UK Space Agency

United Kingdom

UK Strategic Investments in Exploration

ESA: UKSA's primary Exploration Partner
£2.8 billion total investment over the next decade, focusing primarily on delivering the Rosalind Franklin mission & Argonaut-1.

Strong Domestic R&D and Technology Pipeline

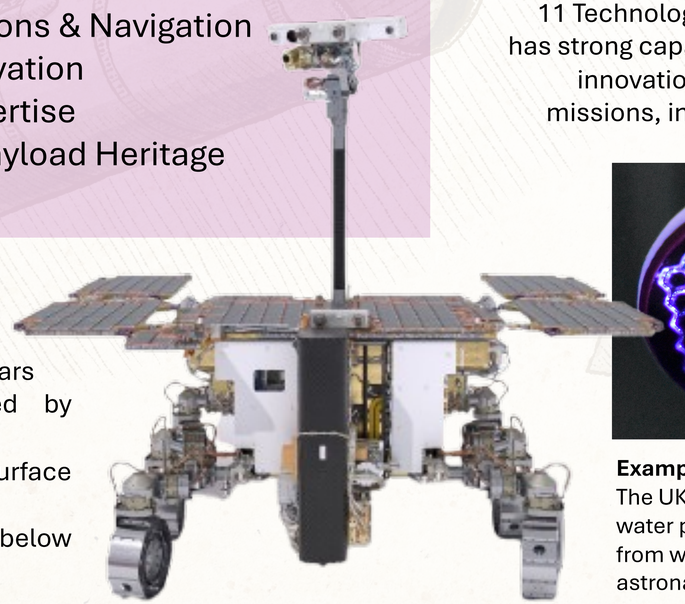
Bilateral and Global Collaboration
Targeted international partnerships

UK Key Capabilities in Space Exploration

- Propulsion & Test Infrastructure – e.g., Wescott
- Robotics & Autonomy Excellence – e.g., Airbus and RAL
- Space Communications & Navigation
- ISRU & Nuclear Innovation
- Strong scientific expertise
- Instrumentation & Payload Heritage

Exo-Mars Rosalind Franklin Rover

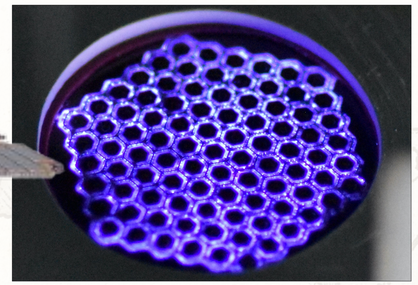
- Searching for past life on Mars
- Designed and assembled by Airbus UK
- Launching to the Martian surface in 2028
- First rover to drill to 2m below Martian surface



Examples of UK Contributions to International Missions

ExoMars Rosalind Franklin Rover - Rover and instrumentation: PanCam, Enfys, Raman.
ESA Argonaut Lander - Argonaut descent engine through Nammo UK & propulsion subsystems by TAS-UK.
Gateway - UK contributions to I-HAB and ESPRIT modules, enabling habitation, refuelling and communications in lunar orbit. UK radiation instrumentation.
Lunar Pathfinder - SSTL delivering Europe's first dedicated lunar communications spacecraft.
Moonlight - UK industry shaping future lunar navigation and comms services for global users.
Artemis II and III – Goonhilly and Geology team

The Agency's Space Exploration Technology Roadmap
Available online, the roadmap outlines 11 Technology Themes where the UK has strong capabilities for cutting-edge innovations for space exploration missions, including ISRU & Nuclear.



Example tech: Plasma Micro-bubble Water (PMW) Reactor
The UKSA supported development of the University of Southampton's plasma water purification system aims to remove biological and chemical contaminants from water extracted from the Martian surface, enabling its safe use for astronauts.

The UK National Propulsion Test Facility at Westcott Venture Park in Buckinghamshire. Credit: STFC RAL Space.

UK's Exploration Capabilities

Lunar and Mars Surface Systems: Landers, mobility, comms and power solutions to support long-duration missions.

Human–Robotic Integration: Developing technologies that enable safe, efficient crewed operations on the Moon and Mars.

Technology Maturation: Advancing TRLs across the 11 Technology Themes identified in the UK Exploration Technology Roadmap.

Commercial Growth & Partnerships: Expanding UK industry's role in global exploration supply chains and mission architectures.

Scientific instrumentation and collaboration: Building on existing expertise to further scientific understanding across biological, physical and planetary sciences.