

First launch from the UK

The first ever orbital satellite launch from the UK is happening soon, marking a new era in the UK's space history.

Launches are part of the UK's commercial spaceflight programme, meeting goals set out in the government's [National Space Strategy](#).

All launches are subject to receiving a licence from the [Civil Aviation Authority](#)

[Read more](#) about our vision for establishing and promoting launch from the UK.

How the launch will work

The LauncherOne rocket launching from Virgin Orbit's Cosmic Girl plane in the US. Credit: Virgin Orbit.

The first launch will take place from [Spaceport Cornwall](#) in the south-west of England. It will be what is known as a 'horizontal launch'.

A specially modified Boeing 747 from [Virgin Orbit](#) called Cosmic Girl, with a rocket attached under its wing, will take off from a runway. In flight, the LauncherOne rocket will launch from the wing, taking multiple small satellites into orbit.

The plane will then return to the Spaceport, able to launch more satellites in future.

[Launch UK](#)

Spaceport Cornwall is situated at Newquay Airport, near the coast of Cornwall. The 747 will fly out over the sea and launch its rocket far away from populated areas.

Why launch from the UK

The UK has a growing space sector, which employs 47,000 people. UK space companies have a strong track record in satellite manufacturing, spacecraft design and data applications. In fact, Glasgow builds more satellites than anywhere outside the United States. Soon we'll be able to launch them from the UK too.

The UK is also located relatively far north, which means it's perfect for launching satellites into polar and Sun-synchronous orbits, which go over the north and south poles. These orbits are ideal for satellites that monitor the Earth and provide telecommunications.

With a long coastline and many islands, the UK offers a range of suitable

locations for launching rockets safely out over the sea – away from settlements and people.

What are we launching

DOVER Pathfinder satellite under construction with structure and solar panels. Credit: Open Cosmos.

Several small satellites will be launched into orbit on the first UK launch.

The satellites will do many different things, including improving navigation and communications.

Several of the satellites have been built in the UK, including a research satellite from RHEA Group, which was built by Open Cosmos in Oxfordshire.

The first Welsh satellite will also be on the launch, from Cardiff-based Space Forge. It will test the process of using the unique microgravity environment of space to manufacture special materials that are much more difficult to make on Earth.

What benefits will it bring

Launch services are worth a potential £3.8 billion to the UK economy over the next decade.

UK spaceports will need new skills, supply chains and supporting services, creating high-skilled jobs and opportunities across the country. For example, Spaceport Cornwall and the Centre for Space Technologies expect to create 150 jobs.

Through initiatives such as our [LogoLiftOff!](#) and [Nanosat Design](#) competitions, the UK Space Agency is also harnessing launch as a platform to encourage young people to pursue STEM subjects in order to help grow the UK's future space talent pipeline.

Safety and the environment

Safety, security and protection of the environment are top priorities for the UK government.

We have progressive regulations for launch which make it safe for the public and protect the environment, while allowing new technologies to be used as they are developed.

The government is very careful about the impact launches have on the environment and won't allow launches to happen before a detailed assessment of their environmental effects has been done.

Rocket launches do release some CO2 and other by-products, but they take place infrequently and the satellites being launched bring significant benefits.

Half of the data we need to monitor climate change can only come from satellites – so it's vital to get them into space.

UK rocket manufacturers are also working to make rocket launches better for the environment, including turning unrecyclable plastic waste and even beeswax into rocket fuel!

How to get involved in the launch

There are lots of ways you can take part in the launch.

You can:

- come along to our event at the Science Museum in London on 15 and 16 October 2022 to see a full-scale replica of the LauncherOne rocket!
- check out [educational resources](#) from Spaceport Cornwall.
- watch the launch live via a Virgin Orbit livestream (more info to come closer to launch)

After first launch

There are several other spaceports currently planned or under construction in the UK. These are in England, Scotland and Wales.