

# Rolls-Royce working on equipment to generate water, oxygen and fuel for future space missions

Scientists at Rolls-Royce are working on technology that could one day be used to power the creation of water and oxygen in space.

The engineering giant, which is [headquartered in Derby](#), is among a number of UK developers working on the next generation of tech which could pave the way for longer human space missions as well as bases on the Moon and Mars.

Announcing a £2 million boost for 13 new projects during British Science Week, the Government said [Rolls-Royce](#) was developing “space reactor” technology using its 60-years of expertise in nuclear technology.

The government said: “The high-power Space Reactor will accelerate human exploration of the Moon, Mars and beyond, providing continuity of power for critical operations.

“Additionally, the technology will power the generation of water, breathable oxygen and rocket fuels from human lunar and Martian exploration missions.”

The University of Leicester will also be receiving £50,000 in funding to develop a power modules as a precursor to more Leicester-led projects in future years.

Other UK companies are working on creating a robot to hunt for oxygen and water in lunar rocks – as part of the search for extra-terrestrial life – and on tackling the delay in communication between Earth and Mars.

While another is looking at technology that can withstand the high radiation levels on the red planet.

The UK is also supporting international efforts to return humans to the Moon, by constructing parts of the Lunar Gateway – a new space station that will orbit the Moon and support human and robotic expeditions to the lunar surface.

Science minister George Freeman said: “In addition to discovery breakthroughs, these projects will also ensure that people here on Earth benefit from new technology, including micro-reactor technology with the potential to support our net zero commitments.”

Abi Clayton, future programmes director at Rolls-Royce said: “The support of the UK Space Agency has been instrumental in enabling the continued progress of the Rolls-Royce Micro-Reactor development programme.

“This shows the true value of public and private partnership as we bring together the space domain experience of the UK Space Agency with our own unique nuclear expertise.

“Together we can achieve ambitious technological firsts for the UK as we develop the power systems of the future.”

The UK has invested £180 million over five years in the European Space Agency’s global exploration programme.

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