

# Innovate UK

**Results of Competition: Satellites to improve Agri-food systems - CRD**

**Competition Code: 1511\_CRD\_SAT\_AGRISATFOO**

**Total available funding for this competition was £3,175,000 from Innovate UK**

**Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.**

Participant organisation names	Project title	Proposed project costs	Proposed project grant
AgSpace Agriculture Ltd Cranfield University The James Hutton Institute Courtyard Agriculture Ltd Agri-EPI Centre Ltd	Precision soil mapping	£744,665	£457,160
<b>Project description - provided by applicants</b>			
<p>The benefits of precision farming (PF) - dividing land into management zones according to soil characteristics -has been proven to yield better results when compared to conventional farming. The perceived high entry cost into PF has long been a barrier to entry for some smaller arable farmers. This project aims to make the financial entry into PF more affordable whilst not compromising on the high resolution data required to produce meaningful soil management zones. This large-scale collaborative project aims to integrate satellite data with the UK's most comprehensive soil datasets to produce a 'precision soil map'. The resultant map would present an economically viable alternative to the current labour intensive methodology of soil surveying and represents a very exciting opportunity for arable and vegetable farming to embrace precision farming. Growers will be able to increase yields with lower input costs and reduced environmental impact.</p>			

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VTOL Technologies Ltd Harper Adams University Micron Sprayers Ltd Bayer PLC Rockwell Collins UK Ltd	VTOL Crop-Sprayer	£1,257,737	£586,721
<b>Project description - provided by applicants</b>			
<p>This project will develop a precision crop-spraying 'drone' system initially targeted at the UK market, securing both HSE and CAA compliance, but with global market reach and market opportunity. The crop-spraying 'drone' will be based around VTOL Technologies VTOL Flying Wing patented 'drone' platform whose unique Flying Wing feature will provide the 'tank' for the chemical containment, delivering crop-spraying systems that are perfectly adapted to the different UK geographic constraints and UK agriculture. Such a system, would substantially reduce precision crop-spraying costs, improve crop-spray quality when compared against person crop sprayers and enabled improved point-location spraying when compared against current farm machinery methods or manned aerial crop-sprayers. Leading UK developed emerging sub-system technologies will be used to provide the advanced capabilities needed for this unique, potentially disruptive system. The eventual system will be a breakthrough in the industry and provide a platform for new high-technology jobs in the UK with great potential for substantial exports particularly in Europe and North America.</p>			

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Rezatec Ltd University of Reading	Monitoring and prediction of pasture quality and productivity from satellites	£692,483	£416,516
<b>Project description - provided by applicants</b>			
Grassland is the dominant land use in the UK and throughout the world. No other habitat is as agriculturally useful to humans, providing food for ruminants (e.g. cattle and sheep), as well as numerous other benefits (e.g. hosting diverse grass and plant species that attract bees). Grazed grass is one of the cheapest feeds on most British dairy farms, yet the most poorly utilised. This project executed by University of Reading and Rezatec Ltd provides grassland farmers with a management tool that uses the latest information gathered by satellite sensors, combined with mathematical models that calculate (grazed) grass crop behaviour. Together they allow for assessment and near-future prediction of grassland status, in terms of productivity, quality, and plant species composition. This will inform the farmer and advisors how to better manage their pastures, especially in terms of grazing and cutting, agrochemical application, and which pasture plant mixtures potentially deliver the greatest benefits to ecosystem services such as pollination. The project outcomes have the potential to significantly improve productivity and competitiveness for dairy farming businesses in the UK and beyond.			

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Ecometrica Ltd Environment Systems Ltd Rothamsted Research Limited	Advancing EO Applications in Agriculture	£748,018	£459,228
<b>Project description - provided by applicants</b>			
A 2 year, collaborative R&D investment by Ecometrica, Envsys and Rothamsted Research aims to develop initial wall-to-wall applications of Sentinel Earth Observation (EO) derived information products for environmental compliance and productivity monitoring in agriculture. Innovation is needed to develop the processing methods, calibration / validation processes and demonstration applications that be scaled-up to run across large areas on a continual basis, producing actionable content to be used by national agencies and businesses. The project will make use of a new Earth Observation data management facility (EO Lab) being established at Agrimetrics and will be an early demonstrator of how content management systems can be used to manage IP and realise commercial opportunities for agricultural information services in UK and export markets.			

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