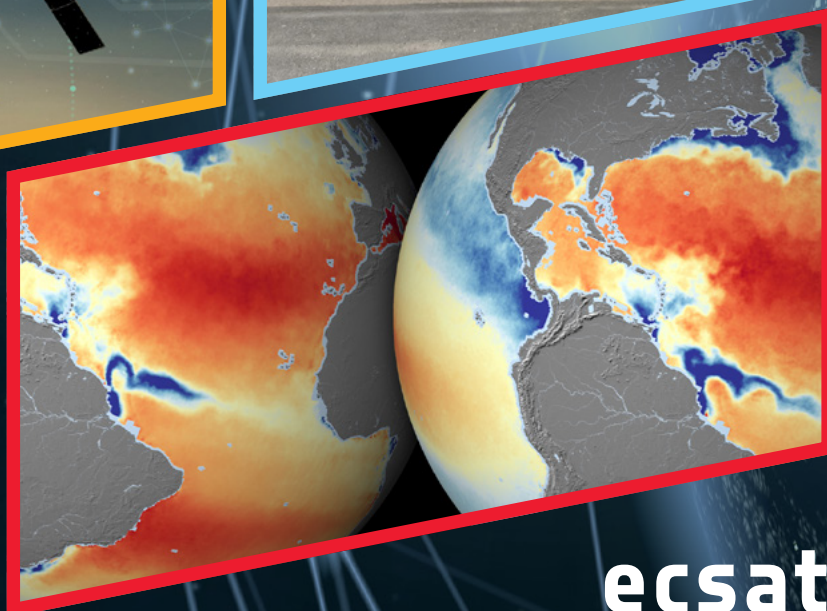
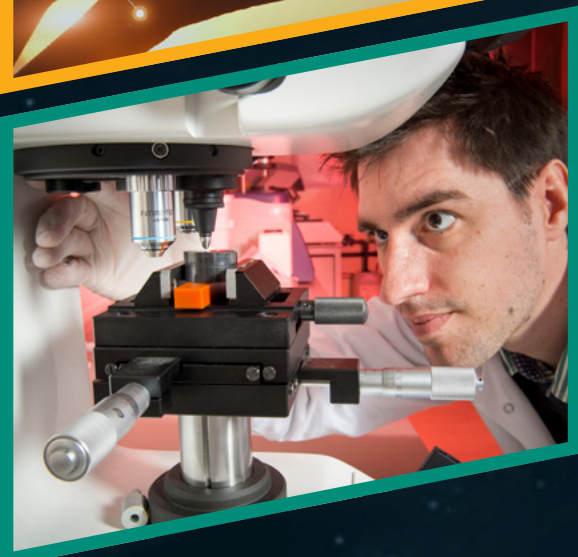




→ THE EUROPEAN SPACE AGENCY

BUILDING ON SUCCESS PREPARING OUR FUTURE



ecsat
SPACE FOR LIFE

OUR PLAN FOR ECSAT

The home of the European Centre for Space Applications and Telecommunications (ECSAT) at Harwell is in the Roy Gibson building, named in honour of the first Director General of ESA – a true pioneer of European space. In his spirit, ECSAT's first ten years have laid the foundation for the innovation, growth and everyday Earth benefits that will flow from the future work of the European Space Agency (ESA) in partnership with UK industry, universities and research organisations.

Together, ESA and the UK Space Agency are aiming to strengthen ECSAT and expand its responsibilities in the future. The joint project team will continue to refine the ideas introduced here as we prepare the milestones leading up to the ESA Council Meeting at Ministerial level in 2025.

- We reiterate the central role of ECSAT in leading ESA's commercial applications and telecommunications programmes.
- We will work alongside the national authorities in the UK to ensure that ECSAT is an attractive home for ESA's workforce today and tomorrow.
- We will build deeper links between ECSAT and the Harwell campus in order to strengthen ESA's work for the benefit of all Member States.
- We will seek ways to share ideas, knowledge and people.
- We will explore further collaboration between ESA and the UK's world-class universities and industry
- We will build on existing actions to enhance the role of ECSAT in preparing the next generation for productive careers in the space sector.

Our shared ambition is to see ECSAT grow to a workforce of at least 200 before the end of the decade.

Above all, we pledge our energy and creativity in making our vision a reality.



Laurent Jaffart
Director of Connectivity
and Secure Communications
ECSAT Head of Establishment



Paul Bate
Chief Executive
UK Space Agency

10 YEARS OF SUCCESS

ESA's European Centre for Space Applications and Telecommunications (ECSAT) was born out of a shared vision of the European Space Agency and the UK Space Agency: to bring space down to Earth and accelerate its use in everyday life.

Since its foundation stone was laid in December 2013, ECSAT's motivated, multi-skilled team of more than 100 space professionals have been dedicated to this vision.

ECSAT HAS ALREADY:

- Invested over €1 billion in new technologies and services for the biggest markets for space – satellite telecommunications and applications
- Helped dozens of small businesses develop practical uses for satellite data in agriculture, energy, transport and other vital areas of the economy
- Supported 40 projects involving 600 scientists from 200 institutions in 20 Member States to understand and respond to the climate crisis using the satellites that monitor Planet Earth 24/7
- Refined new materials and manufacturing techniques for use in future generations of European spacecraft
- Enabled bright, young minds to investigate novel technologies for the future of space exploration.

SATELLITE TELECOMMUNICATIONS AND APPLICATIONS

DELIVERED

1000+

telecoms technology and applications

CONTRACTS since

2016

REAL WORLD IMPACT



With the support of ESA and the UK Space Agency, Cardiff-based **Excelerate Technology** and its consortium are working with the NHS to create a prototype digital, connected ambulance

CLIMATE CHANGE RESEARCH AND ANALYSIS

ESA's Climate Change Initiative (CCI) has:

GENERATED

1300+

SCIENTIFIC PAPERS

INFORMED over half of the

ESSENTIAL CLIMATE VARIABLES (ECVs)

used to CHARACTERISE THE CLIMATE

TRAINED

40

professionals in 9 MEMBER STATES

REAL WORLD IMPACT



85 of 99 headline statements in the latest (6th) IPCC Assessment Report on the state of the global climate supported by CCI's work

ESA UK BUSINESS INCUBATOR

Since 2010, the ESA Business Incubator network in the UK has:

SUPPORTED

140

Start-ups with SUCCESS RATE **95%**

SECURED

€200M

EQUITY INVESTMENT

CREATED

~1000

HIGHLY SKILLED JOBS

REAL WORLD IMPACT



ESA BIC alumnus Open Cosmos raised **50M\$** of private investment and has secured a **60M€** seven satellite deal for the Greek government

TECHNOLOGY ADVANCEMENT

The ESA/RAL Space Advanced Manufacturing Laboratory has:

COMPLETED over **100**

actions in support of EUROPEAN PROJECTS AND INDUSTRY

REPORTED RESULTS in

15

CONFERENCE PAPERS

REAL WORLD IMPACT



New analyses of friction stir welding techniques for spacecraft propellant tanks is **saving money and mass** for future missions

ECSAT TODAY

ECSAT is located at Harwell – within the UK's largest science and technology campus, nestled in the beautiful South Oxfordshire countryside.

The Campus is constantly growing and will soon have **7500 people on site**. It is the home of the Rosalind Franklin Institute, developing novel medical technologies; Moderna's Innovation and Technology Centre, pioneering messenger RNA (mRNA) therapeutics and vaccines; and 80 organisations working in energy technology.

ECSAT is at the heart of the Harwell Space Cluster, comprising more than 100 space organisations and facilities ranging from start-ups to global prime contractors.

The UK Space Agency has opened its new headquarters in the Quad Two building, near unique UK organisations and facilities including RAL Space, the National Satellite Test Facility and the Satellite Applications Catapult.

ECSAT's new Magali Vaissiere Conference Centre – named after ECSAT's first Director – accommodates **up to 300 delegates** and is now the go-to location for major Campus events.

The centre's new restaurant and café are open to all and help fuel the ECSAT team, which is already **140 strong and aiming to grow!**



ECSAT TOMORROW

Globally, **the space sector is continuing to expand faster than the economy as a whole**. New technologies, applications and programmes must be developed - and more quickly - to ensure that Europe remains competitive. Both ESA and the UK Space Agency agree that ECSAT has yet to reach its full potential in supporting this future growth.

With room to expand in its existing building, and exciting ideas under discussion regarding further development at Harwell, we are working together to plan the next ten years of ECSAT. Our vision is based on three interlinked lines of action.

- **Reinforcing the current work of ECSAT** – including our 5G/6G Hub, created in partnership with the UK Space Agency – with a special focus on satellite telecommunications, including direct-to-device technologies as well as wider commercial applications of satellite services.
- Building on these activities by **expanding ECSAT's remit** to include programmes and facilities needed for the future, potentially establishing ECSAT as the ESA hub for **agile multi-disciplinary, multi-directorate innovation**.

- Better leveraging the unique environment of the Harwell Science and Innovation Campus and the wider UK research, technology and financial eco-systems for the **benefit of all ESA Member States**.

To turn this vision into reality, the joint team is exploring possible future areas of focus for the Centre. Ideas include:

- A multi-disciplinary innovation **'Ideas Factory'**
- A **space quantum technologies laboratory**
- **Strengthening links** with the UK investment community in the City of London
- **Advanced space technologies**
- Activities related to **In-Orbit Servicing, Assembly and Manufacturing (IOSAM)**.

A team is already being created to manage **ESA's Moonlight project** - a satellite constellation providing communications and navigation services for the new era of lunar exploration.





→ THE EUROPEAN SPACE AGENCY

ESA is Europe's gateway to space. Its mission is to shape the development of Europe's space capability and ensure that investment in space delivers benefits to the citizens of Europe and the world.

ESA has 22 Member States, several associated Member States and a long-standing cooperation agreement with Canada. ESA works closely with space organisations worldwide.

ESA is active across every area of the space sector and designs and implements the European space programme through close collaboration with national space agencies and hundreds of public and private organisations. We:

- use satellites **to understand the Earth and its changing climate**
- study the **mysteries of the Universe past, present and future**
- **explore our Solar System** with robots and astronauts
- **develop satellite-based technologies** and services used by everyone, every day
- guarantee **Europe's access to space** using European launchers
- drive the **competitiveness** of Europe's space industries in **global markets**.

By coordinating the resources of its members, ESA can undertake programmes and activities far beyond the scope of any single European country.

"The purpose of the Agency shall be to provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications, with a view to their being used for scientific purposes and for operational space applications systems."

Article II, Purpose, Convention for the Establishment of a European Space Agency

At the **UK Space Agency** we boost UK prosperity, **understand the Universe, and protect our planet and outer space.**

We play a major role in delivering the UK government's priorities for space. **We nurture a thriving space ecosystem** – a network of investors, scientists, engineers, integrators, academia, and research labs – and a sector that generates an annual income of £17.5 billion and employs nearly 50,000 people across the country.

We are a founding member of ESA – an organisation which continues to offer a close multilateral partnership for the UK for civil science, exploration, climate monitoring, and technical collaboration. ESA brings space actors together; it provides a unique platform for sharing knowledge, technical expertise, and resources to achieve shared goals while amplifying our voice within global space endeavours.

As the home of ECSAT, **we help deliver ESA programmes** that support the UK's civil and economic interests. We have:

- **helped build the 5G/6G Hub at ECSAT** as part of the Advanced Research in Telecommunications Systems (ARTES) programme
- become the **largest contributor to the Business Applications and Space Solutions (BASS)** programme, ensuring UK businesses remain at the forefront of the exploitation of space data and space assets
- **bolstered the ScaleUp programme** through funding for ESA's Business Incubation Centre (BIC) UK, helping 140+ UK startups raise over £200m in equity investment
- **supported ESA's Vulcan Facility** through E3P, helping to enable a long-term human and robotic presence in deep space
- contributed to the development of global, space-based data records through **ESA's Climate Change Initiative (CCI)**, a programme that monitors the planet in partnership with the UK climate science and modelling community.

