

## Agri Tech projects

### Region – London and South East

Title	Summary	Where	Grant	Partners
The use of GPS tracking to improve productivity of grazing dairy cows.	To encourage farmers to keep their cows grazing outdoors, by developing a system that monitors cows' grazing behaviour and automatically opens gates to new pasture when the cows want more food.	Harpenden Hertfordshire	£233,286	Chalcombe, HOOFPRIENTS TECHNOLOGIES LTD, PRECISION GRAZING LTD, Rothamsted Research, WD FARMERS
Systems of leading vertical farming technologies	Vertical farming (growing produce in stacked levels indoors) is an exciting new technology. This project will help develop new vertical farming systems by combining different technologies to optimize growing conditions.	London	£990,856	LIBERTY PRODUCE LIMITED, CROP HEALTH AND PROTECTION LIMITED, ECH ENGINEERING LIMITED, FOTENIX LIMITED, GROW BRISTOL CIC, GROWING UNDERGROUND LTD, GROWSTACK LTD, GROWUP URBAN FARMS LTD., ICENI LABS LIMITED, Inanovate, STC RESEARCH FOUNDATION
A fleet of autonomous multi modal soft fruit robots	The First Fleet – world's first autonomous multi modal soft fruit robots will carry out a wide variety of	London	£1,242,623	SAGA ROBOTICS LIMITED, BERRY GARDENS GROWERS LIMITED, FOTENIX

	tasks in the field. The system will transform robotic strawberry production from the laboratory bench to a commercially relevant system.			LIMITED, University of Lincoln
Blueberry harvester robot	Feasibility study to develop a blueberry harvester' will look to create an autonomous blueberry picking robot	Tonbridge, Kent	£105,435	BERRY GARDENS LTD, Lutton Farm Partnership (grower); University of Lincoln
Plant environment monitoring	Project to to understand environmental factors controlling production in cherry and blueberry plants – both plants can suffer unpredictable yield loss of up to 80% depending on the season.	Tonbridge, Kent,	£495,794	BERRY GARDENS GROWERS LTD, Castleton Farm (producer); James Huton Ltd; Mothive Ltd (agritech company); Thomas Thompson (Blairgowrie) Ltd (packer)

## Region – North West

<p>New diagnostic tests illness for the dairy industry.</p>	<p>RapiPath aims to develop hardware and software to collate and share diagnostic results. It is hoped that animal health and welfare will be improved and farm productivity maximized.</p>	<p>Ripon, North Yorkshire</p>	<p>£530,520</p>	<p>RAFT SOLUTIONS LIMITED, CIELIVESTOCK LIMITED, FERA SCIENCE LIMITED, OPTISENSE LIMITED, QUALITY MILK MANAGEMENT SERVICES LIMITED</p>
<p>Vertical Farming Systems</p>	<p>“AGROVerSe” will develop small scale ‘growth chambers’ which operate like mini glass houses. These growth chambers will allow large vertical farms to carry out low-cost tests to identify plant growth conditions for maximum crop quality and yield.</p>	<p>Sheffield</p>	<p>£447,425</p>	<p>GROBOTIC SYSTEMS LIMITED, FRAUNHOFER UK RESEARCH LIMITED, STOCKBRIDGE TECHNOLOGY CENTRE LIMITED, University of Sheffield</p>
<p>Totally autonomous Farm</p>	<p>Hands Free Farm’ will seek to operate a farm autonomously, developing robotic skills, smart machines and evaluation technology development that can utilize compact farm</p>	<p>Beningbrough, York</p>	<p>£1,577,964</p>	<p>PRECISION DECISIONS LIMITED, AGRI-EPI CENTRE LIMITED, FARMSCAN AG LIMITED, Harper Adams University, N Blacker &amp; Son</p>

	equipment to demonstrate the benefit of smaller and more precise machines to agriculture.			
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### Region – South West

Big data system for beef cattle supply chain.	To help farmers and processors optimize production and animal health.	Stonehouse, Glos.	£1,277,589	HALL MARK MEAT HYGIENE LIMITED, AGRI-EPI CENTRE LIMITED, DAVID RITCHIE (IMPLEMENTS) LIMITED, HARBRO LIMITED, HECTARE AGRITECH LIMITED, INNOVENT TECHNOLOGY LIMITED, NPL MANAGEMENT LIMITED, RANDALL PARKER FOODS LIMITED, SCOTBEEF LIMITED, SRUC
Cattle welfare project	Will refine an automatic system for early identification of important diseases in dairy cattle. Detecting disease early increases cow welfare and improves productivity.	Porton Down, Wilts.	£312,461	CLARITY BIOSOLUTIONS LIMITED, DAVLEC LIMITED, RAFT SOLUTIONS LIMITED

<p>Robot Raspberry Harvester</p>	<p>Aims to develop a prototype robot able to pick raspberries faster, cheaper and to more consistent and higher standards than human labour. The plan is to create a system that is easily reconfigurable to other fruit varieties, vegetables and delicate objects.</p>	<p>Plymouth</p>	<p>£507,309</p>	<p>FIELDWORK ROBOTICS LTD, NPL Management (RTO); University of Plymouth</p>
<p>Vertical farming</p>	<p>Vertical farming 2.0' will combine innovative irrigation and lighting technologies in a large scale farm operation to increase productivity, quality and sustainability of the vertical farming</p>	<p>Bristol</p>	<p>£488,981</p>	<p>LETTUS GROW LTD, ECH Engineering Ltd; Grow Bristol CIC</p>

## Region – Midlands

Tech to increase fruit crop	'Blue Planet' will develop an automated technology incorporating machine vision systems to improve crop yield of soft fruit and increase the quality for consumers	Hereford	£716,905	S & A PRODUCE (UK) LIMITED, CAPTURE AUTOMATION LIMITED, Manufacturing Technology Centre
Improving bovine in vitro embryo production	The innovations developed will increase embryo production efficiency and lead to higher pregnancy rates following transfer. This, in turn, will lead to increased rates of genetic improvement by breeding from only the best cows.	Nottingham	£518,069	PARAGONVET LIMITED, Boviteq, IMV IMAGING (UK) LTD, University of Nottingham
Underground scanning of potatoes	TUBERSCAN - new technologies that can measure potatoes as they grow in fields, ensuring the potatoes can be harvested at the most appropriate stage thereby optimising crop yield and resource use.	Lincoln, Lincolnshire.	£390,859	B-HIVE INNOVATIONS LIMITED, Harper Adams University

Electrical weed control	It will create prototype electrical weeding solutions for new crop types. Electricity is a scalable and sustainable alternative to herbicides and addresses the fundamental shortcomings of herbicides, thermal, and mechanical methods of weed control.	Kineton Warwickshire	£690,380	UBIQUTEK LTD., SFM TECHNOLOGY LIMITED, SMALL ROBOT COMPANY LIMITED
Disease Forecasting System	This project will look to monitor and avoid a parasite which is deadly to sheep and cattle by working its way through the gut wall.	Shropshire	£398,845	FARMING ONLINE LTD, University of Liverpool
A 'Smart Storage' solution for the potato sector	Aims to reduce waste by 110kt and improve packer profitability by £108 million per annum' will look to develop a smart storage system for potatoes that through data technology are harvested at the right time and the storage system can ensure potatoes can	Lincoln	£520,046	B-HIVE INNOVATIONS LTD, AHDB; Branston Ltd; The Technology Research Centre Ltd

	go to consumers or find alternative destinations			
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### Region N. Ireland

Beef data bank	It will develop the world's first platform for data to be input covering the beef supply chain. It is anticipated that the pooling of this data can help avoid disease, improve business performance and improve product quality.	Dungannon Co. Tyrone	£2,441,794	DUNBIA (NORTHERN IRELAND), BREEDR LIMITED,
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### Region – Scotland

AI to ensure only crops at greater risk of plant disease will be treated with crop protection products.	SoilEssentials' KORE Artificial Intelligence platform will use a smart camera.	Brechin, Angus.	£620,451	SOILESSENTIALS LIMITED, DEIMOS SPACE UK LIMITED, PEACOCK TECHNOLOGY LIMITED, SCOTTISH AGRONOMY LIMITED, University of the West of England
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### Region – East

Tackling blight called blacgrass.	aiScope aims to use AI to develop blackgrass forecasting models that could save farmers in the region of	UEA Norwich	£1,001,182	IBM UNITED KINGDOM LIMITED, 2 EXCEL GEO LIMITED, Rothamsted Research, STFC –
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	£0.58 billion per year. Farmers across the country will be able to input data on blackgrass and identify successful management strategies.			Laboratories, SYNGENTA LIMITED, University of Sheffield
Next generation of vision-guided weeding systems	It will look to develop robotic weeding machinery, enabling selective and accurate treatment of specific weeds in farmers' fields, with reduced chemical use	Peterborough, Cambridgeshire	£697,058	GARFORD FARM MACHINERY LIMITED, SAGA ROBOTICS LIMITED, University of Lincoln
System for prevention, of bacterial blight infection in crops.	Bacterial blights are a major disease of crops like potato and a has affected food production that could feed nearly 9% of global population. This project will develop a new way to treat blights by using drones to firstly detect and then treat blight using a new biotic treatment.	Norwich, Norfolk	£909,984	FOLIUM FOOD SCIENCE LIMITED, RINICOM LIMITED, University of East Anglia
Innovations for in-field cooling of soft fruit	Like any fresh food, strawberries and raspberries deteriorate faster when they are warm. This project CoolBerry 2 will develop an in-field cooling	King's Lynn, Norwich	£311,690	J D COOLING SYSTEMS LIMITED, BERRY GARDENS LIMITED, SCORPION VISION LIMITED, University of Greenwich

	<p>system that allows growers to rapidly remove the heat from produce immediately after harvest. This will help retain optimum fruit quality, increase shelf-life and reduce losses in the supply chain</p>			
<p>Fertiliser decision tool</p>	<p>It aims to develop a decision tool that will enable farmers to better optimise the quantity of fertiliser applied to crops, lowering use and increasing the percentage of nutrients taken up by plants and therefore resulting in less nitrogen (and phosphate and potassium) being released into the environment</p>	<p>Cringleford, Norwich</p>	<p>£1,189,803</p>	<p>PLANT BIOSCIENCE LIMITED, John Innes Centre, ZIMMER AND PEACOCK LIMITED</p>
<p>Autonomous Robotic Weeder</p>	<p>It focusses on the development of environmentally sensitive mechanical weed control systems for use across arable farms in the UK. Precision digital mapping of fields will be combined with engineered vehicles to provide a sustainable</p>	<p>Peterborough, Cambridgeshire</p>	<p>£439,100</p>	<p>ARWAC LIMITED, University of Lincoln</p>

	alternative to herbicide use			
World's first automated field analyser system	SpraySaver - the world's first automated field analyser system specifically designed for early detection of crop disease pathogens within crop growing environments. The system will offer a more reliable scientific method of determining when to spray -- using locally gathered disease pathogen data and risk prediction/decision support models to assess crop disease risk.	Wisbech, Cambridges hire	£927,394	BURKARD MANUFACTURING COMPANY LIMITED, H.L. HUTCHINSON LIMITED, PERPETUUS CARBON TECHNOLOGIES LIMITED, Rothamsted Research, RSK ADAS LIMITED, SPEARHEAD MARKETING LIMITED, VELCOURT LIMITED, Warwickshire College
New tech to optimise farm productivity	It will bring together farmers, entrepreneurs and technologists, to develop systems that connects agriculture to drive a more financially sustainable farming sector.	Cambridge	£558,146	YAGRO LTD, J V FARMING LIMITED, PARKER FARMS LIMITED, R.H.TOPHAM & SONS LIMITED
Robot fruit pickers	Will create a specialist raspberry picking robot to help growers.	Tonbridge, Kent,	£507,309	DOGTOOTH TECHNOLOGIES LIMITED, DRISCOLL'S GENETICS LIMITED, HUGH LOWE FARMS LIMITED
Field animal	It aims to adapt existing technology for	Kimbolton, Cambridges hire	£665,353	B G RESEARCH LTD, Royal Veterinary

testing for diseases	detecting pathogens like Ebola in human blood, to be able to detect diseases like foot and mouth disease virus in animals. The tests take less than fifty minutes to complete and could be performed on farm allowing rapid diagnosis and response.			College; Pirbright Institute
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