

STFC's space expertise assists broccoli-farming robot

Earth Rover's autonomous robot system technology takes care of high value organic vegetables, such as broccoli, by tracking the growth and health of crops using data collection and satellite navigation. Designed to reduce labour costs and food waste, the technology seeks to improve efficiencies and sustainability in farming production methods.

The Challenge

When first seeking help from the Science and Technology Facilities Council, the Earth Rover founders were agricultural technology researchers looking for advice on how to commercialise their laser weeding technology. Seeking the funding to start their first company, known as Weedrobot, the budding entrepreneurs first turned to the European Space Agency's Business Incubation Centre United Kingdom (ESA BIC UK), managed by STFC.

The Solution

- £41,500 incentive funding from ESA BIC UK
- Technological and business support through ESA BIC UK
- Networking opportunities
- R&D support from STFC RAL Space's autonomous systems group
- Technology license agreement through STFC Innovations

The Benefits

The entrepreneurs used £41,500 incentive funding from ESA BIC UK to develop their first prototype. Through the strong space network surrounding STFC's Rutherford Appleton Laboratory on Harwell Campus, the team met a number of people to collaborate with, including STFC RAL Space's autonomous systems group who were, at the time, testing the Mars Rover. This timely collaboration facilitated a pivot for the team: to focus its efforts on developing Weedrobot's laser weeding technology for a rover for Earth. This led to the spin-out of the team's second company, Earth Rover, from Weedrobot.

Through the ESA BIC UK networking events, the entrepreneurs met a robot agriculture systems professor, whom they employed to head up the Earth Rover company. With STFC being the European Space Agency's Innovation Partner for the UK, Earth Rover was also supported with a technology license agreement through STFC's innovation team.

STFC's technology and support enabled Earth Rover to leverage venture capital funding and subsequently grow its team from 2 to 8 employees. The team has since spun out another company, Conformal Innovations, to focus on the laser beam shaping technology developed through Weedrobot, and has, alongside STFC, licensed its agritech robot hardware platform to be an open source platform for other researchers and entrepreneurs to utilise and improve.



EARTH ROVER

"Working with STFC and ESA BIC UK gave us a real sense of momentum to have all the initial resources at our fingertips. The network around us provided fantastic access to expertise and technologies, and really helped to develop our company to where it is today."

James Arthur, Earth Rover

Image credit: Earth Rover

About us

Science and Technology Facilities Council offers entrepreneurs, start-ups, SME's and corporates the facilities, environment and people needed to de-risk innovation and accelerate business growth.

Through access to large-scale science facilities, complementary technologies and IP, and a flourishing network of science and industry experts, companies become part of a collaborative innovation ecosystem.

From securing funding, to carrying out product development and finding solutions to key industrial challenges, STFC helps high-tech businesses in many sectors, from space to health technology, to thrive.

Find out more:

Email: innovations@stfc.ac.uk Twitter: [@STFC_B2B](https://twitter.com/STFC_B2B)

Bridging the gap between pioneering science and business