



Artists' impression of space-based laser power (credit Shutterstock)

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Northumbria University and Lockheed Martin join forces to unlock the future of space-based solar power

As part of British Science Week, [Lockheed Martin](#) has announced an investment of £150,000 to Northumbria University in a project that aims to accelerate the delivery of space-based solar power.

Combining science and technology, the project will use specialised photovoltaic cells that will collect and convert laser power into useable power for future space and lunar vehicles.

With this year's [British Science Week](#) theme being 'connection', this technology has future applications that could include space-based solar power, that could deliver a consistent source of clean energy in all weather conditions and at all times of day. By harvesting the Sun's energy, this new form of solar power could potentially beam electricity wirelessly from space to Earth, bringing a new source of zero carbon power to connect homes and businesses without the need for large amounts of land-based infrastructure.

[Paul Livingston](#), Chief Executive of Lockheed Martin UK, said, "Our collaboration with Northumbria University will advance the use of space-based solar power for satellites, space vehicles and potentially useable power back on earth. We are delighted to be helping grow the North East's space economy and the overall industrial capacity and resilience of the UK's space and manufacturing sectors."

The collaboration follows years of successful experiments by Lockheed Martin into laser-based systems and builds on the business' existing relationship with Northumbria University.

This new project is an extension of the [partnership announced last year](#), which has seen Lockheed Martin invest over £600,000 to support the development of skills, research and technology across the North East.

[Professor John Woodward](#), Faculty Pro Vice-Chancellor for Engineering and Environment, Northumbria University, added "Northumbria University is a UK front-runner in research into photovoltaics and solar energy and our reputation for world-leading research in space and satellite technologies has grown exponentially in recent years. This exciting project with Lockheed Martin combines these areas of excellence and will enable us to innovate further to find new ways to generate and store renewable energy."

Northumbria University's [Solar and Space researchers](#) work to understand the physics of the Sun and all aspects of the solar-terrestrial connection to improve space weather forecasting. They are also improving satellite technology – to better protect and utilise humanity's use of space – including hosting a state-of-the-art Space Technology Laboratory, training the next-generation of space-related engineers and instrument teams.

They demonstrate international leadership across theory, numerical modelling, observations of solar and space plasma, data intensive science,

and space-related hardware and collaborate extensively with partners including UK Research and Innovation, the [UK Space Agency](#), the [European Space Agency](#), the [UK Met Office](#), and over 40 industrial partners.

As part of Lockheed Martin's commitment to raise awareness and celebrate science, engineering and technology across a wider target audience, the company recently hosted an event for the SME community at the Discovery Museum in Newcastle. As well as this, Lockheed Martin brought together supply chain representatives at the Skills and Supplier Summit in Tyneside as has launched Team Athena's space camp in Newcastle, equipping the next generation with the skills required for thriving careers in the space and technology industry.

UNIVERSITY OF THE YEAR 2022 (Times Higher Education Awards)

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