Boosting innovation, growth, education and training in the space and space-enabled sector.
An exciting new development set to build on Leicester’s international reputation for space science and boost skills and growth in the sector through a collaborative ‘space community’. 

Working with local, national and international partners, the National Space Park will be shaped by the demands of the UK space and space-enabled economy. At its heart will be a number of key elements:

- A centre for space education and training from school through to apprenticeships, University and continuous professional development (CPD). Businesses will be able to work with the best talent and offer students opportunities for commercial experience.
- An embedded space and space-enabled community helping small and medium-sized enterprises (SMEs) to thrive through access to innovation support, skills, finance and access to markets.
- An open innovation environment with state-of-the-art laboratories and a collaborative approach to research and development.
- Investment in and promotion of shared research and development facilities.
- A strong brand to promote potential collaborations with industry partners and attract new businesses.

About the National Space Park

Our ambition to create a National Space Park represents a major capital investment for the University in collaboration with funding bodies, business and local stakeholders. Focusing our world-class strengths in space and Earth observation science and engineering, this national centre for school, apprenticeship, graduate and postgraduate education and training will provide a new anchor for a vital British industry. It will create a seamless link between training, research and business, accelerate the time it takes to find novel applications for our leading research, and will help propel the Midlands as an engine for future UK growth.

PAUL BOYLE
PRESIDENT & VICE-CHANCELLOR
UNIVERSITY OF LEICESTER

The creation of a National Space Park on Leicester’s waterside is an exciting vision that reflects the city’s ambitions for growth. For this reason, I am proud for the city council to be a partner in this project. The University of Leicester’s strengths in innovation, technology and research are recognised the world over. The proposals for the National Space Park will build on those strengths, and have the potential to deliver fresh investment, new jobs and invaluable training opportunities in the city. This attractive site, next to the National Space Centre, is a prime location for such a visionary development. Such an ambitious proposal offers further proof of the growing confidence in Leicester as a great city to invest in.

SIR PETER SOULSBY
CITY MAYOR LEICESTER
Our vision

The UK space industry employs some 37,000 people, making it over a third of the size of the oil and gas industry. It is the UK’s most intensely skilled sector (57% of staff are graduates) and ranks in the top three for labour productivity. The Government views space as a strategic sector which is set for rapid growth.

Our vision is to see the National Space Park become home to the Leicester Institute for Space and Earth Observation Science. Based on land encompassing the iconic National Space Centre, it will become Europe’s leading site for innovative research, teaching and enterprise in these disciplines, attracting businesses, researchers and students from across the globe.

The Park will also host businesses working in the space and space-enabled sectors, giving them access to specialist equipment, laboratories and expertise within a collaborative R&D environment. This unique setting will allow research and commercial activities to take place side-by-side. Businesses will benefit from easy access to new ideas, skills and expertise, which will allow them to test ideas more quickly and respond to market demand. Students will benefit from innovative teaching by leading experts in space science, as well as being able to gain commercial experience in a dynamic setting.

The National Space Park will play a key part in the growth of the space sector. This growth will require skilled manpower and Leicester will be the go-to centre for education and training across the board—from technology development and engineering design to software systems and data analytics.

It will also be a key component in meeting ambitious national targets for new exports, up to 100,000 skilled jobs, new value-adding applications and a vibrant regional SME economy in this sector.

Meeting the needs

...of space and space-enabled business

The UK space industry exhibits a number of distinctive features and challenges that the National Space Park will address through its design and development.

Features and challenges

The space sector is R&D intensive.

Space economy employees are highly skilled (three in four hold a higher education qualification) and highly productive – total Gross Value Added (GVA) contribution of the UK space economy is estimated at £11.3bn.

The UK space industry is growing. It has increased at a rate of 8.6% per annum since 2008/09.

There is a need to grow regional space clusters with links to national capabilities and facilities.

Increasing Foreign Direct Investment is a priority within the UK Space Growth Plan. There were 40% more new incorporations, mergers or acquisitions between 2006 and 2015 than in the previous decade, leading to nearly 100 foreign-owned space companies locating in the UK today.

The National Space Park: Meeting the needs

Gives access to R&D facilities, academic expertise and a collaborative R&D environment.

Responds to and delivers on the skills and needs of the industry (from school to PhDs).

Provides capacity for OEMs (original equipment manufacturers), expansion space for dynamic SMEs and incubation for space and space-enabled start-ups and spin-outs.

Develops the skilled manpower to drive and deliver this growth.

Builds on the University of Leicester’s expertise and facilities to offer a growth platform for businesses in the East Midlands.

Benefits from a central location with excellent transport links and a low cost base.

Provides an attractive proposition for inward investors seeking access to advantageously located R&D capacity and talent.

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Features of the National Space Park

Conceptual

• Set to become Europe’s go-to centre and accelerator for space technology businesses and job creation.
• The new home for the University’s Institute for Space and Earth Observation Science – the leading UK educator in this sector with a distinguished record of space discoveries and collaborations.
• State-of-the-art facilities, laboratories and specialist equipment with academic expertise on hand.
• Purpose-built, flexible premises for businesses, set within a collaborative R&D environment.
• Based in the heart of the UK with excellent motorway and transport links.
• Regenerating Leicester’s Waterside area on land encompassing the iconic National Space Centre and DOCK, Leicester’s hub for high-tech, low-carbon and innovative businesses.
• Working in partnership with Leicester City Council, its enterprise partnership (LLEP) and the National Space Centre. We are now seeking to expand collaborative engagement with other national organisations including the Satellite Applications Catapult, the UK Space Agency, research councils and industry partners.

Physical

• The National Space Park will be developed on the Waterside area just north of Leicester city centre, next to the River Soar and Grand Union Canal. The site is already home to the National Space Centre and presents a significant opportunity for development around this iconic building.
• The University of Leicester will relocate its Leicester Institute for Space and Earth Observation Science to the site to sit alongside the National Space Centre. The Institute will unite Leicester’s broad space research and its undergraduate and postgraduate laboratory and project teaching activities within a single, landmark building.
• The building will incorporate education and training space, shared-access R&D facilities (computing, laboratories, clean rooms, and shared work space) as well as shared meeting/leisure space and commercial/industrial office space.
• Beyond the Institute, the broader site offers an extensive opportunity to develop and grow the space and related research community for a range of uses, including manufacturing, space services, research institutes and space for expanding businesses.
Our areas of expertise include:

• **Space science:** X-ray and observational astrophysics; planetary science; radio and space plasma physics; theoretical astrophysics.

• **Earth observation:** remote sensing, atmospheric and surface science. Using satellite and terrestrial data, the University studies key challenges such as climate change, air quality and monitoring of land use and develops state-of-the-art instrumentation to enable this.

• **Space engineering:** mechanical, thermal and optical engineering; space nuclear power systems; robotic and radiation analysis, digital and analogue electronics and embedded systems.

• **Commercialising space and space-enabled activities** (spin-outs, start-ups and business support).

Delivering impact

We work in partnership with business to develop practical and commercial applications from our space research.

- Host to the National Centre for Earth Observation (NCEO) and EMBRACE. The NCEO is a research centre using satellite data to boost our understanding of the environment and to inform government policy development, and business support. EMBRACE is one of three regional centres of excellence for the Satellite Applications Catapult which helps businesses grow and improve their performance through the use of satellite data.

- Not only have our space science and engineering capabilities led to instrumentation for many key space missions, they have also been applied to challenges in unrelated areas such as health where we are using state-of-the-art imaging systems to enable early disease detection.

- We are also working with space-enabled businesses to find applications for satellite data. This includes: the remote monitoring of crops and forestry areas improving how land is managed; air quality monitoring to help improve transport routing, urban planning and general health; improving maritime surveillance, and more.

The National Space Park will create the perfect environment for the exchange of knowledge and ideas.

Why Leicester?

A distinguished record in space and Earth observation science

We have a long and distinguished record of discovery in space and Earth observation science. Every year since 1967 has seen a Leicester-built instrument operating in space.

We hold, and have held, vital roles in many space missions for space agencies including NASA, the European Space Agency (ESA), the UK Space Agency (UKSA) and ISRO (India). These include NASA/ESA James Webb Space Telescope, ESA/Rosettas, and ESA’s and EUMETSAT’s Meteosat Second Generation missions. We also lead the National Centre for Earth Observation.
Why Leicester?

Well connected

- Located at the heart of the UK.
- Trains: London St Pancras is one hour, and Paris, Brussels and Europe under five hours by train via St Pancras.
- Airports: East Midlands Airport is less than 40 minutes’ drive and Birmingham under one hour with connections to the US and other global locations.
- Motorways: four national motorways provide access through the city and county – M1, M6, M42 and M69.
- Workforce: more than one million potential employees within a 45-minute drive.

A great place to do business

- Leicester is the largest economy in the East Midlands and one of Britain’s most attractive and cost-effective places to develop, own or lease commercial property.
- Leicester has the people to make your business thrive; a highly skilled, culturally diverse and well qualified workforce, here and ready to add value to your business.
- Compared with London and many other UK cities, Leicester has a remarkably low operating cost per head.
- The £1.6 billion pound regeneration of Leicester is making our city an outstanding investment hot spot.

Home to the National Space Centre…

With an impressive 300,000 visitors a year, including 80,000 in formal school groups, the National Space Centre is a great Leicester success story.

You may know it as an exciting place to visit to discover everything you need to know about space, but it is increasingly so much more.

Within the heart of this world-class visitor attraction are two other highly successful businesses: the National Space Academy and NSC Creative. The three businesses between them employ 150 people.

The National Space Park development will include a £60m extension to the National Space Centre to house temporary exhibitions, school workshops, simulated space missions and high tech corporate event space.

Images above courtesy of the National Space Centre

John Lewis in the thriving city centre Bradgate Park