

S P A C E
S O U T H
C E N T R A L

UK Space: In One Place

South Coast
Centre of Excellence in Satellite Applications

 UNIVERSITY OF
PORTSMOUTH

 University of
Southampton

 UNIVERSITY OF
SURREY

Introducing Space South Central: the UK's largest regional space cluster

There's one small area of the UK that's responsible for nearly 20% of the UK's £17.5 billion space industry and employs around 10% of its workforce¹.

The south-central region of Hampshire, Surrey and the Isle of Wight – roughly the size of Pittsburgh in the USA or Buenos Aires in Argentina – is home to 130 renowned space industry heavyweights, ambitious small businesses and exciting start-ups, and three world-class universities.

With more than 50 years of space-sector heritage, a rare mix of end-to-end capabilities and a global reputation for research and innovation excellence, the south-central region has its sights set on further growth.

Space South Central is a UK Space Agency-funded organisation representing this thriving hub of space business and innovation. Acting as a gateway, we're making it easier than ever before for international space organisations to access the information, people, technology and vision needed to drive their projects forward.



“Space South Central is already the UK's leading regional space cluster and there's more investment coming.”

” **Rishi Sunak**
UK Prime Minister

SMALL AREA: BIG IMPACT

Bordering London to the north, sweeping down to the coast in the south, the Space South Central region is easily accessible by air, sea, rail and road, making it among the most well-connected parts of the UK in which to do business.

Area (approx.): 2,200 square miles / 5,698 square km
(about 2.3% of the UK in terms of area)
Population (approx.): 3.2 million

What is a 'space cluster'?

The £17.5 billion UK space industry has tripled in size in the last decade, and the government has ambitious plans to continue that growth into the future.

The UK's **National Space Strategy** highlights the importance of space clusters to fuel that growth: regional hubs that bring together their area's space sector expertise to boost collaboration, innovation and investment.

The largest regional space cluster in the UK, Space South Central is a partnership between industry and academia, designed to accelerate space business growth and spark innovation.

Space South Central brings together the universities of Portsmouth, Southampton and Surrey and more than 130 of the region's space-related businesses. Working closely with our regional partners, we help, connect and guide to:

- Develop collaborative projects
- Link expertise
- Identify and attract funding and investment opportunities
- Share information
- Provide networking opportunities

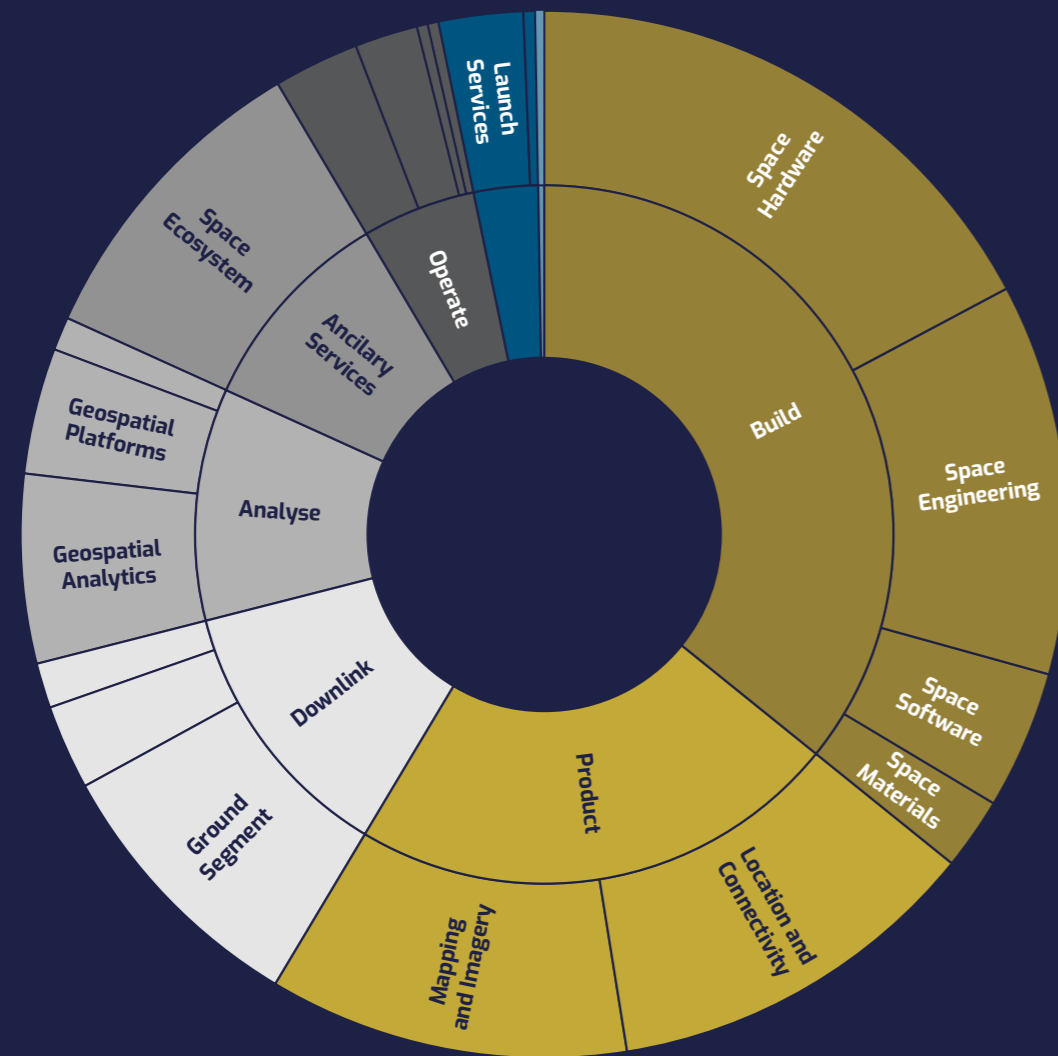
“Space South Central exemplifies the vision set out in the National Space Strategy of a sector working together across the country to showcase UK skills and capabilities, catalyse investment, and enhance our international reputation as a hub of expertise and innovation”

” **Dr Paul Bate**
CEO, UK Space Agency

End-to-end capabilities

The Space South Central area encapsulates the UK space industry in just 2,200 square miles. Few regions in the world can match our end-to-end wealth of capabilities, including our global reputation for:

- Satellite manufacturing
- Next-generation communications
- Robotics and autonomous systems
- Satellite data-enabled service capabilities

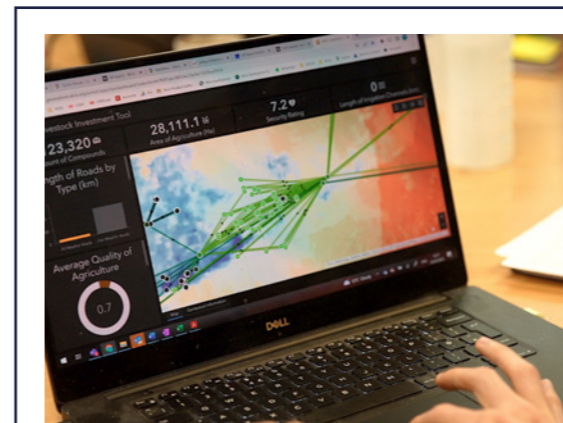


- | | | |
|--|---|--|
| Explore | Ancillary Services | Product |
| Launch | Analyse | Build |
| Operate | Downlink | |

World-class businesses

Space South Central organisations generate £1.64 billion of export revenue and £65 million in foreign direct investment annually¹.

Our region is home to more than 130 space-related companies, including BAE Systems, Airbus Defence and Space, In-Space Missions and SSTL; the businesses featured here, and many more.



alcis.org

Alcis provides geographic information services that enable a better understanding of complex environments across the developing world and specialises in fragile and conflict-affected states.

Announced as one of the Global Top 100 Geospatial Companies for the second year running in 2023, it provides geospatial data collection, statistical analysis and visualisation, knowledge management and capacity development of teams and organisations.

Working with governments, banks and non-profits, Alcis takes complex, multiple layers of data and converts them into insight and intelligence, empowering decision-makers with accessible, easy-to-understand information.

COMMUNICATIONS

CYBER SECURITY

DATA INFRASTRUCTURE

○ GEOSPATIAL ANALYTICS

○ GEOSPATIAL PLATFORMS

GROUND SEGMENT

IN-ORBIT SERVICE & MANUFACTURE

LAUNCH SERVICES

LAUNCH VEHICLES

LOCATION AND CONNECTIVITY

○ MAPPING AND IMAGING

○ SATELLITE: EARTH OBSERVATION

GLOBAL NAVIGATION

TELECOMS

SPACE ECOSYSTEMS

SPACE ENGINEERING

SPACE EXPLORATION

SPACE HARDWARE

SPACE MATERIALS

SPACE SOFTWARE

SPACE SURVEILLANCE

¹ Data attained for reported space-based income/turnover, published in company accounts found on the UK Government's Companies House portal in the [UK Space Capabilities Catalogue](#)



CLUTCH SPACE SYSTEMS

clutchspace.com

Clutch Space provides systems and services to deliver the next generation of satellite operations and the infrastructure for the new space economy: delivering persistent and on-demand communications for low earth orbit.

They enable constant supervised autonomy, highly reactive operations and greater operational safety for all. Clutch Space has developed a multi-beam array antenna, built on its software-defined processing suite, solving the cost, capacity and size constraints of traditional ground stations for satellite operations.





INSPACE MISSIONS

in-space.co.uk

A wholly-owned subsidiary of BAE Systems, In-Space Missions designs, builds and operates physical and digital space missions for global customers from its UK site.

The company designs, manufactures, integrates and tests a range of satellites from CubeSats up to 200kg small satellites and offers world-class, end-to-end capabilities.

From payload development support and spacecraft integration to launch, commissioning and on-orbit operations, In-Space also offers 'Space as a Service' through its InSpace Rideshare and InSpace Digital services.



earth-i

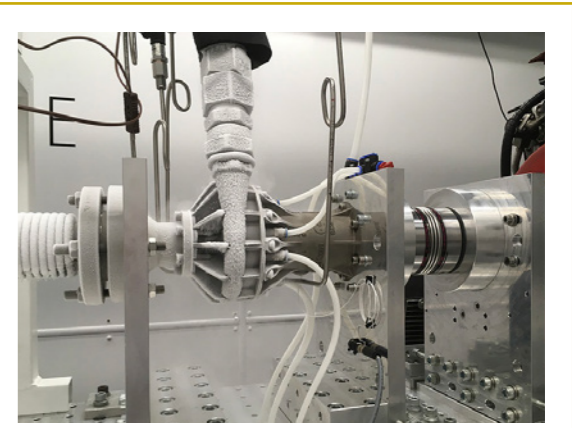
earth-i.space

Earth-i is an innovative, technology-driven company specialising in the application of artificial intelligence techniques to a wide variety of geospatial data types, including very high-resolution imaging and video from space, to extract unique insights of commercial value to customers.

Earth-i reduces the complexity and cost barriers associated with Earth observation, helping organisations make better decisions by providing low-cost geospatial insight that non-technologists can understand and use.

Using automated data analytics and AI to exploit multi-sensor, multi-resolution, multi-operator satellite data, Earth-i delivers low-cost, value-enhancing geospatial insights at global scale.

- COMMUNICATIONS
- CYBER SECURITY
- DATA INFRASTRUCTURE
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- IN-ORBIT SERVICE & MANUFACTURE
- LAUNCH SERVICES ○
- LAUNCH VEHICLES ○
- LOCATION AND CONNECTIVITY
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LENASPACE

lenaspace.com

LENA Space is a launch vehicle propulsion company that specialises in high-performance cryogenic pump technology, working with both turbine driven (turbo pumps) and electric pumps

The company combines a background in high-performance automotive projects, spacecraft systems assembly integration and supply chain development with core competencies including turbopump design, manufacture and testing, development of low-cost vacuum ignition systems, and testing green propellant propulsion systems.

LENA Space provides R&D, design and testing of new technology, and is involved with multiple ESA and UK Space Agency programmes focused on new commercial launch vehicle engine development.



lumi.space

Lumi Space combines astrodynamics, optics and photonics expertise to deliver state-of-the-art Space Domain Awareness products, including the world's first space-grade, low-cost off-the-shelf laser retroreflector.

Specialists in laser ranging technology for precision space surveillance and tracking (SST), Lumi Space's ground-based laser tracking system can pinpoint small objects in space with centimetre-level precision. Its products and services provide solutions for various applications, from constellation management, PNT and collision avoidance to active debris removal, in-orbit servicing and atmospheric turbulence monitoring.



satixfy.com

SatixFy develops end-to-end next-generation satellite communications systems, including satellite payloads, user terminals and modems, based on powerful chipsets that it develops in-house.

SatixFy's innovative ASICs and RFICs improve the overall performance of satellite communications systems, reduce the weight and power requirements of terminals and payloads, and save real estate for gateway equipment. SatixFy's advanced VSATs and multi-beam fully electronically steered antenna arrays are optimized for a variety of mobile applications and services, using LEO, MEO and GEO satellite communications systems, for aero/in-flight connectivity systems, high-end communications-on-the-move applications, and more.

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“

The UK is home to cutting-edge companies across the whole space value chain. Space South Central has created a vibrant regional space ecosystem in the region – connecting companies to expertise, facilities, collaborators and funding opportunities to support their growth.

”

Colin Baldwin
Head of Policy, UKspace



spurelectron.com

With a 40-year heritage and worldwide client base, Spur Electron is one of Europe's foremost providers of space-related expertise and skills spanning engineering, procurement, manufacture, testing and consulting services. The company's extensive on-site facilities include an analytical laboratory and Class 7 clean room, which is IPC & ESA ECSS compliant.

Spur Electron has been involved in many major space programmes in Europe and beyond, including manned space activity such as Space Station Columbus and Artemis 1, and deep space missions including the CLUPI ExoMars Rover project.

Pioneering universities


Space South Central's founding members include three leading universities, each with its own space-related specialisms.

Joining forces through Space South Central, the Universities of Portsmouth, Southampton and Surrey optimise the impact of their combined expertise, creating new opportunities for ground-breaking research and industry collaborations, nationally and internationally.

All three universities have an extensive commercial track record, using their research and expertise to form spin-out companies, partner with organisations to develop new products and services or support businesses through consultancy or staff training.

Each institution offers purpose-built spaces to host innovative companies and build exciting business communities, such as Portsmouth's **Innovation Connect**, **Southampton Science Park** and **Surrey Research Park**.

They are also integral in providing the training and leadership necessary to deliver a future-ready workforce: the next generation of space sector pioneers.

 **The three Space South Central universities offer more than 200 space-related courses with around 70,000 students enrolled annually¹.**

THE UNIVERSITY OF PORTSMOUTH

 **Top 10 Young Universities in the UK²**

 **UK Top 3 Modern University for Research Power³**

 **5★ University - QS Top Universities 2022⁴**

Portsmouth Research Institute for Space Missions (PRISM)

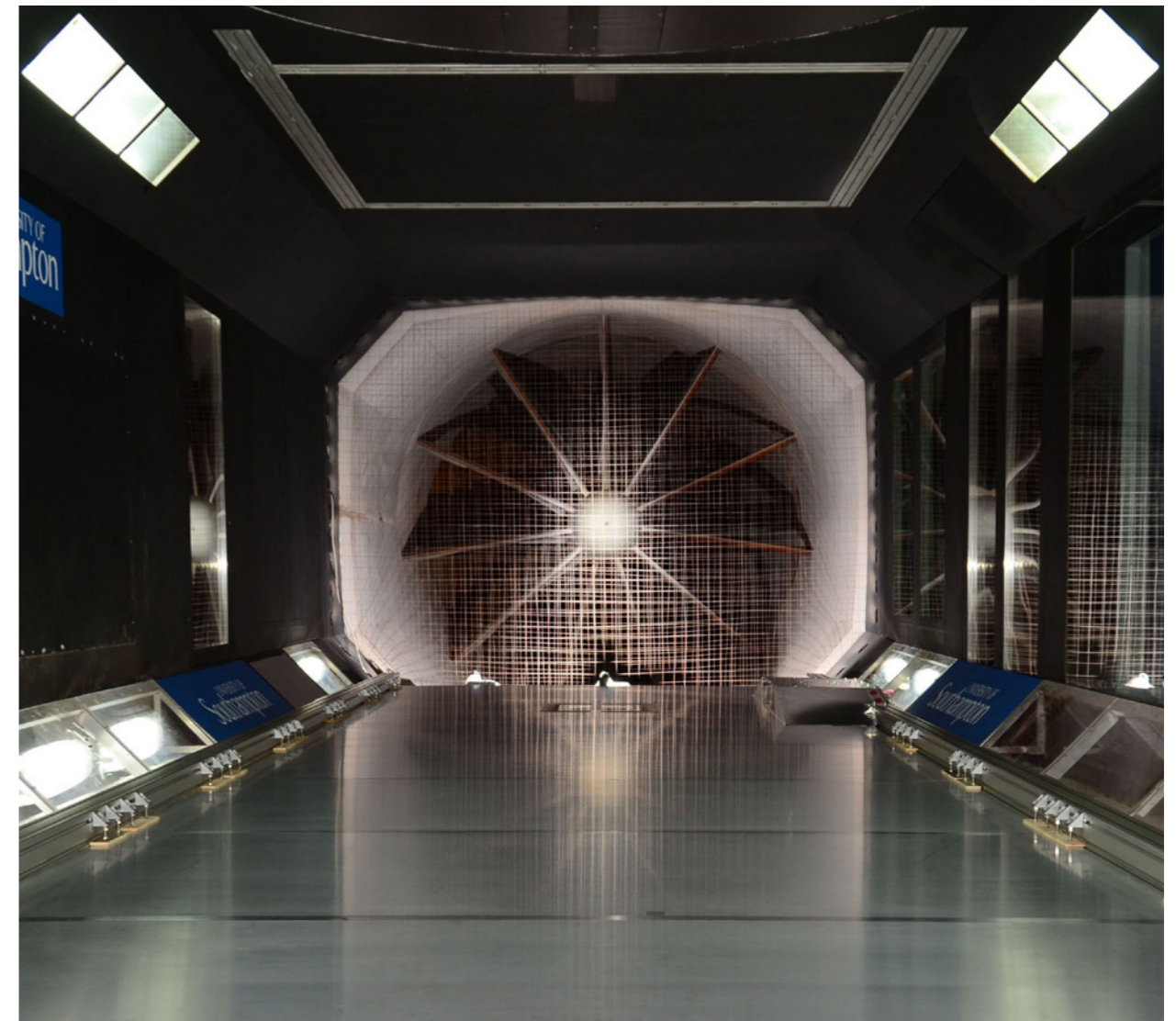
The University of Portsmouth has an international reputation for research excellence in areas including theoretical and observational cosmology, extragalactic astrophysics and gravitational waves.

PRISM, led by the university's world-leading astronomy centre, the Institute of Cosmology and Gravitation (ICG), will bring the institution's space activities under one roof,

creating a new centre for mission architecture design, with a national and international mission incubator service.

The university is also home to the Space South Central Enterprise Network, the Centre for Creative and Immersive Extended Reality (CCIXR) and **ASTA Technology**, the UK's only ESA-accredited space engineering training provider.

Professor Adam Amara, Director of the ICG, (bottom left) and colleagues in the University of Portsmouth's Mission Incubator facility.



The RJ Mitchell Wind Tunnel at the University of Southampton. Photographer: Alastair Philip Wiper.

THE UNIVERSITY OF SOUTHAMPTON

 **Global Top 100 University⁵**

 **Ranked 12TH in the UK⁶**

 **92% of research 'world leading' or 'internationally excellent'³**

Space at Southampton

The University of Southampton has a rich space heritage, starting with the formation of its Aeronautics and Astronautics department in 1959. Space at Southampton brings together experts from a range of academic disciplines and world-class testing and research facilities, putting it at the forefront of space research and innovation.

The university works with space businesses and organisations nationally and internationally across fields such as spacecraft design, quantum technologies, space exploration, population mapping, geospatial AI, marine and maritime, photonics and space-based solar power.

¹ Higher Education Statistics Agency (HESA) data

² Times Higher Education Young University Rankings (universities established during the last 50 years)

³ Research Excellence Framework (REF) 2021

⁴ QS World University Rankings 2022: 5-star overall rating

⁵ QS World University Rankings 2023

⁶ Times Higher Education World University Rankings 2023



THE UNIVERSITY OF SURREY



Shortlisted for
**University of the
Year 2023¹**



**UK Top 20
for Research
Outputs²**



A leading innovator
**of small satellites
since 1979**

Surrey Space Centre

Surrey Space Centre is where the era of small low-cost satellites began with the launch of the experimental UoSat-1 spacecraft in 1981, which led to the successful spin-out company **SSTL**.

Today, Surrey Space Centre is a world-leading academic centre of excellence for space engineering research and education across a wide range of disciplines including space weather and debris environments,

space electric propulsion, astrodynamics and mission planning, remote sensing, space microelectronics and on-board processing. The Centre regularly leads on experimental orbital payloads.

Surrey Space Centre is globally renowned for its Space Engineering education courses at Masters and Undergraduate level.



Student working on space satellite technology at the University of Surrey.

Historic past, exciting future

Our region has been in the spotlight for thousands of years, playing a central role in English and UK history. Home to kings and queens, literary greats, a rich military, naval and maritime heritage – and even Europe's largest predator dinosaur – south-central England is also known for world-class innovation.

Science and technology are part of our DNA

While we're laser-focused on the future, we're also proud of our region's innovation heritage.

Our discoveries contributed to the development of the World Wide Web. The fibre optic technology that powered the internet, and the world's first microsatellite, were created here. We have world-leading research centres, pioneering work in areas as diverse as 5 and 6G technology, cancer immunotherapy, eXtended Reality and oceanography.

We're home to the UK's first airfield and the country's first powered flight in 1908. A year later, aviation pioneer and aerospace engineer, Sir Geoffrey de Havilland's first flight took place. We're also the location for the first flights of the Spitfire and the hovercraft, both of which were designed and built locally.

Satellite carrier rocket Black Arrow was developed here in the 1960s. Since 1948, we've hosted Farnborough International Airshow, now one of the world's biggest events for the aerospace, aviation and defence sectors, attracting 80,000 trade visitors from 112 countries.

It was in our region in 1878 that Alexander Graham Bell first demonstrated a long-distance telephone call to Queen Victoria, and in 1881 one of our towns became the first in the world to have public electricity.

Notable residents include maths and computing trailblazers Alan Turing and Ada Lovelace, the first female radio astronomer, Dr Elizabeth Alexander, and the first Briton in space, Helen Sharman. The inventor of the World Wide Web, Sir Tim Berners-Lee, had academic posts here. Tim Peake, the first British astronaut to do a spacewalk and board the International Space Station, graduated here; and former Paralympian John McFall, the first European Space Agency astronaut from the UK to have a physical disability, was born here.

And if our real-life innovations weren't enough, south-central England is also a place where science fact meets science fiction. Authors H.G. Wells and Aldous Huxley both lived here, with locations in our region featuring in their sci-fi classics *The War of the Worlds* and *Brave New World*, as well as in episodes of TV series *Dr Who*.

Easy to reach, easy to explore

Wherever you are in the world, the Space South Central region is easily accessible by air, sea, road or rail, ensuring maximum productivity for international business visitors.

We are a truly global gateway location, close to London and offering excellent access to two of the world's busiest airports, London Heathrow and London Gatwick¹, with routes to more than 200 destinations. Southampton Airport flies to nationwide and European destinations, and we have the UK's only dedicated business travel airport at Farnborough.

We're served by multiple passenger and freight rail networks, with high-speed hovercraft and catamaran links, and car ferry crossings linking the Isle of Wight from several mainland locations.

With major passenger, cargo and naval ports at Southampton and Portsmouth, we have the UK's closest direct access to over 70 ports globally, with unrivalled proximity to global shipping lanes.

The region is also home to one of the first UK freeports, **Solent Freeport**, promising many economic benefits, including the tariff-free movement of goods for export and import through simplified customs procedures.

¹ Airports Council International Top 10 Busiest Airports 2022



Aerial shot of cranes at DP World Southampton courtesy of DP World.



Aerial shot of Portsmouth courtesy of Portsmouth City Council.

Relocation

Our towns and counties are regularly ranked among the best places to live in the UK. From vibrant cities to rural villages, you're never far from a beach or national park and easy links to the rest of the country and beyond.

“
Our people enjoy the benefits of living and working in a coastal location, making it easy to attract and retain talent.”

” **Jo Sawford**
Site Director, Airbus Portsmouth

South-central England is home to the UK, European and global bases of many world-leading companies, including:

- Airbus
- BAE Systems
- Boeing
- Britten-Norman
- GE Aviation
- Gulfstream
- IBM
- Lockheed Martin
- Ordnance Survey



The Surrey village of Charlwood.



The UK space industry: from Global Britain to Galactic Britain

£17.5 billion
space sector¹

£635 million
invested in UK-headquartered
space companies in 2022-2023¹

£5.9 billion
income from
exports in 2020/21¹

The **3RD**
satellite-operating nation
in space in 2021²

Our established, thriving space sector is evolving rapidly, and the UK government is committed to building one of the most innovative and attractive space economies in the world.

The UK offers exciting opportunities across the space sector, which has tripled in size in the past decade to be worth £17.5 billion per year to the UK economy and employs 48,700 people. Income growth in the UK space sector in 2022 outpaced the global space industry by 4%.¹

The **National Space Strategy** will, in the words of Prime Minister, Rishi Sunak, see "Global Britain becoming Galactic Britain", encouraging more businesses, researchers, and innovators to come here, and supporting access for UK-based companies to international markets.

The UK has an end-to-end offer for space enterprises, from research and development to our new launch capability, with a highly-integrated and mature global supply chain of innovative and established companies.

A founding member of the European Space Agency (ESA), the UK has several bilateral partnerships and collaborations with European countries. We have relationships with key international spacefaring partners and organisations, such as the USA, Japan, India and the United Arab Emirates.

The UK has committed to incorporating space trade arrangements in its future Free Trade Agreements, alongside the development of innovative partnerships such as the UK-Australia Space Bridge.

Backed by millions of pounds of investment in both space and wider science and innovation from the government, there has never been a better time for space companies to set up operations, trade or collaborate in the UK.





Collaborating, trading and investing in the UK


- 1ST

in Europe and 3RD globally for growing and scaling-up business¹
- 1ST

in G7 for research, impact and reach²
- 4TH

in the global innovation index³
- 

£600 billion government commitment to growth⁴
- 

Trade deals with 97 countries, including all EU member states⁵
- 

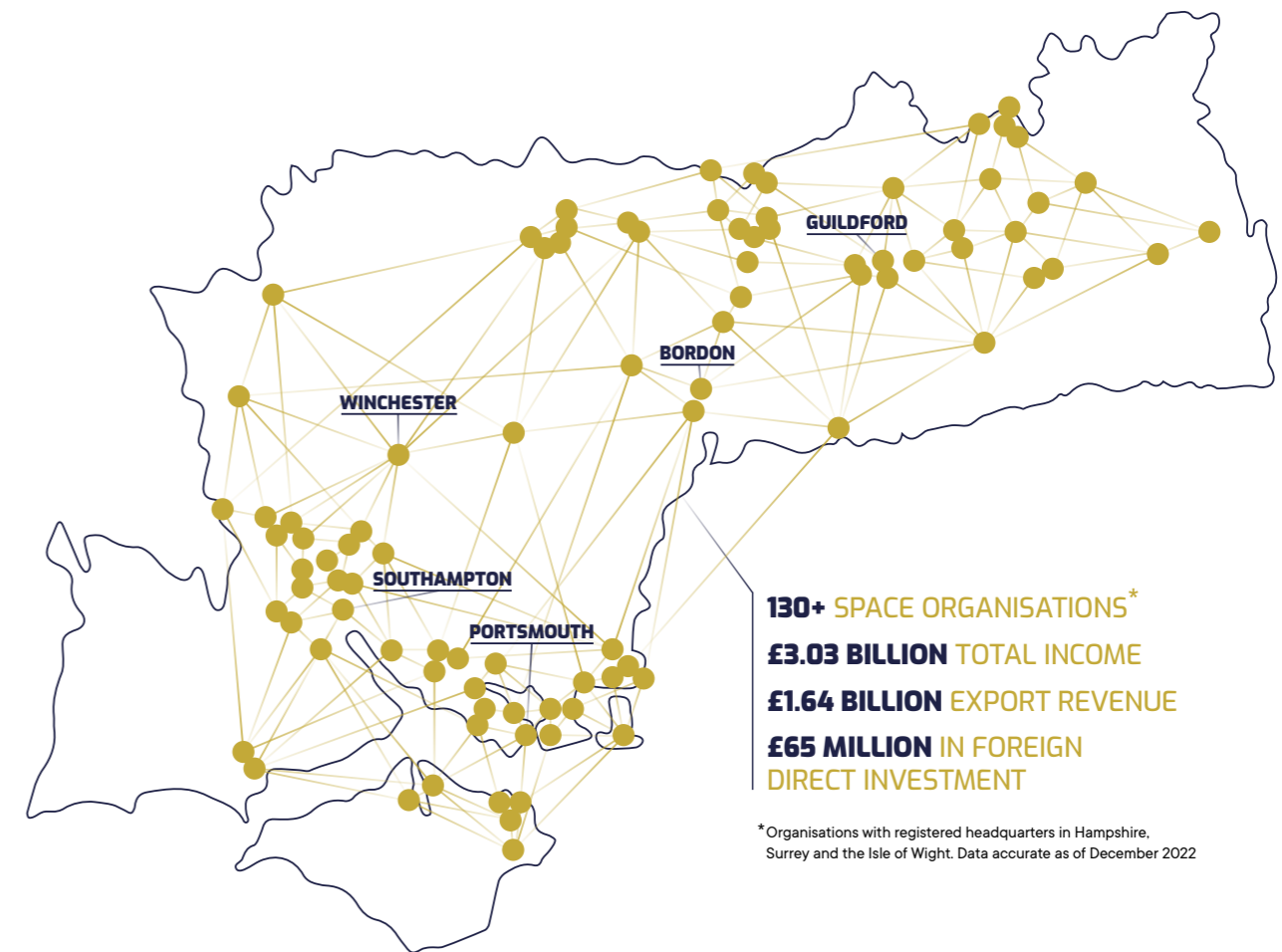
£39.8 billion R&D budget for 2022-25⁶

If you're looking for world-class expertise and talent, and a robust, business-friendly environment to reliably expand, trade and invest – you've found it.

The UK offers global businesses one of the best and most ambitious ecosystems in the world to grow innovative companies and consistently ranks in the top five countries globally for strength of innovation.³

An assortment of multi-billion-pound government initiatives, like the Plan for Growth and UK Innovation Strategy, have key objectives to attract overseas investors.

With a strong regulatory and legal system and a leading financial services industry, we have the broadest network of tax treaties in Europe (130 countries), reflecting the UK's long economic and political history of global trade and investment.



How we can help you

We're proud to have such a diverse range of space industry expertise concentrated in one compact region of the UK. But for organisations and businesses around the world, researching and accessing that expertise can be challenging and time-consuming.

Space South Central is the gateway to help you find the right people and organisations for your project.

We unite industrial networks, academic partnerships and funding streams. From recommending an individual manufacturer to bringing together large-scale collaborative R&D or launch projects, we're uniquely placed to give you free, impartial support and guidance.

We also have links to UK government bodies like the **Department of Business and Trade**, which can offer tailored advice about investing and trading in the UK.

CONNECTIONS YOU CAN TRUST

Space South Central exists to provide impartial, informed connections to boost space industry collaborations, innovation and growth. The businesses, universities and organisations we represent don't pay for introductions or membership, and neither do international organisations that are interested in working with them.

For more information on Space South Central and how we can help you, visit spacesouthcentral.com/global or contact info@spacesouthcentral.com



[@spacesouthcntrl](https://twitter.com/spacesouthcntrl)



[@space-south-central](https://www.linkedin.com/company/space-south-central)

¹ Tech Nation Report 2020

² Department for Business, Energy & Industrial Strategy (DBEIS), International Composition of the UK Research Base, 2019

³ Global Innovation Index 2021

⁴ UK Government Plan for Growth

⁵ Department for Business & Trade

⁶ Government allocation to DBEIS partner organisations



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spacesouthcentral.com/global

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