a 30mm cannon and two 25mm guns, and have a helicopter flight deck and RIB interceptor. They can accommodate a crew of up to 70, with additional accommodation for 50 embarked troops or passengers and deck space for container storage.