

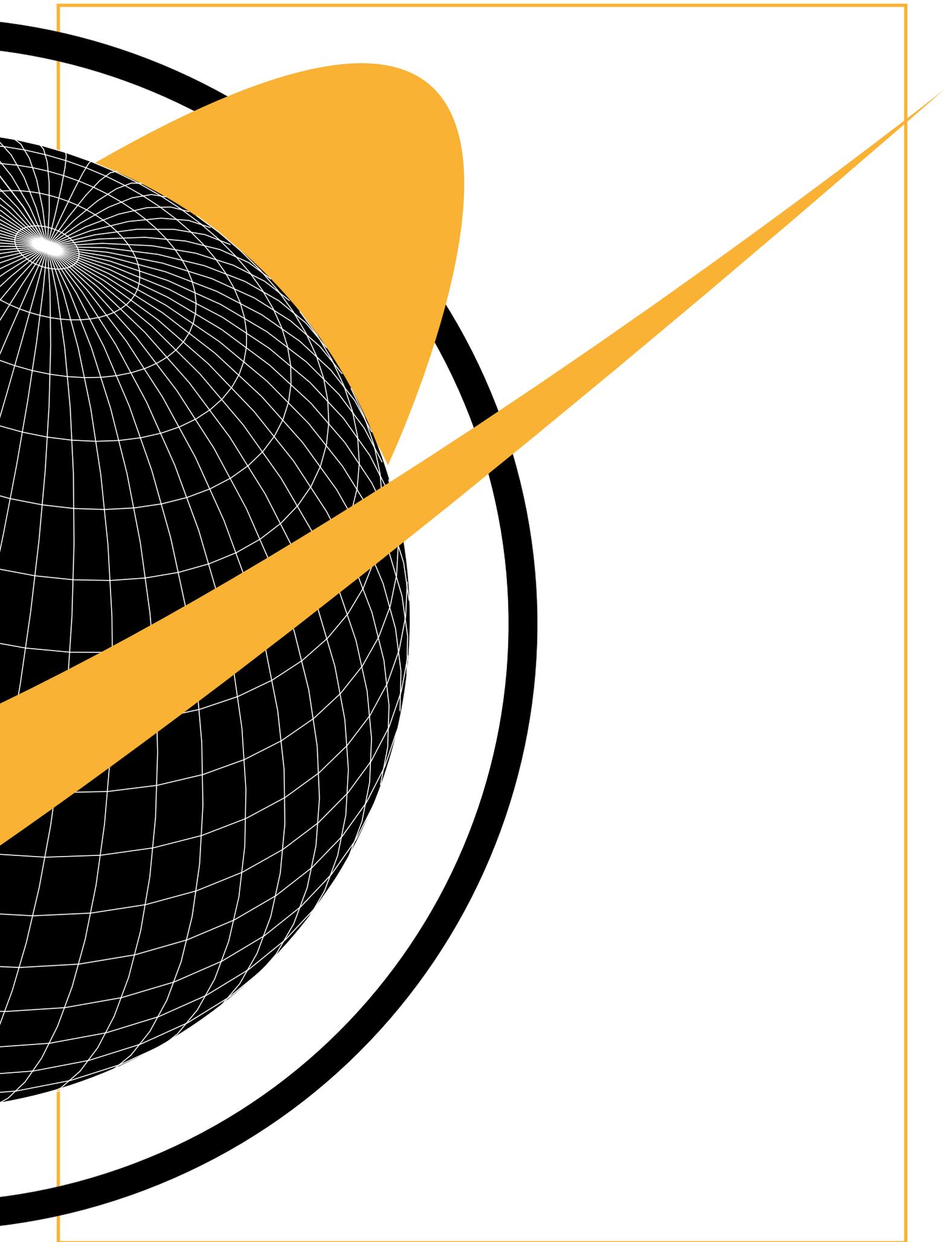
PREPARING FOR LAUNCH



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Highlands and Islands Enterprise
Iomairt na Gàidhealtachd 's nan Eilean



WELCOME



Space Hub Sutherland is a phenomenal opportunity for the UK, Scotland, and most importantly, our local communities in the northern Highlands. It will place the Highlands and Islands at the forefront of a rapidly growing global space industry, creating opportunities that are as exciting as they are diverse.

From the creation of world-class jobs at the cutting edge of space exploration and satellite communications, to inspiring a new generation of scientists, engineers and physicists in our schools and colleges, the project will help diversify and transform the region's economy. Its development is made even more significant with the current decommissioning of Dounreay nuclear facility.

This is a long-term investment, and it is vital that local people inform the project's development from beginning to end. Working closely with local businesses, community groups and schools, and the University of the Highlands and Islands, we will ensure that the many opportunities are fully realised. Crucially, the Space Hub will help to retain and attract young talent, fostering an innovative scientific and entrepreneurial community right here in Sutherland.

DAVID OXLEY

DIRECTOR OF BUSINESS GROWTH
HIGHLANDS AND ISLANDS ENTERPRISE

SPACE HUB SUTHERLAND



Space Hub Sutherland is the proposed vertical launch site for satellites on the A'Mhòine peninsula in north Sutherland.

The Hub will comprise a launch pad complex, and associated infrastructure for the transport and preparation of satellites. It will be used to send small commercial satellites into Earth orbit.

Satellites are essential in our modern daily digital lives. They are a key part of our communications infrastructure, supporting the use of mobile phones, broadband, television, weather forecasting, and global climate change monitoring.

In 2018, the UK Space Agency awarded grant funding of £2.5 million to Highlands and Islands Enterprise (HIE) to support development of the launch facility.

Two leading companies in space technology, Lockheed Martin and Orbex, are planning to use the site from the early 2020s. Up to 12 launches a year are expected once the Hub is fully operational.

WHY SUTHERLAND?

The A'Mhòine peninsula's north-westerly position makes it an ideal location to support the two most common types of satellite activity - polar and sun-synchronous orbits.

The flight trajectory of satellite launches will not pass over densely populated areas, adhering to safety requirements, and the local climate is conducive to safe and regular launches.

There is already a highly skilled local workforce, aligned with the decommissioning of the Dounreay nuclear facility, and the potential for a skills development partnership with North Highland College UHI in Thurso.



WHO IS INVOLVED?

HIGHLANDS AND ISLANDS ENTERPRISE

Scotland's space sector is growing. It is HIE's ambition to develop the northern Highlands into a centre of space science and technology, creating high value jobs, and supporting local communities to thrive.

HIE has committed £9.8 million to the development of Space Hub Sutherland.

The development agency will lease the site from Melness Crofters Estate, and develop the Hub's initial infrastructure, including the launch complex, access roads and associated buildings.

A commercial operator – the Launch Site Operator - will then run the site day-to-day.

MELNESS CROFTERS ESTATE

Melness Crofters Estate comprises around 80 local crofters, who own and manage the 307-hectare site earmarked for the Space Hub. The land is designated common grazing, and is mostly open moorland.

UK GOVERNMENT

The UK Government set out its ambitious national space policy in 2015, with the construction of a spaceport listed as a top priority. The government wants the UK to be a leader in the global market for satellite technology and services, complementing the work of the European Space Agency, and growing the UK's space sector to the value of £40 billion by 2030. The UK Space Agency is responsible for carrying out the UK government's civil space programmes.

SCOTTISH GOVERNMENT

The Scottish Government has positioned Scotland's burgeoning space industry as a leading sector to attract inward investment, promising transformational growth for the Scottish economy.

More than 130 space organisations are currently based in Scotland. For example, more satellites are manufactured in Glasgow than any other European city. The Scottish Government is backing the Hub as a way to grow Scotland's share in global space science and technology markets.

LAUNCH SERVICE PROVIDERS

Two leading launch service providers – Lockheed Martin and Orbex – have stated their intention to developing, and working from, the Hub. Other companies could follow.

Lockheed Martin is a global aerospace company with around 2,000 employees in the UK. Over its 50-year history in space, Lockheed Martin has built more than 800 satellites, including 150 small satellites. Its expertise lies in design, engineering, production, launch and mission operations. The UK Space Agency has granted the company £23.5 million to develop its activities in Sutherland.

Orbex is a UK-based orbital launch services company, which recently opened a manufacturing plant in Forres on the Moray coast. From the Sutherland site, Orbex will be operating a new orbital launch vehicle called 'Prime', featuring the world's largest 3D-printed rocket engine. Prime will also be the first commercial rocket to use bio-propane, a clean-burning fuel source that cuts carbon emissions by 90% compared to fossil hydrocarbon fuels. The UK Space Agency has granted £5.5 million to help Orbex develop its activities in Sutherland.



FROM LEFT: JUNE LOVE, ROY KIRK AND PETER GUTHRIE

COMMUNITY BENEFIT

First and foremost, Space Hub Sutherland will create good jobs.

HIE estimates that the Space Hub will create around 40 new high-quality jobs in the immediate Sutherland area. These jobs will directly support the work of the Hub, and will include electrical and mechanical engineering, security, fuel services, weather monitoring, management, marketing, and administration.

Within five years of opening, the Space Hub will have the capacity to support 400 new jobs throughout the wider Highlands and Islands.

And the benefits are already being seen. Orbex opened its brand new headquarters and a rocket design and manufacturing facility in Forres in 2019 – evidence of its commitment to long-term investment in the region. With a major recruitment drive underway, the company's new Highland base will create around 130 jobs.

THE SPACE HUB EFFECT

The development of a world-leading space facility in Sutherland will raise the area's international profile as a highly attractive place to invest, work, visit and study.

Increased footfall – both from people working at the Hub itself, and from visitors – will present opportunities for many local businesses. Young people studying at the University of the Highlands and Islands, as well as Scotland's other world-class academic institutions, will look to Sutherland as somewhere they can put their studies into action.

In local schools and colleges, the Space Hub will inspire increased study of STEM (science, technology, engineering and maths) subjects, demonstrating the very tangible benefits that these subjects present to our economy, and the futures of our young people.

HIE is committed to supporting local people to make the most of the opportunities on the horizon – and to inspiring younger generations.

ENVIRONMENTAL IMPACT

The A'Mhòine peninsula is home to important peatlands and carbon-rich soils, and neighbours the Caithness and Sutherland Peatlands Special Protection Area and Special Area of Conservation, as well as the Ben Hutig Site of Special Scientific Interest.

HIE is working closely with environmental regulatory bodies to ensure that the Space Hub's impact on the natural environment is minimal, and the wildness of the area preserved. HIE has commissioned a detailed and far-reaching Environmental Impact Assessment (EIA), which will be submitted as part of the final planning application to Highland Council.

A comprehensive set of ecological and ornithological surveys has been carried out, and a peat management plan will examine how the peat removed can be re-used elsewhere on the site. Importantly, the building and road design will minimise the amount of peat to be disturbed and/or removed.

SPACE AND CLIMATE CHANGE

Satellite activity is crucial in gathering key data that informs our understanding of weather activity and climate change. Satellites can measure the Earth's changing temperature, sea levels, atmospheric gases, and declining ice and forest cover. Collecting this type of data is crucial to informing climate change science and policy, and influencing the global agenda.

LOCAL VOICES, GLOBAL INSIGHTS

"Like other rural areas, Melness, Tongue and Skerry have suffered from depopulation, falling school numbers and a lack of exciting opportunities for young folk. We hope the Space Hub will attract and retain young families in the area, helping to rejuvenate our communities."

Frances Gunn, Director, UpNorth! Community Development Trust



INFRASTRUCTURE

Sutherland has the infrastructure to support the Space Hub, with an uncongested road system, mainland rail services for both passenger and freight, and access to airports including *Wick John O'Groats* and *Inverness*.

An access road roughly 2.5km in length will be built to connect the Space Hub site to the nearest major road, the A838. The access road is proposed to include an approximate six-metre-wide carriageway with a one-metre strip either side.

SAFETY

Safety will always be the top priority for the site. All activity at the Hub will be closely regulated by the appropriate bodies, ensuring that safety is robustly checked and enforced. Prior to launch, the spaceport and the launchers will be required to apply for licences from the UK Space Agency.

For safety reasons, the public will be restricted from entering a defined safety zone for a limited time prior to launch.

However, HIE does not plan to fully fence off the spaceport, only areas around the storage tanks, pads and buildings, and the main road entrance.

Before and during launches, there will be temporary exclusion zones that will place restrictions on marine and air users.

TOURISM

Based on the experience of other international spaceports, Space Hub Sutherland is expected to have a positive impact on tourism, attracting a higher number of visitors to the local area.

"The community of Melness is in a unique position to grab this once in a lifetime opportunity, which will help to significantly regenerate the local economy. The secondary benefits to local businesses – whether that's being able to keep the local petrol station open, or expand the stock of local shops – will be very real. The project should also be a source of pride – this is a first!"

Chris Larmour, CEO, Orbex

"I want to see job opportunities for the wonderfully talented children along the North Coast, some of whom I have had the privilege of teaching. Many of my generation had to leave the place they loved to fulfil their potential. Let's change that with a new shared vision of the benefits the Space Hub can bring."

Dorothy Pritchard, Chairwoman, Melness Crofters Estate



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