

# Press release: How Dstl helped launch the HMS Queen Elizabeth carrier

As the Queen Elizabeth Carrier (QEC) arrives in Portsmouth for the first time, the Defence Science and Technical Laboratory (Dstl) will finally see the results of years of working behind the scenes to ensure safety, efficiency and future-proofing. This includes the jump which launches the new F-35 fast jet – which sits at the bow of the new HMS Queen Elizabeth.

Dstl has been working on the operational analysis for the carrier since the early 1990s – starting formally with the replacement study to look at what came after the Invincible class.

Studies have defined the size and shape of the ship and its important characteristics, including manning and its air wing, right through to sortie generation and the flight deck layout.

In the mid-2000s, a specialist Dstl team looked at ship-air integration. As a result of this, and using their existing knowledge, the ski-jump used to launch the F-35 fighter jets from the deck of the carrier was brought into being.

Requirements of any launch device included the aircraft launch performance to be achieved safely within deck run limitations, the maximum loads to both aircraft and deck and environmental conditions, all within strict ski-jump limitations on height and length.

The resulting requirements were balanced and feasible, and they were subsequently used to design the QEC ski-jump that now sits at the bow of the HMS Queen Elizabeth.

Martin Rosa, Principal Technical Consultant at Dstl, said:

The impact of Dstl's work is that the UK's F-35B force will have the ability to launch robustly and safely from the Queen Elizabeth Class carriers with operationally relevant mission loadouts in a wide range of weather conditions around the world, using the minimum of deck run, while minimising stress on both aircraft and ship.

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## [News story: Biometrics and Forensics Ethics Group replaces the National DNA Database Ethics Group](#)

In line with recommendations made within the [Triennial Review](#) of Home Office Science Bodies the National DNA Database Ethics Group (NDNAD EG) was replaced by the Biometrics and Forensics Ethics Group (BFEG) on 20th July 2017.

The triennial review found that:

reviewing the public call for evidence results and the interviews it became clear that the work of the EG is seen as essential.

The remit of the BFEG expands beyond that of its predecessor and includes ethical issues associated with all forensic identification techniques including, but not limited to, facial recognition technology and fingerprinting.

The NDNAD EG was established in 2008, and provided advice to the Home Office on issues, including policies for the retention of DNA and DNA profiles, the establishment of a Central Elimination Database, international exchange of DNA, Y-STR profiling and rapid DNA technologies. You can read information on [the work of the NDNAD EG](#).

Like its predecessor, the BFEG is an Advisory Non Departmental Public Body. It will provide strategic independent advice to the Home Office ensuring that the evidence underpinning biometrics and forensics policy development is robust. The BFEG will continue all the active work programmes of the NDNAD EG as well as providing advice on a range of new biometric and forensic topics.

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## [News story: From Lancashire to Texas: 10% production milestone achieved for F-35 Lightning II fighter jets](#)

The 318th rear section for an F-35 Lightning II combat jet has rolled off the BAE Systems production line in Samlesbury, Lancashire meaning that 10% of the global requirement has now been produced.

The aft fuselage is the back part of the state-of-the-art aircraft's main

body and with more than 3,000 aircraft currently on order it is estimated that 25,000 jobs will be sustained across the UK by more than 500 companies in the supply chain when at peak production.

The rear section has now transferred from BAE Systems' advanced manufacturing suite to Lockheed Martin's Final Assembly and Check Out line in Fort Worth, Texas to be connected with other major assemblies to become one of three aircraft variants. The 318th aft fuselage in particular will form part of a UK 'B' model variant of the combat jet.

This variant has the short take-off and vertical landing capability which makes it ideal for Britain's new Queen Elizabeth Class (QEC) aircraft carriers. With HMS Queen Elizabeth set to enter her new home in Portsmouth imminently, the F-35B jets are on track to make their first flight trials from her deck next year.

The F-35 programme is the world's largest single defence programme, and as a key partner, the UK has been working closely with the US from the outset.

**Minister for Defence Procurement Harriett Baldwin, said:**

This is an important milestone and the latest example of how the F-35 programme is benefitting the UK's defence industry, creating thousands of jobs and helping to keep Britain safer and more secure.

Britain is a leading partner in the development of the F-35, supporting not just the aircraft that will operate from RAF Marham and our two new Queen Elizabeth Class aircraft carriers, but also the thousands of jets that will serve our allies around the world.

**Andrea Thompson, F-35 Lightning II Director for BAE Systems Military Air & Information, said:**

Reaching the 10% mark of production on the F-35 programme shows how far we have come, but also highlights that there is an enormous amount of work still to do.

With an order book of more than 3,000 aircraft for the global F-35 fleet, the investments we are making in our advanced manufacturing facilities are key to ensuring we continue to deliver on our commitments.

To add to this, we are also working closely with our supply chain to ensure they are equipped to meet the ramp up in production at the same time as delivering against our existing commitments.

## **Eric Branyan, vice president of F-35 Supply Chain Management for Lockheed Martin said:**

BAE Systems is a valued partner on the F-35 program, and we congratulate them on this significant milestone. The United Kingdom is the F-35 program's only tier one partner and the work of BAE Systems and other in-country suppliers has a significant positive impact on the UK economy. We look forward to many more years of partnering to deliver the most advanced and capable 5th generation fighter jet to our allies around the world.

BAE Systems is responsible for 15% of the work on each aircraft including every aft fuselage as well as other mission critical systems for the F-35 Lightning II programme.

The first operational Lightning II squadrons will be the RAF's 617 Squadron (The Dambusters) and 809 Naval Air Squadron. Combined with the QEC aircraft carriers they will transform the UK's ability to project influence overseas.

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## **[Press release: Dstl's award winning apprentices](#)**

Four apprentices from the Defence Science and Technology Laboratory (Dstl) have won prestigious QinetiQ Apprentice Training School Awards and one was also recognised as the best student by the Institution of Engineering and Technology (IET). The awards underline the quality of Dstl's programme for school and college leavers, which was also recently rated as being in the top 100 by All About School Leavers and Rate My Apprenticeship.

The award winners were:

- Oliver Kemp: 1st Year Mechanical Manufacturing engineering apprentice
- George Sweeney: 2nd Year Electrical engineering apprentice
- Cameron Fitze: 3rd Year Electrical engineering apprentice
- Zac Hall: 3rd Year Mechanical Manufacturing engineering apprentice

In addition, Zac also won the IET, Student Excellent Prize. Zac's nomination highlighted his outstanding attitude, strong work ethic, willingness to learn and his ability to work in a team environment.

Commenting on his award, Zac said:

I was shocked – but delighted to have won the award! I've really

enjoyed the work I've been doing and the Dstl apprenticeship scheme has given me great support and many opportunities.

Della Williams, Engineering Apprentices Team Leader at Dstl added:

Ollie, George, Cameron and Zac have done exceptionally well to receive these awards. Zac is the first Dstl engineering apprentice to be awarded the IET Student Excellence Prize which is a huge accolade. It is clear that the apprentices really enjoy the variety and nature of the work that they are doing at Dstl.

Dstl apprentices get to work on some of the UK's most exciting and interesting science and technology programmes, many of which have international and well as national implications. In recent years, for example, current and former apprentices have worked on space satellites, drones, aircraft and tackling the Ebola outbreak in West Africa.

This year Dstl has recruited 31 apprentices. The next recruitment campaign is expected to start in early 2018. Details of Dstl apprenticeship vacancies will be published on the Civil Service Jobs site and on the Dstl Early Careers Facebook page.

The awards were presented by Alan Woolford from QinetiQ and Tim Heywood from IET.

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## **[Press release: UKHO supports safe arrival of HMS Queen Elizabeth into Portsmouth](#)**

The United Kingdom Hydrographic Office supported HMS Queen Elizabeth's entry by providing hydrographic and marine geospatial expertise

The United Kingdom Hydrographic Office (UKHO) helped with preparations for the arrival of HMS Queen Elizabeth into Portsmouth by providing specialist marine geospatial expertise and validating hydrographic survey data.

Following initial dredging operations to make Portsmouth's navigation channel and entrance deeper, hydrographic data was collected by the survey launch HMS Gleaner using modern multibeam echosounder technology to confirm the available water depth.

As well as providing advice during data collection, the final dataset was

then validated by the UKHO to ensure it was the to the highest Category Zone of Confidence – a criteria used to determine the accuracy and data quality of seafloor coverage for safe navigation purposes. The UKHO then used this information to update ADMIRALTY chart coverage of Portsmouth Harbour and Approaches, to support the safe arrival of HMS Queen Elizabeth.

Working in close collaboration with the Royal Navy, Queen's Harbour Master and the Defence Infrastructure Organisation, the UKHO also provided its wider marine geospatial expertise to prepare for the arrival, by providing detailed tidal stream predictions and supporting the placement of navigational aids.

[Portsmouth fly-through](#)