ECSAT (European Centre for Space Applications and Telecommunications) is the European Space Agency’s centre in the UK. With a commercially driven ethos, it supports European and Canadian industry in developing commercial satcom products and services, downstream applications and the ‘spin-out’ of space into non-space sectors.

It is also the home of ESA’s Climate Office and has units dedicated to space exploration and technology development, one of which oversees the ESA–RAL Advanced Manufacturing Laboratory.

ACTIVITIES AT ECSAT

The Telecommunications and Integrated Applications directorate focuses on boosting innovation to keep European and Canadian industry at the leading edge of the highly competitive global market for satellite communications and applications.

ECSAT is the headquarters of ESA’s programme of Advanced Research in Telecommunications Systems (ARTES), with staff from all departments collaborating with their colleagues at ESA’s technical heart, ESTEC, in the Netherlands.

In addition to support for the development of satellite communications products, emphasis is put on the development of new satellite-based services and applications for a wide range of down-to-earth markets.

Furthermore, new satellite, ground infrastructure and product developments are initiated through public–private partnerships with world-class satellite operators, with some of the resulting projects being run at ECSAT.
The Earth Observation Climate Office manages the Climate Change Initiative programme, which develops Essential Climate Variable datasets. This supports the United Nations Framework Convention on Climate Change process by furthering our understanding of Earth’s climate and contributing to the global observing system. It engages external parties in use of the datasets, and liaises with international climate research communities and programmes on their user needs for climate data from space.

Exploration activities at ECSAT include the Harwell Robotics and Autonomy Facility (HRAF) initiative, a Curation Facility working with analogue samples in preparation for the eventual reception, handling and curation of extraterrestrial material, and the development and exploitation of exploration technologies. This includes concepts at low technology readiness levels and those with potential for non-space application.

Technology and Quality Management support ESA’s Technology Research and General Support Technology Programmes in the UK. Special attention is given to seeking out cross cutting and game-changing technologies and approaches, which is exemplified by the ESA–RAL Advanced Manufacturing Laboratory.

PARTNERSHIP
ECSAT is located on Harwell Campus in Oxfordshire, a world-leading centre of scientific research and its commercialisation, which is also designated as the UK’s Space Gateway. ECSAT cooperates closely with the other public and private entities on campus, benefiting from the cluster of 70 space-related organisations and acting as a gateway between the UK space sector and the rest of the European and global space industry.

The ESA Business Incubation Centre at Harwell completes ESA’s presence on the campus, assisting new companies with developing ideas and technologies into viable businesses.