

## Item 14: UK Statement on Space Exploration and Innovation

Chair,

The UK has a long history of space exploration. We are a founding member of the European Space Agency and pursue space exploration through a combination of international cooperation and national investments.

Our Exploration programme is primarily science-driven. Exploring space, whether with humans or robots, opens new sites of scientific enquiry. Research enabled by Exploration missions expands our knowledge of the Universe and can address some of the most fundamental questions humankind faces.

The challenges of space exploration also drive innovation and cooperation. The UK seeks to maximise the socio-economic benefits created by the development of new technologies, and to use our shared goals to foster international relations.

The UK celebrates the success of Artemis 1 in November last year and looks forward to collaborating with the US in a new and sustained programme of human exploration to the Moon.

Chair,

The UK is a major contributor to the European Space Agency's Rosalind Franklin mission. The rover was built by UK engineers and will conduct unprecedented scientific investigations on the surface of Mars. Its drill will go far deeper than any previous instrument on Mars, enhancing our understanding of whether life ever could have existed on Mars.

The next priority for Mars exploration is delivering samples for analysis on Earth. Through membership of ESA, the UK will participate in Mars Sample Return. UK scientists are world leading in this field, and have expertise in the analysis, handling and curation of samples.

British astronaut Rosemary Coogan was recently selected to join the European Astronaut Corps and is expected to fly on the International Space Station in the coming years. The UK will build on the success of its previous *Principia* campaign, which engaged over 2million schoolchildren in the UK, to maximise the scientific and educational outcomes. Another Briton, John McFall, is the world's first astronaut with a physical disability and is taking part in a Feasibility Project with the European Space Agency, which is paving the way for a future flight.

A critical enabler of all future exploration will be reliable, long duration power sources. The UK is developing Radioisotope Power Systems with the European ENDURE programme. Americium-241 fuel extracted from the UK's civil nuclear stockpile will be used to power new UK-built radioisotope power systems. These will enable operations to survive the Lunar night, and can power exploration in permanently shaded regions of the Moon or more distant destinations where Solar power is not sufficient. In parallel, we are supporting studies for small nuclear reactors in space, which could have a transformative effect on space exploration.

Our industry is also applying its expertise in telecommunications and navigation to the challenges of Lunar exploration. Lunar Pathfinder will be the world's first dedicated lunar communications relay spacecraft when it launches in 2024. The Moonlight programme will follow this, building a constellation of satellites around the Moon, providing a critical infrastructure for both institutional and commercial users. There are great advantages in establishing a shared infrastructure to reduce costs and maximise the efficiency of Moon missions; this model may be adapted for Mars in coming decades.

Space Exploration has the power to create new knowledge; develop new technologies; grow our economies and inspire humanity. The UK will work with international partners in pursuit of these goals for the benefit of all.