

UK builds momentum on combat air programme with demonstrator set to fly within five years

- UK develops next generation fighter demonstrator aircraft as part of the Future Combat Air System (FCAS) programme.
- Project involves the Ministry of Defence and the Team Tempest industry partners, led by BAE Systems.
- Comes as the UK deepens collaboration with Japan and Italy as it builds a combat air international partnership.
- FCAS Enterprise launches its 'Generation Tempest' initiative creating early careers job opportunities across the UK and a new Tempest Academy.

A new flying demonstrator will be unveiled within the next five years as part of the UK's major next generation fighter aircraft programme, the Future Combat Air System (FCAS). It comes as the future combat air programme launches a new recruitment and skills initiative known as Generation Tempest, set to create thousands of new job opportunities across the United Kingdom.

The demonstrator aircraft is already in development between the Government and Team Tempest industry partners and the UK is actively progressing collaboration opportunities on the project with Italian industry partners.

The flying demonstrator will be a piloted supersonic aircraft testing a range of new technologies including integration of stealth compatible features. This is the first time the UK will have developed a new fast aircraft using 21st century technology.

Work is rapidly gathering pace on this important part of the FCAS programme, with development of the demonstrator underway at BAE Systems' facility near Preston in the north of England. This is being supported by hundreds of companies and thousands of engineers across the UK.

The demonstrator is vital for ensuring our technology, skills and industrial capability are ready for the future. Designing and building the flying demonstrator will prove integration and test skills. It will also provide invaluable data and lessons to UK industry to support the introduction of a new FCAS aircraft from 2035.

Separately, the UK is now conducting joint concept analysis with close partners Japan and Italy to understand areas of shared interest and to explore potential Future Combat Air partnership options and continues to explore wider partnerships. Further decisions are expected to be made by the end of 2022. Like the UK, both Japan and Italy operate F-35 fighter jets and the nations have undertaken joint exercises together in the past.

Defence Secretary Ben Wallace said:

I am delighted that the UK, alongside Italy, Japan and Sweden are working on the same combat air journey together.

Our work with Japan and Italy on cutting-edge technologies like this, shows the benefit of our alliances across the world.

The design and development of the demonstrator aircraft represents an important milestone, showcasing the success and talent of our engineers, programmers and software developers. This programme will go on to attract opportunities for many more great minds and talent from across the UK.

To support the programme, a series of measures to attract the brightest minds onto FCAS have been announced, including plans for a new Tempest Academy, joint recruitment and talent development between partners, and the launch of a new [careers website](#). It is hoped that this initiative will create a 'Generation Tempest' who will bring their own unique ideas and experiences to the programme.

The FCAS programme plays an important role in supporting the Government's levelling up ambitions, employing around 2,500 highly skilled people across the UK including at combat air sector industrial hubs in Scotland, the north-west and south-west of England. The programme now employs 1,000 apprentices and graduates, offering attractive employment opportunities in STEM subjects such as industrial digitisation, artificial intelligence and data analytics.

Team Tempest partners, BAE Systems, Rolls-Royce, Leonardo UK and MBDA UK, aim to hire an additional 1,300 early careers starters by the end of 2023.

UK Director Future Combat Air Richard Berthon said:

FCAS is an exciting, dynamic and inclusive programme, needing a diversity of people, ideas and skills working together. We are recruiting fresh talent who will lead FCAS, delivering one of the world's most important Defence programmes.

The FCAS programme is driving developments at the cutting edge of technology and there have been a series of advances across UK industry supporting the programme, some of which are being showcased at Farnborough Airshow this week including:

- Rolls-Royce Defence has delivered a new gas turbine demonstrator engine, known as Orpheus, designed, built and tested in under two years to prove innovative technology developments for FCAS. Working with international partners, Rolls Royce have also agreed the next stage of the full-scale engine demonstrator programme.
- BAE Systems has used digital transformation to design and build a

representative military fast jet fuselage, demonstrating how innovative technologies can transform the design and manufacturing capability for Tempest. Commercial robots were adapted and utilised, and 65% of the parts were guided into location using automation.

- Leonardo UK and Japan's Mitsubishi Electric have agreed the concept for a radar technology demonstrator called JAGUAR, first unveiled in February, following the completion of joint concept work and feasibility studies earlier this year.
- Leonardo has also revealed ongoing bilateral work to support the future electronics on-board the FCAS programme. Leonardo in the UK and in Italy are working together on a number of projects with Elettronica in Italy including joint assessment of potential architecture of a common Integrated Sensing and Non-Kinetic Effects (ISANKE) and Integrated Communications System. The work is complementary to ongoing collaboration with Japan on 6th generation sensor capabilities, an area in which Italy will soon be involved.
- MBDA unveiled its concept for a weapon effects management system, to aid the coordination of all available weapons in the battle space using Artificial Intelligence and Machine Learning enhanced software.

Pre-recorded evidence for rape victims rolled out to courts across the Midlands

- pre-recorded evidence now available in 4 more courts in the Midlands.
- measure aims to reduce trauma for victims and witnesses to help them give better evidence
- rollout means it is now available in over two-thirds of all Crown Courts in England and Wales

The measure, which has already been successfully introduced in 54 Crown Courts across England and Wales, allows victims and witnesses of crimes such as rape and modern slavery to have their cross-examination video-recorded and played later during trial. This is subject to a successful application to the court.

The recording takes place as close to the time of the offence as possible, while memories remain fresh, and helps victims avoid the stress of giving evidence in a courtroom setting, which many find traumatic.

From today, the measure will be available immediately at Birmingham, Coventry, Derby and Wolverhampton Crown Courts.

The move follows the successful implementation for vulnerable victims, such

as children or those who have limited mental capacity, across the country – with more than 2,500 witnesses having already benefitted from the technology since August 2020.

Justice Minister, Tom Pursglove, said:

We're overhauling the entire response to rape and rolling out pre-recorded evidence to every Crown Court in England and Wales is a key part of that – sparing victims the stress of testifying during a live trial.

We're also recruiting more independent sexual violence advisors, improving collaboration between police and prosecutors, and delivering a Victims' Bill to ensure they get the justice they deserve.

While there is still much more to do, we are starting to see the results of these efforts, with rape convictions up by more than a quarter since before the pandemic.

This extension means it is now available for victims of rape at 58 Crown Courts, over two-thirds of all Crown Courts in England and Wales. The government is committed to rolling it out nationwide by the end of September.

The measure is also designed to maintain a defendant's right to a fair trial and any decision to pre-record evidence is made by a judge on a case-by-case basis.

The roll out of pre-recorded evidence is a key pledge within the government's Rape Review Action Plan. The plan sets out clear actions for the police, prosecutors, and courts. These include a new approach to investigations, reducing the number of victims withdrawing from the process, increasing the volume of trials being heard, protecting the public and putting more rapists behind bars.

In June, the government published the latest Rape Review Progress report and committed to piloting specialist rape support in three courtrooms as recommended by the Joint Inspectorates of the CPS and Police. This would offer support, such as Independent Sexual Violence Advisors, within the court itself, as well as providing trauma training to court staff. These courtrooms will be set up at Snaresbrook Crown Court in London as well as Leeds and Newcastle Crown Courts.

Today's announcement builds on recent government action to make our streets safer and increase confidence in the justice system, including the publication of a draft Victims' Bill. The legislation seeks to amplify victims' voices, and places greater accountability on agencies such as the Crown Prosecution Service (CPS) and police for the service they provide to them.

Guidance:

- Both the defence and prosecution lawyers will be present in court during the pre-recording as will the judge and the defendant.
- The independent judiciary will be responsible for overseeing the use of pre-recorded evidence and will have discretion to ensure that the interests of justice are served.
- Pre-recording cross-examination preserves a defendant's right to a fair trial.
- Vulnerable witnesses and victims are defined as all child witnesses under 18 and any witness whose quality of evidence is likely to be diminished because they are suffering from a mental disorder or physical disability or has significant impairment of intelligence and social functioning.
- Intimidated witnesses and victims for the purposes of this pilot were defined as complainants of sexual offences and modern slavery offences who are witnesses in proceedings relating to that offence, or that offence and any other offences.
- There are 71 Crown Court Centres in the UK, and a total of 83 Crown Court locations.
- Rape convictions are increasing – there has been a 15 percent increase in the number of people convicted for rape offences in the last three months. There were 467 convictions last quarter (CPS Prosecution Statistics – October to December 2021), compared to 407, 398 and 376 in the quarters before. Total completed prosecutions for rape cases have increased by 10 percent from 600 (July – September 2021) to 661 (October-December 2021).
- The average number of days for adult rape from CPS charge to the case being completed continued to fall, down by 38 days (8.3 percent) since the peak in June 2021 – down from 457 days to 419 in October – December 2021.
- The measure is being rolled out to the following courts today:
 - Birmingham
 - Coventry
 - Derby
 - Wolverhampton
- The Courts already operating pre-recorded evidence for intimidated victims are:
 - Bolton
 - Burnley
 - Preston
 - Carlisle
 - Lancaster
 - Warrington
 - Chester
 - Manchester Crown Square
 - Manchester Minshull Street
 - Swindon Crown Court
 - Sheffield
 - Doncaster
 - Newcastle
 - Portsmouth
 - Southampton

- Isle of Wight
- Winchester
- Bournemouth
- Bristol
- Exeter
- Gloucester
- Plymouth
- Salisbury
- Truro
- Liverpool
- Leeds
- Kingston-Upon-Thames
- Harrow
- Isleworth
- Wood Green
- Durham
- York
- Grimsby
- Hull
- Bradford
- Teesside Crown Court
- Warwick
- Shrewsbury
- Stafford
- Stoke-on-Trent
- Worcester
- Hereford
- Nottingham
- Lincoln
- Leicester
- Northampton
- Taunton
- Caernarfon
- Cardiff
- Merthyr Tydfil
- Mold
- Newport
- Swansea
- Preston Crown Court and Family Court (Sessions House)

Countdown to launch: British-built satellite completes line-up for first

Launch from Spaceport Cornwall

- Named 'DOVER', RHEA Group's first satellite will fly into space on Virgin Orbit's maiden UK launch, sharing a ride with five additional satellite missions, including the first ever satellite to be built in Wales.
- Today's announcement confirms the UK is on track to become the first country in Europe to launch satellites into space from home soil this year, a key ambition of the Government's National Space Strategy.

A new research satellite from international engineering firm Rhea Group, built in Oxfordshire by space company Open Cosmos, will be launched from the UK later this year.

Virgin Orbit will launch the 'DOVER' pathfinder satellite from Spaceport Cornwall. The satellite will transmit an innovative new signal, specially designed by engineers at RHEA, to provide data from space that can be used on the ground to obtain a position or an accurate time. It will broadcast these new signals so that their performance can be tested as part of the research project.

This new satellite completes the line-up for the UK's first launch, which also includes satellites from organisations such as Space Forge, the Satellite Applications Catapult and Horizon Technologies, as well as the Prometheus-2 research demonstration satellites. Prometheus-2 was co-funded and designed with Airbus Defence and Space and assembled by In-Space Missions, as part of a collaboration between the UK's Defence Science and Technology Laboratory (Dstl) and international partners, including the US National Reconnaissance Office.

The UK is poised to become the first country in Europe to launch satellites into orbit this year from home soil, a key ambition of the UK Government's National Space Strategy. Spaceport Cornwall is at the heart of a growing aerospace and space cluster and will create 150 jobs in the local area.

The development of a commercial launch capability will give the UK access to the growing global launch market, delivering a further boost to the thriving space and satellite sector, which is already home to more than 47,000 jobs across the country and supports billions of pounds of wider economic activity.

From left, Rebecca Evernden, Director of Space at BEIS, Dr Paul Bate, CEO of the UK Space Agency, Prime Minister Boris Johnson, British ESA astronaut Tim Peake, and Lord Willetts, Chair of the UK Space Agency on the UK Space Pavillion at the Farnborough International Airshow today (18 July 2022)

Dr Paul Bate, CEO of the UK Space Agency, said:

The countdown is on to the first satellite launch from Spaceport Cornwall, with a full complement of satellites confirmed by Virgin Orbit for what promises to be a landmark moment for our thriving space sector.

It's fantastic that RHEA Group's DOVER satellite is joining the launch, which showcases both our domestic satellite manufacturing expertise and the international interest in the UK as a launch destination.

The ability to launch satellites from UK soil will support our work to catalyse investment into the space sector, deliver new capabilities and champion the incredible role of space to benefit life on Earth.

The 'DOVER' pathfinder satellite

RHEA Group's Dover satellite, the company's first, was co-funded by the UK Space Agency's investment in the European Space Agency's Navigation Innovation and Support Programme (NAVISP). It's named after the Dover Strait, where the English Channel is narrowest and shipping lanes are busiest, as this is a key location for testing new techniques and technologies for Positioning, Navigation and Timing (PNT).

The satellite is a strong example of UK expertise in PNT technology, which underpins vast swathes of economic activity, as well as small satellite manufacturing, with Open Cosmos building the satellite at the Harwell Space Cluster, Oxfordshire.

Emma Jones, RHEA's UK Business Director, said:

This is a momentous event for RHEA. This year we are celebrating our 30th anniversary and it is a great milestone to launch our first ever satellite in the same year. The UK is in the very desirable position of establishing a number of spaceports, and it is thrilling to have a RHEA satellite on board the first launch to take off from UK soil.

Florian Deconinck, Vice President of Institutional Partnerships & Future Missions at Open Cosmos, said:

DOVER is a great example of Open Cosmos' ability to design, manufacture, launch and operate satellites in a responsive manner. The timescales for this future mission are impressively aggressive: 8 months from the moment of first contact with RHEA to getting an operating satellite in orbit. This is the result of a close partnership between Open Cosmos and RHEA, the very reactive support from UK Space Agency and ESA-NAVISP teams, and the possibility of

delivering all the phases from a single location, the UK.

The Launch

During the launch mission, a Virgin Orbit 747 will take off from the runway at Spaceport Cornwall, carrying a rocket beneath its wing. The plane will fly out over the ocean before blasting the rocket into space, delivering satellites into orbit around the Earth. In the cockpit will be Squadron Leader Mathew 'Stanny' Stannard, an RAF Test Pilot serving on industrial placement as one of Virgin Orbit's pilots.

This will be the first satellite launch from UK soil and Virgin Orbit's first mission outside the US. It follows the successful 'Straight Up' mission, that delivered seven satellites into space from Mojave in California on Saturday 2nd July.

Dan Hart, CEO of Virgin Orbit, said:

We're very pleased to have been selected by RHEA Group to launch its first satellite. The DOVER satellite, which was designed in Belgium, built in the UK, funded by the European Space Agency, and now will be launched from Cornwall, is a great example of the power that comes with the infusion of space collaboration taking place across the globe.

The work RHEA will do with their DOVER satellite will help to assure reliable navigation, which touches all of us and can be vital for everything from environmentally-efficient shipping to national security.

Melissa Thorpe, Head of Spaceport Cornwall, said:

We're thrilled to have 'DOVER' complete the line-up of satellites onboard Virgin Orbit's first launch from Cornwall. Each payload highlights the innovation happening within the small satellite industry, and how it can benefit life on earth, while showcasing the growing collaboration between UK Space and international partners.

This is another great moment in the countdown to launch from Cornwall.

UK spaceflight programme

With funding first announced at the Farnborough International Airshow in 2018, the UK Space Agency is supporting the development of commercial and sustainable satellite launch operations across the UK, working with a range

of partners including Spaceport Cornwall and Virgin Orbit, Space Hub Sutherland and Orbex, and SaxaVord Spaceport, Lockheed Martin and ABL Space Systems.

The space sector has shown remarkable resilience in the face of global challenges such as the pandemic, with more than 1,700 satellites launched worldwide in 2021 alone. These provide vital technologies used every day by people and businesses, including communications, Earth observation and navigation services.

The UK has world-leading expertise in satellite design, manufacturing, data and applications but, until now, has not been able to launch them from home soil.

[UK Intellectual Property Office joins WIPOS global brands database](#)

Press release

Around 3 million UK trade marks will be added to WIPO's Global Brands Database.



This follows a co-operation agreement signed by the UK Intellectual Property Office (IPO) and World Intellectual Property Organization (WIPO) at the General Assemblies in Geneva today.

The [Global Brands Database](#) is an online resource made freely available by WIPO. It provides access to more than 50 million records, from some 71 national and international collections, in one place.

The tool is designed to be efficient and easy to use. It can be used by businesses anywhere in the world when registering a trade mark, to check if the mark – or a similar mark – already exists. Those interested in registering a trade mark can search the Global Brands Database before filing

a trade mark application, or simply browse existing marks in potential markets that interest them.

Initially, the UK will add around 3 million records, starting with existing registered trade marks. The addition of these trade marks to the global database means that UK registered trade marks will show up in searches of the database made by anyone around the world. This means they are less likely to be unknowingly infringed.

The IPO's Chief Executive Tim Moss said:

We are pleased to be working with WIPO to support great British brands, and benefit IP users around the globe.

The addition of more than 3 million UK registered trade marks to WIPO's database will help businesses grow their brands with confidence. By providing additional protection, it will reassure UK trade mark holders that their mark is less likely to be infringed.

Our partnership with WIPO in areas of common interest ensures that the IP framework remains fit for the future. The UK has one of the most highly regarded IP environments in the world, and joining the database is a practical step that will help keep it that way.

WIPO Director General Daren Tang said:

We are delighted with the inclusion of the UK trademarks collection in WIPO's Global Brand Database. This is a significant step for users the world over and greatly enhances the value of the database, especially for companies seeking to file a new trademark application in multiple countries. The new agreement also paves the way for greater technical collaboration between our offices, including the use of machine learning to improve the efficiency of IP-related procedures.

Notes to editors:

- the [database](#) can be searched by brand, classification, country, company, or date. You can also upload an image to be searched. The database also has information on appellations of origin and armorial bearings, flags and other state emblems protected in various countries, as well as the names, abbreviations, and emblems of intergovernmental organisations
- users can search trademarks from the [Madrid System](#), as well as from the

national/regional collections available. The Madrid Monitor is the gateway to the Madrid System, keeping users up to date on their trademark

- [full information on UK trade marks](#), including the facility to check if a similar trade mark to your brand already exists, and find out who owns a trade mark is on GOV.UK

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[Extreme heat: Environment Agency calls on public to help protect fish](#)

With a rare Red Extreme Heat Warning issued by the Met Office for Monday 18 July and Tuesday 19 July, the Environment Agency is calling on anglers, fisheries owners and the public to help them protect vulnerable fish stocks.

Extreme weather, including continuous hot temperatures and thunderstorms, can be highly dangerous for fish and can cause a range of problems, particularly for more susceptible species like salmon and pike. Hot and sunny weather typically triggers algal blooms, which can reduce dissolved oxygen levels in our waters leading to fish becoming distressed and, in some cases, dying.

In the last week, Environment Agency officers have helped protect thousands of fish in Worcestershire and Essex thanks to anglers, fisheries owners and the public reporting concerns to our Incident Hotline on 0800 80 70 60 or alerting the fishery owner or angling club.

Fish should never be moved to other waters by the public because they are unlikely to survive and could spread disease or invasive species by accident, which can damage fish and other wildlife in the area.

Heidi Stone, Fisheries Partnerships Manager at the Environment Agency, said:

Environment Agency teams are working hard to mitigate the impacts of recent high temperatures and are monitoring the situation closely when it comes to protecting fish at risk.

We aim to respond to reports of fish in distress as quickly as possible. Help from the public goes a long way which is why we provide free advice to all on how to protect fish during hot weather.

Last week in Worcestershire, the Environment Agency deployed several aeration pumps to an angling club's fishery after dissolved oxygen levels fell to around 15 per cent. This rapid response saved thousands of vulnerable fish and averted a significant fish mortality. At another fishery in Basildon, Essex, Environment Agency officers deployed aerators after the report of 1,000 dead fish at a fishery owned by the borough council. Dissolved oxygen levels have since recovered due to prompt reporting and a rapid response from EA fisheries officers.

Environment Agency incident response work includes deploying aeration equipment or hydrogen peroxide to restore dissolved oxygen levels, providing expert advice to angling clubs and anglers, and occasionally, as a last resort, relocating fish. All of this work is funded by fishing licence income – and provides a vital life line to fisheries when they most need it.

Many angling clubs and fisheries carry out effective practices to help manage and mitigate the impacts of continued hot temperatures on fisheries, but a list of [ten top tips](#) are available to guide people on how to protect vital stocks and prevent fish deaths where possible.

Anglers can also help vulnerable fish stocks by minimising use of bait, taking care when playing, landing and releasing large or sensitive fish, such as pike, barbel, trout and salmon, as well as avoiding taking photos of fish out of water to avoid further oxygen loss.

Anyone who sees fish in distress should contact the Environment Agency on 0800 80 70 60.

Further information

Our work is funded by rod licence income. Every penny we receive is reinvested to fund vital work to protect and improve England's fisheries such as enforcing the right laws; providing an emergency response; ensuring healthy fish stocks in a good quality environment; and providing a sustainable future for angling.

Signs that a fish is in distress include appearing lethargic and/or unresponsive, sometimes close to the bank, tight shoaling and obvious gasping at the surface, and signs of infection or fungus.

Further information on how anglers can help fish in distress by:

- Take particular care when playing, landing and releasing barbel during warm weather
- Avoid fishing for larger fish or sensitive species if the water temperature exceeds 19°C by mid-morning. (Clubs may choose to update their social media accounts with daily updates)
- Minimise your use of ground-bait. As it decomposes, this can further reduce the amount of dissolved oxygen in the water. Fish feeding on ground-bait may have a greater oxygen need, so take longer to recover from being caught.
- Unhook fish in the water if possible and only take them out of the water

for unhooking if absolutely necessary (in rivers hold them facing upstream to recover)

- Avoid taking photos. Where absolutely necessary, take photos in the water – keeping a fish in the air, even for a few seconds, can greatly reduce its chances of surviving after capture and going on to spawn successfully.