

News story: Lift-off: F-35 take-off technology site opens ahead of historic flight trials

The 'LiftWorks' facility, which has opened at Rolls-Royce in Bristol, makes the 'LiftSystem' to provide F-35 fighter jets with a fan propulsion system that allows them to take off over short distances, hover, swivel mid-air and land vertically.

It is vital to the jets being able to operate from aircraft carriers, and comes ahead of the stealth jets completing their historic first trials off the flight deck of Britain's largest ever warship, HMS Queen Elizabeth.

The site will support more than 100 jobs in the area after more than £20 million was injected into transforming the former Defence Manufacturing building into an advanced facility dedicated to developing the unique technology.

Defence Minister Stuart Andrew said:

As we build up to the iconic first F-35 take-offs from our brand-new aircraft carrier, it is timely to open this Bristol site which is making it all possible. The incredibly powerful systems made at this high-tech facility mean our jets will be able to operate from British sovereign territory anywhere across the world's seas to fight any adversaries which threaten us. The F-35 programme is the biggest in the history of defence, and is supporting a hundred jobs here at LiftWorks – as well as thousands more right across the country.

The LiftSystem, which has a thrust strong enough to lift 17 Mini cars and a clutch that provides enough torque to turn the London Eye, was designed and developed by teams of engineers at Rolls Royce engineers in Bristol and Indianapolis.

The Bristol site is not only making the LiftFan for UK jets, but for all F-35B jets on order across the world.

Production at the site has been building up since 2009, with the official opening now marking the fact that the facility is heading towards peak manufacturing levels.

British companies are building 15% by value of all 3,000 F-35s planned for production. It is projected that around £35 billion will be contributed to the UK economy through the programme, with around 25,000 British jobs also being supported.

The 'Liftworks' facility is one of many cutting-edge manufacturing sites

across the UK contributing to the wider Rolls Royce LiftSystem contract for the F35 programme. 40% of the work under this contract takes place in the UK, supporting 900 jobs across the supply chain.

During the visit, the Minister unveiled a plaque marking the official opening of the Filton site before embarking on a tour of the facility where he met employees, apprentices and graduates.



A state-of-the-art new facility making unique vertical lift technology for fighter jets has been opened by Defence Minister Stuart Andrew in Bristol. Crown copyright.

Chief of Materiel (Air) for the MOD's procurement agency, Defence Equipment and Support Air Marshal Julian Young said:

The STOVL system on the UK's F-35B Lightning II fleet has been performing exceptionally well for the Lightning Force. We saw this earlier this Summer when F-35s used the Vertical Landing Pads at RAF Marham for the first time. The opening of the new LiftWorks facility at Rolls-Royce promises even greater enhancements to this pioneering technology.

Rolls-Royce Director of Customer Business Defence Alex Zino said:

Rolls-Royce has pioneered STOVL technology through our development of the Pegasus engine for the Harrier and has now taken that

capability to new levels in the shape of the LiftSystem for the F-35B. This new facility enables us to continue produce cutting edge technology to our customer while also ensuring that we are reducing their costs.

The F-35B Lightning multi-role fighter jet is the first to combine radar evading stealth technology with supersonic speeds and short take-off and vertical landing capability.

During his opening speech, the Minister also announced that the UK has accepted its 16th jet, which is now set to fly into Beaufort, South Carolina. There are around 200 British personnel at the American site testing the aircraft.

The fighter jets will be jointly manned by the Royal Air Force and the Royal Navy and can operate from land and sea, forming a vital part of Carrier Strike when operating from the Queen Elizabeth Class aircraft carriers.

It has been a monumental year for Britain's F-35 jets, after the first aircraft touched down on home soil in RAF Marham in June, two months ahead of schedule. They are on track to be operational by the end of the year. There are now nine of the jets at the Norfolk base, whilst more British jets continue to undergo flight trials in the United States.

[Last month saw a British F-35 jet carry out its first trials armed with UK-built weapons](#), showcasing the major role that the UK plays in the supersonic aircraft. The ASRAAM missiles are built by MBDA, and the Defence Minister also paid a visit to their Bristol factory while he was in the region.

The site is [benefitting from contracts worth over half a billion-pounds for Royal Navy missile systems](#) which will go on to protect the new Queen Elizabeth Class Carriers and the extended fleet from current and future threats.

Both sites form a key part of defence's huge footprint in the South West, where it spends £5.1bn with industry – more than in any other part of the country – supporting 33,500 jobs.

[News story: Qatari jet export deal swings into action](#)

The deal, worth around £5bn includes the aircraft and a bespoke support and training package. Qatar is now buying nine Hawk trainers, rather than six, which will also be welcome news for BAE Systems' factories in Warton and Brough which make the jets.

Welcoming the news, Defence Secretary Gavin Williamson said:

This monumental, multi-billion-pound deal is now officially in place, and those from across government and industry who have worked so hard on it together can be extremely proud to see it reach this stage. It's a massive boost to the British defence industry, helping to support thousands of jobs, and it will help us further build the trust between the UK and Qatar to tackle the challenges we both share, support stability in the region and deliver security at home.

UK Export Finance's (UKEF) £5bn package of support was vital to securing the deal, including by providing financing and insurance. UKEF's role is to support UK exports including by providing export finance to enable overseas buyers to purchase goods and services from the UK, and export insurance for companies selling overseas.

International Trade Secretary, Dr Liam Fox said:

The UK Government is proud to be a part of this hugely significant export contract, supporting BAE Systems, its nearly 35,000 employees and the 9,000 companies in its supply chain.

This support from UK Export Finance will sustain jobs in one of the UK's key industrial sectors, support economic growth, and strengthen our own defence capabilities as well as those of a key strategic ally.

BAE Systems Chief Executive, Charles Woodburn said:

This contract, effective today, represents a significant step in BAE Systems' long-term relationship with the State of Qatar, as it becomes the ninth country to choose Typhoon. The proven combination of Typhoon and Hawk will provide the Qatari Armed Forces with the most advanced and flexible multi-role combat aircraft on the market today, along with best in class support and training.

The Defence Secretary Gavin Williamson and his Qatari counterpart, Dr Khalid bin Mohammed al Attiyah, oversaw the signing of the deal in Doha in December. Deliveries of the first Typhoon aircraft are expected to commence in 2022.

The deal also involves a package of training and co-operation between the British and Qatari Air Forces which will see them working closely together in the future. A new UK-based Typhoon joint squadron, reformed as No.12 squadron, will comprise both Qatari Emiri Air Force and RAF personnel, including pilots and ground-crew based at RAF Coningsby in Lincolnshire ahead of the delivery of the aircraft. It represents a unique initiative, with the

RAF not having formed a squadron with another nation since the Second World War and the Battle of Britain.

The UK and Qatar share mutual interests in countering violent extremism, and ensuring stability in the region, and the deal further reinforces those ties by helping to prevent terrorism from spreading and protecting the prosperity and security of the UK at home.

Qatar is the ninth country to purchase the Typhoon, with the deal sustaining thousands of UK jobs. The MOD continues to bang the drum for the UK's world-leading aerospace industry, with sales of defence equipment to foreign customers surging by 53% last year to £9bn.

The UK is a world-leader in the combat air sector, with a mix of skills and technologies unique in Europe, supporting over 18,000 highly skilled jobs. The sector delivers a turnover of more than £6bn a year and has made up over 80% of defence exports from the UK over the last ten years.

The support follows the launch of the Government's Export Strategy, which sets out how the government will support businesses of all sizes to make the most of the opportunities presented by markets around the world.

[News story: UK tests life-saving chemical detection robots and drones](#)

Tests of the cutting-edge multi-million-pound project, co-funded by the Ministry of Defence and the Home Office, included robots that can 'read' and climb stairs and miniature drones weighing less than a bar of soap which could soon come into service to rapidly assess hazardous scenes.

The aim of the ground-breaking research, named Project Minerva, is to reduce the risk to emergency services and front-line troops attending incidents or operations involving hazardous chemical or biological materials. The recent trials, which took place at Gloucestershire Fire Service College, saw concept drones and robots thrown into simulated contaminated scenarios in both UK homeland and battlefield environments. The technology was tested against the speed and accuracy of human response teams supported by specialist DSTL scientists, the military, police and fire services.

Defence Secretary Gavin Williamson said:

Following the reckless nerve agent attack in Salisbury this year, we have seen the bravery and professionalism of our Armed Forces, emergency services and MOD scientists. They have worked tirelessly to investigate and clean up deadly contaminated areas. This project

will ensure we stay at the forefront of dealing with such heinous attacks, whether on our streets or on foreign battlefields. We are investing millions in this pioneering technology to do more to protect those who so fearlessly protect us.

The Minister of State for Security and Economic Crime, Ben Wallace, said:

I am excited to see the UK being on the front-foot and leading in the development of these autonomous technologies which are secure, reliable and useful for dangerous sites. The potential to protect our responders and protect the public from potentially hazardous scenes is considerable. The UK's experience and pedigree in security means we are in a prime position to identify what is best placed to tackle the threats of the future.



Project Minerva tests cutting-edge robots and drones at DSTL, Porton Down. Crown copyright.

Project Minerva was launched in September 2016 and has been supported by over £3 million in joint funding over 24 months. The project intends to bring the designs from concept to reality in an accelerated timeframe. The recent trials involved the winning concepts for phase 2 of the project.

The project is led by the Defence Science and Technology Laboratory (DSTL). It is funded jointly by the Ministry of Defence science and technology portfolio and the Home Office and contracted through the Defence and Security

Accelerator (DASA) with funding from Defence Science and Technology (DST).

Peter Stockel, DSTL's autonomy lead, said:

These two weeks of trials see the culmination of over 18 months of work to realise an exciting vision, which could see robots and humans working together in demanding situations and potentially save lives when dealing with incidents involving hazardous substances. In this 'technology exploration', we've been working with industry and academia to rapidly advance robotic and autonomous solutions to enhance our response options and tools for the near future.

With continued involvement across Government, and demonstration with the user community, we aim to mature this emergent capability to test the 'art of the possible' and accelerate this into the hands of the prospective users for further operational evaluation, both for MOD and the Home Office.

Major John Green, Military Advisor CBR Division for DSTL, said:

The military is putting a lot of time and effort into CBRN [chemical, biological, radiological and nuclear] and Minerva could have a significant effect on our capability and potentially decrease the training burden. It is a project for everything else to build on.



Project Minerva tests cutting-edge robots and drones at DSTL, Porton Down. Crown copyright.

The Defence Secretary Gavin Williamson also announced measures to maintain the UK's world-leading chemical analysis and capability in March, when he outlined £48 million-worth of investment in a new Chemical Weapons Defence Centre at DSTL.

Phase 1 of Project Minerva, which ran for 6 months until July 2017, funded 18 development projects and was worth £1.37 million.

Four teams were then selected to develop their concepts further in this second phase. Just over £1.6 million total funding was awarded to the following phase 2 winners, all of which are small-or-medium-sized enterprises and academic institutions:

- BMT Defence Services (with Rescue Global, Herriot Watt and Edinburgh Universities), with Red Alert, unmanned aerial vehicles which have gas-sensing technology and 2D-and-3D mapping and modelling, all mounted on commercially-available drones to allow upgrades as drone technology evolves.
- Horiba MIRA, with a small purpose-designed ground robot, which can deploy on decontamination missions, climb stairs and 'read' or recognise hazardous chemical signs and symbols, exploiting cutting-edge neural network technology.
- Loughborough University (with Swarm Systems and Createc) with SceneSEARCH – a pocket-sized nano-drone – weighing in at less than 250g which has gas sensors and video and thermal imaging capability.

- Snake Eyes, by Autonomous Devices Limited and Pendar, a unique hybrid air and ground vehicle optimised for confined spaces which can relay 3D images of a space and detect chemical agents using a compact laser system.

For more information on Minerva [click here.](#)

News story: International Federation of Pharmacists' Annual Congress

This year the Military and Emergency Pharmacy Section (MEPS) of FIP represented over 20 countries. Members are from a variety of defence organisations including those from Canada, New Zealand, Ireland and the Australian Medical Assistance team and non government organisations working in the field of disaster relief.

The UK military were represented with Lt Col Ellie Williams co-ordinating the core MEPS events, including a meet and greet event at the Royal Highland Fusiliers Museum, a formal dinner night at the Royal College of Physicians and Surgeons of Glasgow and the Host Nation Study Day. The latter was held at Edinburgh Castle and supported by a multidisciplinary UK defence team presenting on vaccinations, the fielding of a new operational analgesia and distribution of blood products in field conditions.

MEPS president said

The visit to Edinburgh Castle was especially informative. The presentations demonstrated the similar challenges and opportunities that most of our organisations face. This ability to share and resolve problems together is what makes MEPS a successful collaboration of pharmacists.



Lt Col Ellie Williams receiving a Certificate of Appreciation from the Federation Internationale Pharmaceutique (FIP). MOD Crown Copyright.

[News story: Defence Minister hails enormous Shropshire military hub as transformative for frontline troops](#)

The Minister visited the £83 million Defence Fulfilment Centre (DFC) after touring the armoury and current logistic facilities on-site at MOD Donnington. The 80,000 square-metre centre, due to be fully operational in 2019, is the size of ten football pitches and will streamline distribution and storage.

It is set to deliver over £300 million worth of savings by 2028 by streamlining the way storage and distribution is delivered and restructuring the way contract negotiations are conducted for commodities.

With two warehouses and a support building, it will be a central hub for storage and distribution of defence's £30 billion inventory, including spare parts, food, clothing, and medical supplies.

Defence Minister Stuart Andrew said:

We've invested over £80m in this enormous Shropshire centre as we are determined to ensure our personnel have everything they need, from batteries to boots, wherever they are in the world. This hub will have a transformative impact on our troops once it is fully up and running next year, putting a truly state-of-the-art supply network at the fingertips of our brave men and women on the frontline.



Defence Minister hails enormous Shropshire military hub as transformative for frontline troops. Crown copyright.

The DFC is part of the Logistics Commodities and Services Transformation programme. In April 2015 the MOD signed a 13-year contract, worth approximately £6.7 billion, with Team Leidos to run the storage, distribution and commodity procurement functions formerly performed by the Logistics Commodities and Services Operating Centre.

Alongside special environmental storage, the DFC's automated storage and retrieval system will be capable of picking more than 1,000 items an hour.

Roger West, Director Logistics Delivery at DE&S, said:

It was a privilege to welcome the Minister to MOD Donnington and accompany him on a tour of the site and the Defence Fulfilment Centre.

The DFC will make a significant contribution to us providing

better, more efficient, storage, distribution and commodity procurement services for our armed forces.

The delivery of this facility is testament to the excellent relationship between DE&S and our delivery partner Team Leidos.

DFC is managed by Kuehne + Nagel on behalf of Team Leidos, and will use new warehouse management systems to maximise value for money and manage the complex supply chains of the 21st Century seamlessly.

Matt Wiles, Vice President Leidos UK, said:

It was an honour to welcome the Minister on behalf of Team Leidos to the Defence Fulfilment Centre (DFC).

Following the DFC's official opening in April 2017, we have successfully installed and integrated new information systems with the MOD's and started an 18-month programme to re-locate much of the MOD's stock holdings into the new facility.

When fully operational, the DFC operated by Kuehne & Nagel on behalf of Team Leidos, will help deliver a modern agile, responsive and modern supply chain to the MOD at significantly better value for money.