

S P A C E
SOUTH
C E N T R A L

The largest regional
space cluster in the UK



UNIVERSITY OF
PORTSMOUTH

South Coast
Centre of Excellence in Satellite Applications



UNIVERSITY OF
SURREY



University of
Southampton



Maximising our collective regional strengths in space for the benefit of the UK

- Catalysing investment
- Delivering missions and capability
- Championing space

Space is a booming industry for the UK, driving growth and productivity and making vital contributions to our economy.

Introduction

A thriving sector, space has seen extraordinary growth over the last decade, trebling in size. The industry currently generates an income of £16.5 bn annually and employs over 47,000 people¹. The space sector has already shown exceptional resilience in the shadow of COVID-19² and remains an engine for growth post-Brexit with a buoyant export market.

The UK government has bold plans to build one of the most innovative and attractive space economies in the world over the coming years, leveraging world-leading science and technology expertise, a strong talent pipeline, and leading satellite manufacturing and operations capabilities.

Consequently, the National Space Strategy is a commitment to create a 'highly agile space nation and make a generational leap forward in space technologies and capabilities.'³

The first pillar of the strategy acknowledges the need to 'unlock growth in the UK space sector', and the role of local and regional clusters are recognised as an important mechanism to deliver targeted acceleration of space business growth, foster collaboration to deliver national prosperity, and contribute to levelling-up. The South Central region, particularly the counties of Surrey and Hampshire, is already highly active across the whole spectrum of space activity from upstream to downstream; including customers, primes, manufacturers and academic institutions with rich space heritage. By harnessing the diverse expertise that exists in our region and building strong partnerships between corporates, SMEs and academic institutions, the South Central region is seizing the opportunity to play a principal role in meeting the ambitious goals set forth in the National Space Strategy.

In doing this, we will grow the reputation of the South Central region internationally, with the aim of securing significant inward investment to the UK, as well as creating new business opportunities and fostering an environment of innovation that will deliver both new scientific discoveries and innovative solutions to the pressing challenges we face nationally and globally.

“For over five decades the Airbus Defence and Space site of Portsmouth in Hampshire has been the lynchpin for the development and construction of Telecommunications, Scientific, Earth Observation and Meteorology Satellite Payloads, Satellite Telecommunications Products and Ground Terminals for satellite communications. The site has some of the best equipped and state-of-the art development, assembly, test and production facilities in the space industry with a strong focus on RF equipment and payloads. We are delighted to support the formation of Space South Central which will help promote the capabilities we have here as well as fostering links to other innovative space clusters in the UK and abroad.”

Airbus Defence and Space

Paolo Bianco, Manager Global R&T Cooperation at Airbus Defence and Space

¹ Size and Health of the UK Space Industry 2021, BryceTech, April 2022.

² UK Annual GDP fell by 9.9%. ONS. 2021. GDP first quarterly estimate, UK: October to December 2020. Available online: <https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpfirstquarterlyestimateuk/octobertodecember2020>

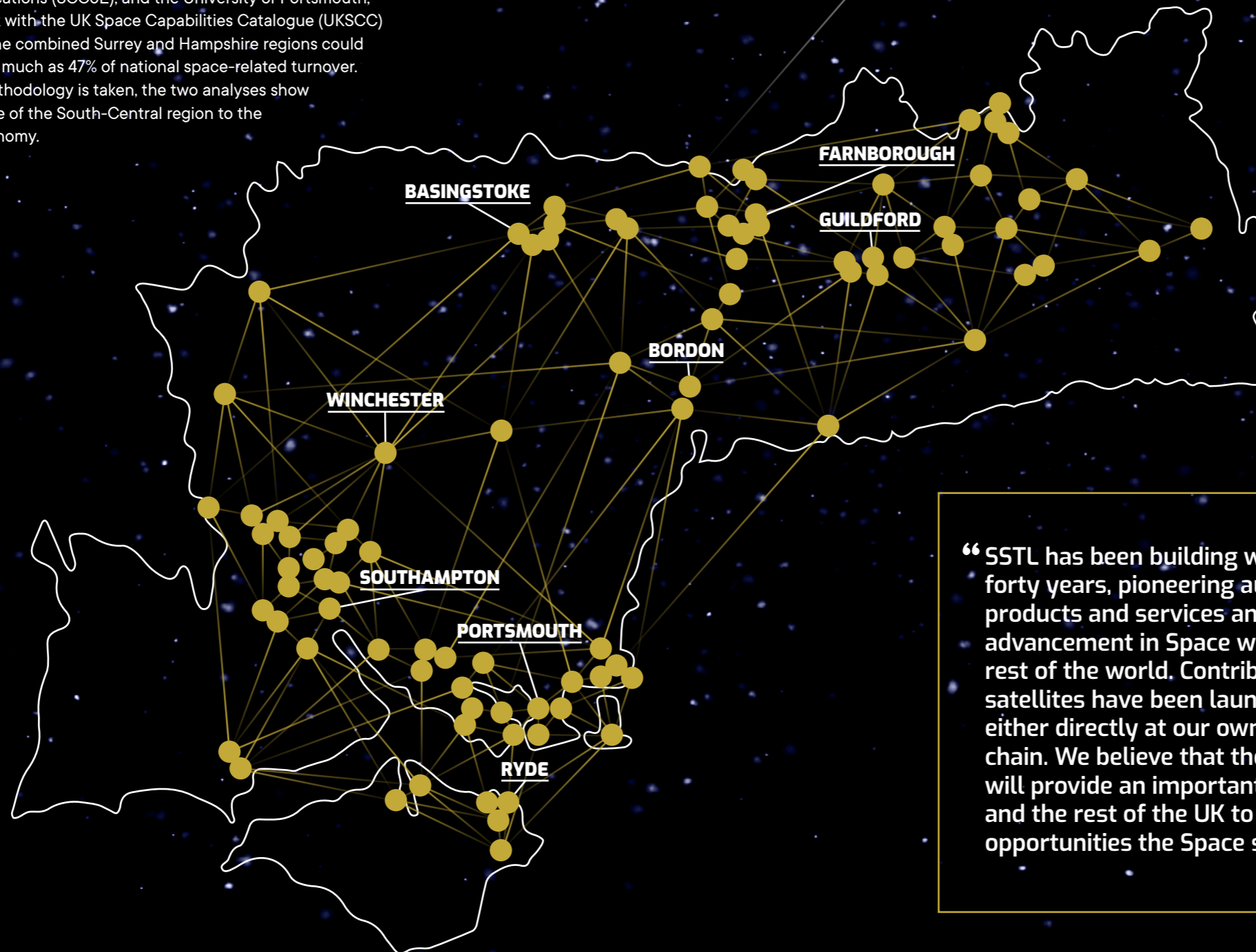
³ National Space Strategy, HM Government, September 2021.



Regional Capabilities

Our region is rich in organisations with significant space heritage developed over the last few decades. Businesses like Airbus, BAE Systems, Lockheed Martin, Spur Electron, and SSTL are among many located in the Space South Central area.

The South East is responsible for 25% (£4.2 bn) of all UK space-related income according to the latest UK Size and Health report. Independent assessments commissioned by the Satellite Applications Catapult, the South Coast Centre of Excellence in Satellite Applications (SCCoE), and the University of Portsmouth, as well as work with the UK Space Capabilities Catalogue (UKSCC) team, shows the combined Surrey and Hampshire regions could account for as much as 47% of national space-related turnover. Whichever methodology is taken, the two analyses show the importance of the South-Central region to the UK Space Economy.



120 SPACE ORGANISATIONS*
£3.03BN TOTAL INCOME
£1.64BN EXPORT REVENUE
£65M IN FOREIGN DIRECT INVESTMENT

“SSTL has been building world leading small satellites for over forty years, pioneering audacious new satellite technologies, products and services and sharing its know-how to enable advancement in Space with other companies in the UK and the rest of the world. Contributing £1bn to UK exports, over 70 SSTL satellites have been launched and over 750 people employed either directly at our own facility or added to our UK supply chain. We believe that the formation of Space South Central will provide an important platform to encourage our region and the rest of the UK to engage even more strongly in the opportunities the Space sector presents.”

SSTL
Sir Martin Sweeting, Executive Chair

Data obtained from the UK Space Capabilities Catalogue and accurate as of July 2022.

*Organisations with registered headquarters in Hampshire, Surrey and the Isle of Wight.



“In-Space Missions brings together experience, expertise and innovation to enable new and existing space businesses to grow and thrive through rapid deployment of technologies and services to orbit. We provide Mission as a Service capability through our Faraday Service. This offering provides end-to-end support to customers and enables both physical and digital payloads to be flown on In-Space’s scalable, reprogrammable satellite buses.”

In-Space Missions Ltd
Doug Liddle, CEO

Table 1, below, shows the breakdown of figures⁴ taken from the UK Space Capabilities Catalogue (UKSCC) for the combined Surrey and Hampshire regions.

	No OF ORGANISATIONS	No OF LOCATIONS	2020 SPACE TURNOVER
UK	814	1714	£5.84 BN
SURREY AND HAMPSHIRE	120	323	£3.03 BN

Table 1: UK Space Capabilities Catalogue data (July 2022)

Unlike other UK regions, South Central has demonstrable capacity in almost all of the UK’s recognised space capability. This capacity includes all tiers of the satellite manufacturing industrial base as well as some relevant to launch, highly capable small satellites, next-generation communications technologies, secure software for space systems, and robotics and autonomous systems. Furthermore, there is a full range of downstream applications and satellite data-enabled service capabilities.

However, there is a risk that the region will fail to maximise its potential for growth in this sector. This could result in not only a failure to bring the benefits of its established Space activities and future innovation to the rest of the nation, but also in the loss of international competitive advantage for the UK and a failure to sustain its globally recognised level of technical innovation. Our regional strengths should be capitalised on to enhance the global standing and reputation of the nation.

A new, enabling framework is required to support and develop our diverse space ecosystem. Three universities with significant space expertise, Portsmouth, Southampton and Surrey, have teamed together with industry, LEPs, and County Economy representatives to develop a regional Space initiative, Space South Central.

Space South Central will bring coherence to the region by uniting existing industrial networks, strong academic partnerships, and funding streams. This is in line with the National Space Strategy which emphasises important priorities including UK leadership, the benefits of bilateral programmes, and the importance of tight industry-academia partnerships.

⁴ Data provided in the UKSCC accounts for reported space-based income/turnover in published company accounts found on the UK HMG Companies House portal. Income is assigned to the location of an organisation’s headquarters.



Space South Central - Objectives

Space South Central is an exciting new regional space initiative designed to catalyse investment, deliver missions and access to capability, and champion space. The overarching structure will build on the foundations established by the South Coast Centre of Excellence in Satellite Applications and early work by the Enterprise M3 LEP to support space sector growth across Hampshire and Surrey. In partnership with the Universities of Portsmouth, Southampton and Surrey, Space South Central will focus on:

1 / MISSION CAPABILITIES

We will ensure that UK scientists and entrepreneurs have access to end-to-end capabilities and the support that they need, to go from initial idea to completed project.

2 / SKILLS

We will demonstrate best practices in inclusion, diversity, recruitment, retention and training to make space careers as attractive and rewarding as possible.

3 / OUTREACH

We will connect, educate and inspire people of all ages and backgrounds so that we all appreciate the value of space in our everyday lives.

4 / SOVEREIGN CAPABILITY

We will enhance and fortify space-related supply chains to make UK space activities resilient to external threats while protecting national interests.

5 / LEVELLING UP

We will use our knowledge and expertise to empower other regions and create prosperity across the nation.

6 / MAXIMISING SERVICE CAPABILITIES

We will enable the growth of new downstream space application opportunities and boost space-derived revenue.

7 / SECURING INTERNATIONAL PARTNERS

We will proactively create collaboration opportunities and develop mutually beneficial relationships with partners abroad.

“We believe that the creation of Space South Central will provide an essential element which has been missing within our region to drive a greater awareness within the local population of the job opportunities which the Space sector offers, as well as coordinating with education providers to help reduce the current skills gap which risks limiting growth.”

In-Space Missions Ltd
Doug Liddle, CEO

Space South Central - Organisation

Space South Central brings together five organisations in the region with strong industrial links and established heritage in space. These are:

- The South Coast Centre of Excellence in Satellite Applications (SCCoE), which acts as a representative and ambassador for the South Coast space sector.
- The Surrey and Hampshire Space Hub supported by Enterprise M3 LEP and a previous recipient of UK Space Agency regional cluster funding.
- The University of Portsmouth's Institute of Cosmology and Gravitation (ICG), a world leading research centre in astrophysics with a strong reputation in cosmology theory, complex data analysis and space science experiments.
- The University of Southampton, which is breaking new research ground in the space arena; whether in space weather, spacecraft design, integrating quantum technology, data analytics for informing approaches to environmental change or space based solar power; while growing their national and international space collaborations with industry.
- The Surrey Space Centre (SSC) at the University of Surrey, which has an extensive track record in satellite manufacturing and the original home of Surrey Satellite Technology Ltd (SSTL).

By coordinating their space activities, the Universities of Portsmouth, Southampton and Surrey will be able to maximise the leverage that they can jointly achieve as anchor institutions in the regional Space innovation ecosystem. This will include fostering industry collaboration, creating new opportunities for international partnerships and playing an integral role in coordinating the training necessary to fill the skills gap.

Together, our overarching goal is to generate the cohesion needed to fully deliver regional and national priorities through a central body called Space South Central. This newly formed entity will work closely with local industry to build new collaborations and take responsibility for coordinating activities in our region to grow the Space sector

“The space sector is playing an increasingly valuable role in supporting regional innovation which will generate high-value jobs, attract investment, and create skills. There is so much activity in and around the region’s space sector and there is plenty to be proud of with companies such as In-Space Missions, Mantle Labs and NanoAvionics spearheading the research, development, and production of this innovative tech globally.”

Hampshire County Council
Councillor Rob Humby, Leader of Hampshire County Council and Executive Member for Policy, Resources and Economic Development

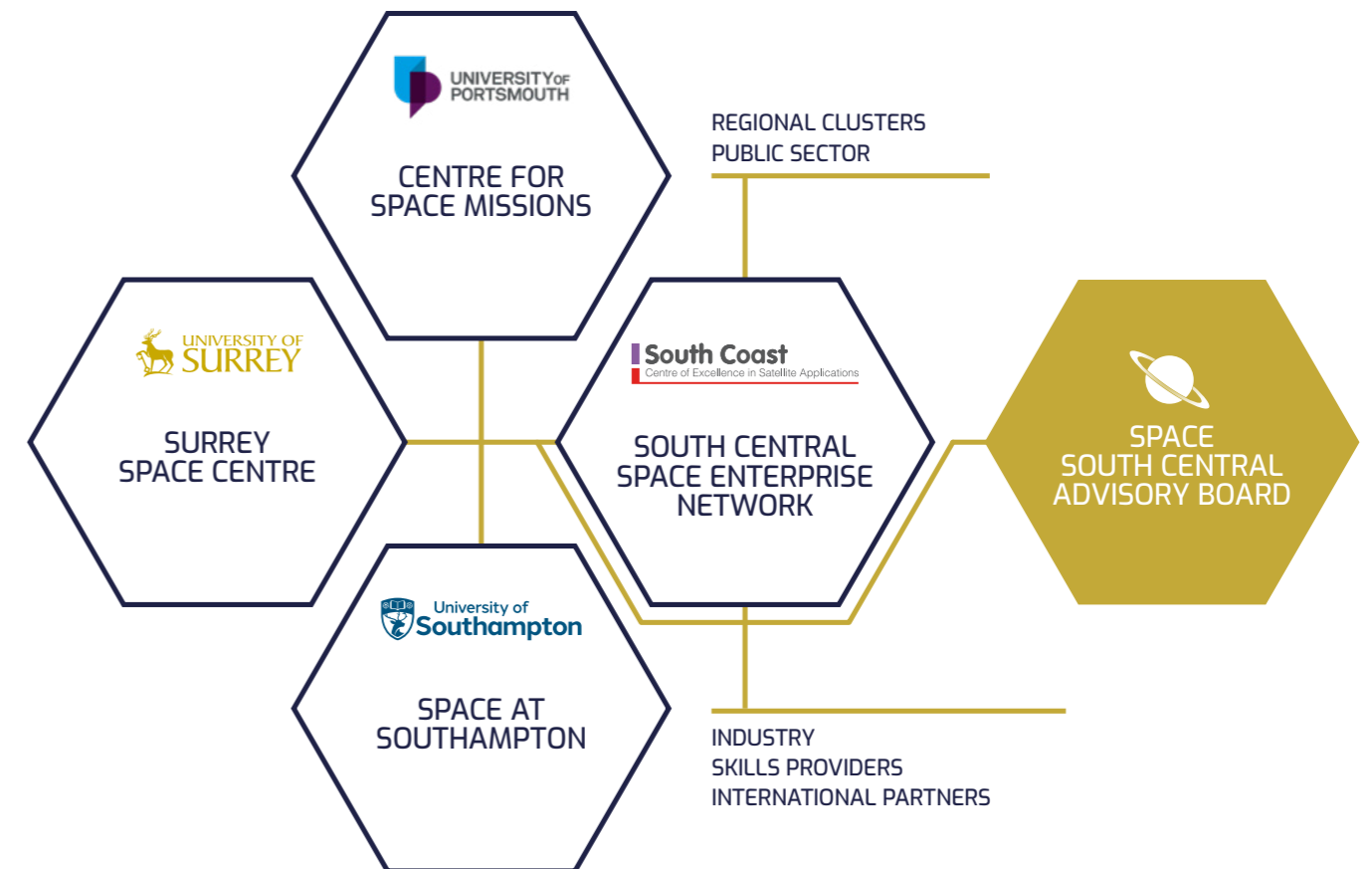


Figure 1: Structural organisation of Space South Central

“Surrey County Council is proud of our businesses and academic institutions whose knowledge and skills make the region such a powerful contributor to the UK Space Industry. When talking to our businesses, we are often reminded of the wide-reaching potential the industry has for applications across our key sectors.”

Surrey County Council
Tim Oliver, Leader of Surrey County Council



SPACE SOUTH CENTRAL ADVISORY BOARD

The Space South Central Advisory Board will promote strategic regional coherence, oversee all activities, define Space-related priorities and provide direction to ensure our objectives are delivered. As a minimum, the board will comprise the four directors from SSCEN, CSM, SSC and SAS (see below), representatives from industry (both primes and SMEs), a Further Education representative, an international advisor and a representative from UK Space Agency.

SPACE SOUTH CENTRAL ENTERPRISE NETWORK (SSCEN)

Given the strong synergies between the SCCoE and the EM3 Space Hub, our plan is to combine the two organisations to form the Space South Central Enterprise Network, which will promote partnerships with other regional clusters, be a focal point for understanding regional capabilities and act as an effective first point of contact for the region and for national and international stakeholders.

SURREY SPACE CENTRE (SSC)

The Surrey Space Centre, part of the University of Surrey, carries out research into spacecraft and missions and develops new applications and technologies. Starting with the launch of UoSAT-1 in 1981, the Surrey Space Centre has led the small-satellite revolution by exploiting the rapid development of commercial microelectronics. The rapid success of this research led to a spin-off company, Surrey Satellite Technology Ltd (SSTL), being established (since acquired by Airbus) and this has led to an ecosystem of further spin-offs in the region. Today the academic research of the Surrey Space Centre has grown to cover a wide range of topics including astrodynamics, space weather, earth observation, space debris, electric propulsion and spacecraft avionics. The Surrey Space Centre continues to deploy instruments and hardware into orbit, including the recent CREDANCE space weather monitor on NASA's 'Living with a Star' mission and the highly challenging RemoveDebris mission which demonstrated how a rogue satellite can be captured by a net and harpoon.

CENTRE FOR SPACE MISSIONS (CSM)

The Institute of Cosmology and Gravitation (ICG) at the University of Portsmouth conducts world-leading research in cosmology, astrophysics, gravitational waves and space science; as well as data analytics across a range of fields. It also has close links to many international partners including NASA's Jet Propulsion Laboratory. The ICG is leading the establishment of a Centre for Space Missions (CSM) at Portsmouth, which will include a Concurrent Design Facility (CDF) for rapid development of mission concepts and designs. The CSM will act as a focal point for space activities in the University across all faculties, including geography and geosciences. The CSM development will be complementary to SSC and the two centres will work collaboratively, together with industry, to provide end-to-end mission capabilities for the region.

SPACE AT SOUTHAMPTON (SAS)

The University of Southampton's international collaborations across the space sector place it at the forefront of developments in the UK and worldwide, including space policy contributions: for example Ministerial briefings on Space-based Solar Power and a white paper (co-developed with the Life and Biomedical Science Association), promoting space engagement for the UK's Life Science sector. The University is part of the UK delegation to the United Nations Committee on the Peaceful Uses of Outer Space. Academic engagement with NASA includes pioneering work investigating the effects of space on muscle tone. World-class facilities range from Propulsion Labs, to installations at Svalbard, to the Marine Autonomous Robotics Systems lab at the National Oceanography Centre. Interdisciplinary groups, including Southampton Geospatial, the Marine and Maritime Institute and CORMSIS, carry out fruitful enterprise collaborations with space sector companies. With well-established space-related courses, plus an active student Space-Flight society, there are excellent opportunities for students passionate about space, and the University's academic expertise in both advanced materials for space, and sustainability, makes it ideally placed to address the challenges of achieving Green Space in the future.

This new structure will provide the boost needed to unleash the region's full potential in the Space sector, with the ultimate aim of exceeding the growth targets set out in the National Space Strategy while actively supporting other UK Space clusters to level up.



“Surrey County Council and its inward investment brand, Invest in Surrey, are committed to supporting our existing businesses and attracting new firms looking to relocate to the region. We are delighted to be a founding partner of Space South Central and look forward to collaborating with other cluster members to support the growth and development of this critically important sector.”

Surrey County Council
Tim Oliver, Leader of Surrey County Council

“Our new Space South Central cluster builds on Hampshire's key aligned markets in aerospace, advanced manufacturing, digital, and health innovation. The cluster will support new and growing companies, building on local expertise, catalysing investment into the space sector. Hampshire County Council looks forward to working with our partners to support the Government mission to establish the UK as a leading space superpower, whilst enabling our regional businesses to take advantage of the opportunities this will bring.”

Hampshire County Council
Councillor Rob Humby, Leader of Hampshire County Council and Executive Member for Policy, Resources and Economic Development



Space South Central - Organisation Directory

ORGANISATION	LOCATION	WEBSITE
7E Communications	West Molesey	www.7e.com
Absolute Validation	Farnborough	www.absolutevalidation.com
Aetheric Engineering	Fareham	www.aetheric.co.uk
Alcis Holdings	Guildford	www.alcis.org
Andair	Havant	www.andair.co.uk
AQASS	Southampton	www.aqass.co.uk
Atkins	Epsom	www.atkinsglobal.com
BAE Systems	Farnborough	www.baesystems.com
Barter for Things	Eastleigh	www.barterforthings.co.uk
BDE Space	Fleet	www.bdespace.com
Bentley Walker	Hayling Island	bentley-walker.com
Bryce Space and Technology	Guildford	www.brycetek.com
Capcom Land Sea and Air Communications	Southampton	www.capcom.co.uk
Caribou Digital	Farnham	www.cariboudigital.net
Celab	Bordon	www.celab.co.uk
Centre of Excellence in Engineering, Manufacturing and Advanced Skills Training (CEMAST) - part of Fareham College	Fareham	www.fareham.ac.uk
Cirium	Southampton	www.cirium.com
Clutch Space Systems	Guildford	www.clutchspace.com
Critical Software	Southampton	www.criticalsoftware.com
Cunning Running Software	Romsey	cunningrunning.co.uk
Cupio	Basingstoke	www.cupio.co.uk
DAS	Basingstoke	www.das-ltd.co.uk
Data Device Corporation	Ryde	www.ddc-web.com
DBAF	Brading	www.dbafconsulting.com
DMC International Imaging	Guildford	www.dmcii.com
Docobo	Great Bookham	www.docobo.co.uk
Earth-i	Guildford	earth-i.space
Emapsite	Farnborough	www.emapsite.com



Eseye	Guildford	www.eseye.com
Etherrich	Whiteley	www.etherreach.co.uk
Eureco Technologies	Ryde	www.eureco.com
Europa Technologies	Cobham	www.europa.uk.com
Exfo	Eastleigh	www.exfo.com
Fluid Gravity Engineering	Emsworth	www.fluidgravity.co.uk
Folland Areotech	Fareham	follandaerotech.com
Formaplex	Portsmouth	www.formaplex.com
Fraser-Nach Consultancy	Dorking	www.fnc.co.uk
Galorath	Andover	galorath.com
Garmin	Southampton	www.garmin.com
GeoData Institute	Southampton	www.geodata.soton.ac.uk
Geoseren	Dorking	www.geoseren.com
Getmapping	Fleet	www.getmapping.com
GlobalTrust	Winchester	globaltrustgrp.com
GMT CNC Machining	Portsmouth	www.gmt-ltd.co.uk
Harwin	Portsmouth	www.harwin.com
Helios Technology	Farnborough	www.egis-group.com
Humanetics Group	Southampton	fibercore.humaneticsgroup.com
In-Space Missions	Alton	in-space.co.uk
Intellitect Water	Romsey	www.intellitect-water.co.uk
Inverse Quanta	Farnham	inversequanta.co.uk
isardSAT	Guildford	www.isardsat.co.uk
KBM Consultants	Winchester	www.kbmconsultants.co.uk
KBR	Leatherhead	www.kbr.com
Kingsbury	Gosport	kingsburyuk.com
KISPE	Farnborough	www.kispe.co.uk
LifeGuardian	Esher	lifeguardian-it.uk
Lime Microsystems	Guildford	limemicro.com
Link Microtek	Basingstoke	linkmicrotek.com
Livewire Digital	Leatherhead	www.livewire.co.uk
Lodahl	Eastleigh	www.lodahl.aero
Lymington Precision Engineering	Lymington	www.lymingtonprecision.co.uk
Mafic	Guildford	mafic.ltd



Materion	Farnborough	materion.com
Maverick Aviation	Gosport	www.maverickaviation.co.uk
MercariRisk	Southampton	mercariirisk.com
Middlesex Aerospace	Basingstoke	www.middlesexaerospace.com
Milexia UK	Basingstoke	milexia.uk
Milmega	Ryde	www.ametek-cts.com
Mobile Onboard	Southampton	beamonboard.com
Mullard Space Science Laboratory	Dorking	ucl.ac.uk
NanoAvionics	Basingstoke	nanoavionics.com
Net Coverage Solutions	Camberley	www.netcs.co.uk
nquiringminds	Southampton	nquiringminds.com
NSSLGlobal UK	Redhill	www.nsslglobal.com
Ordnance Survey	Southampton	www.ordnancesurvey.co.uk
Perfect Bore	Andover	www.pbm-ltd.com
Pheonix Systems	Fareham	www.phoenixsystemsuk.com
PhiPhase	Yateley	www.phiphase.com
Psion	Gosport	www.pSIONconsulting.co.uk
QinetiQ	Farnborough	www.qinetiq.com
Qualcomm	Farnborough	www.qualcomm.com
Quarry One Eleven	Guildford	www.quarry-one-eleven.com
Quortus	Camberley	quortus.com
Railsite Telecom	West Horsley	railsite telecom.co.uk
Remote Sensing Applications Consultants	Alresford	rsacl.co.uk
Roke Manor Research	Romsey	www.roke.co.uk
Rolatube	Lymington	www.rolatube.com
Safran	Fareham	www.safran-group.com
Satellite VU	Walton-On-Thames	www.satellitevu.com
Satixfy UK	Farnborough	www.satixfy.com
ScottSpace	Guildford	www.scottspace.co.uk
Securus	Hook	securuscomms.co.uk
Serco	Hook	www.serco.com
SiriusInsight.AI	Chiddingfold	www.siriusinsight.ai
South Coast Centre of Excellence in Satellite Applications	Portsmouth	sa.catapult.org.uk
Southern Cross Consulting	Romsey	www.southern-cross.co.uk



Space ConneXions Limited	Guildford	www.spaceconnexions.com
Spacemetric	Guildford	spacemetric.com
Spotcom	Portsmouth	www.spotcomltd.co.uk
Spur Electron	Havant	www.spurelectron.com
STS Defence	Gosport	www.sts-defence.com
Surface Technology International	Hook	www.sti-limited.com
Surrey Satellite Technology Ltd	Guildford	www.sstl.co.uk
TeamSurv	Nether Wallop	www.teamsurv.com
TEKEVER	Southampton	www.tekever.com
Terravision Exploration	West Molesey	www.terravisionradar.com
Tethered Drone Systems	Portsmouth	tethereddronesystems.co.uk
The Aerospace Research & Innovation Centre (ARIC) at Farnborough College of Technology	Farnborough	aric-farnborough.com
The Centre of Excellence for Composites, Advanced Manufacturing and Marine (CECMM Centre) - part of The Isle of Wight College	Newport	iwcollege.ac.uk
TISICS	Farnborough	www.tisics.co.uk
Trak365	West Horsley	www.trak365.com
TT Electronics	Woking	www.ttelectronics.com
Turbulent Design	Havant	www.turbulentsimulations.co.uk
UK Satellite Consulting	Southampton	
UKspace	Bordon	www.ukspace.org
Ultima Forma	Romsey	www.ultima-forma.com
University of Portsmouth	Portsmouth	www.port.ac.uk
University of Southampton	Southampton	www.southampton.ac.uk
University of Surrey	Guildford	www.surrey.ac.uk
VEOWARE	Guildford	www.veoware.space
Viasat	Farnborough	www.viasat.com
Wirefree	Caterham	www.wirefreeip.com
YourScience BC	Walton-On-Thames	www.yoursciencebc.co.uk

S P A C E
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“We are fortunate to have a cluster of excellent businesses in the region that not only innovate, invent, create and supply, but act as a magnet and encourage others to set up here or relocate here. This leads to further inward investment and that helps strengthen existing links with other regions and nations as well as creating new relationships. I know there is a great emphasis on improving skills, which will be required if we are to grow a workforce that can take us forward at the speed we need in order to remain at the front of the pack. Building on the expertise of aerospace in this area, Space South Central will continue to drive the sector forward.”

Farnborough Aerospace Consortium
Alan Fisher, CEO