Fieldwork Robotics completes initial field trials of raspberry harvesting robot system

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Fieldwork Robotics will use data from the trials to refine and improve its prototype system. Credit: University of Plymouth

University of Plymouth spinout company Fieldwork Robotics has completed initial field trials of its robot raspberry harvesting system.

The tests took place at a West Sussex farm owned by Fieldwork's industry partner, leading UK soft-fruit grower Hall Hunter Partnership, which supplies Marks & Spencer, Tesco and Waitrose.

Data from the trials will be used to refine and improve the prototype system before further field trials are held later this year. If they are successful, manufacturing of a commercial system is expected to begin in 2020.

Fieldwork Robotics was incorporated to develop and commercialize the work of Dr. Martin Stoelen, Lecturer in Robotics at the University's School of Computing, Electronics and Mathematics. He said:

"Starting the field testing at Hall Hunter Partnership is a major milestone for us, and will give us invaluable feedback to keep developing the system towards commercialization, as part of our Innovate UK funding. I am very proud of the achievements of the team, at Fieldwork Robotics Ltd and across my different research projects on robotic harvesting here at the University of Plymouth."

Farmers around the world are increasingly interested in robot technology to address the long-term structural decline in labor.

Fieldwork is focusing initially on raspberries because they are hard to pick, are more delicate and easily damaged than other soft fruits, and grow on bushes with complex foliage and berry distribution.

Once the system is proved to work with raspberries, it can be adapted readily for other soft fruits and vegetables, with the same researchers also developing proof-of-concept robots for other crops following interest from leading agribusinesses.

Hall Hunter Partnership Chief Operating Officer David Green said:

"As has always been the case, for agricultural and horticultural businesses such as ours to stay competitive in developed economies, we must embrace and invest in the latest technological innovations as they

evolve. At HHP we foresee that the direct application of robotics platforms for harvest and husbandry activities, combined with the spin-off benefits of additional data collection and microanalysis they make possible will play a significant role in increasing product quality, productivity and yields in the near to medium term."

Earlier this year, Fieldwork—and partners including the University of Plymouth and the National Physical Laboratory—was awarded a £547,250 Innovate UK grant to develop a multi-armed robot prototype.

Dr. Stoelen is also leading a project to develop robot systems to harvest cauliflowers, supported by Agri-Tech Cornwall, an initiative part funded by the European Regional Development Fund with match-funding from Cornwall Council. He is also working on a tomato-picking project run in partnership with Shanghai Jiao Tong University.

Frontier IP holds a 27.5 percent stake in the company, and provides Fieldwork with support for engineering and software development, fundraising and industry partnerships. Its Chief Executive Officer Neil Crabb said:

"We are delighted with the progress Fieldwork is making in developing a raspberry-harvesting robot system. Completing these field trials is an important milestone in commercializing the technology, and we are looking forward to the next round of tests in the autumn."

Provided by University of Plymouth