Results of Competition: UK-Israel Open Collaborative R&D Competition 2019

Competition Code: 1911_INT_ISRAEL

Total available funding is £2,000,000

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
Storm (ID) Ltd	OPTIMAL: OsteoPorosis Treatment Identification using Machine Learning	£138,576	£97,004
NHS Greater Glasgow & Clyde		£111,132	£111,132

Note: you can see all Innovate UK-funded projects here: https://www.gov.uk/government/publications/innovate-uk-funded-projects
Use the Competition Code given above to search for this competition's results

Project description - provided by applicants
We are doing developing a solution to identify people who are at risk of developing Osteoporosis (OP). OP is a health condition that weakens bones, making them fragile and more likely to break. It develops slowly over several years and is often only diagnosed when a fall or sudden impact causes a bone to break. We are interested in determining which patients are at risk of developing OP. We will do this by combining different types of data together including data from medical images called CT scans and data from patient's medical records. Using a techinque called machine learning we will develop a way of determining if someone is at risk of developing OP and provide an integrated platform improve the delivery of treatment by clinical teams. Using machine learning to predict which patients are at risk from their images and medical records means that we can prevent fractures by early treatment for OP. This will reduce the risk to patients of life limiting falls and should also reduce hospital admission for surgical management of fractures. We have assembled a multi-disciplinary team consisting of clinicians, data scientists and computer scientists to work together to find a way of identifying at risk patients.

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Cisco International Limited	Sensing Hazards and Accidents via Doppler Over Wi-Fi - SHADOW	£237,222	£118,611

Project description - provided by applicants
There is clear drive to make all aspects of modern life smarter and more intelligent. A subset of smart applications concerns monitoring of people who may be particularly vulnerable to hazards and accidents. Monitoring and incident response has been reliant on video surveillance/analysis and on wearable devices/ sensors e.g. smart-phones and watches. This requires vulnerable users' to submit themselves to potentially intrusive video surveillance or the need to wear/carry sensory equipment. This ultimately requires users to trade off their independence against reduced intimacy and to differing degrees, quality of life. SHADOW represents an international collaboration between innovators in the field: Israel-based CELENO and UK- based CISCO to address this challenge. SHADOW seeks to deliver a solution using typical Wi-Fi infrastructure to deliver radar-like doppler imaging technology using Wi-Fi spectrum and access points. This supported with a layer for machine learning-powered incident detection and response logic, processed at the edge. User privacy and intimacy is incorporated into design.

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Impact Laboratories Limited	SafeCell	£200,529	£140,370
AGM Batteries Limited		£45,938	£32,157

Project description - provided by applicants
Battery technology is becoming increasingly important for the UK and global economy. This project aims to develop a technology to improve the safety and efficiency of lithium cells when used in automotive applications. The benefits of the project will be felt across the UK supply chain right through to consumer level where they will benefit from more reliable and safer vehicles.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
Condense Reality Ltd	Real-time volumetric video recording of large capture areas	£249,024	£174,317

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Project description - provided by applicants
The aim of this project is to build a system capable of recording photorealistic 3D models of fast moving content in real-time, with an initial focus on sports events. When paired with virtual reality (VR), augmented reality (AR) or mixed reality (MR) hardware, these recordings will provide viewers with immersive, hologram-style renderings of events from the comfort of their own homes. The technology (known as volumetric capture) will use multiple, non intrusive sensors positioned around an event to generate the 3D reconstruction. Although the focus of this project will be on sports, the technology will be applicable to a wide range of live events. Currently, recording volumetric video of large areas (as large as or greater than the size of a boxing ring) requires processing times which prohibit live broadcasting. To enable us to record and distribute sports events in real-time, we will develop highly optimised algorithms and data structures alongside deep learning powered systems to create volumetric video of fast moving events over large areas in real-time. Working with our partner company, we will also develop camera equipment which is portable, easy to set up, and non-intrusive so as not to restrict the view of audience members.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
RINA Tech UK Limited	MARICube	£248,184	£124,092

Project description - provided by applicants
RESs contribution to the UK's power grid is growing steadily, as they are sustainable, reduce dependency on fossil fuels, emissions of CO2 and other pollutants, typical of traditional power plants. However, in order to meet the power grid's growing need for flexibility and to maximise the value of the generated energy, efficient technical and financial management is now essential. Currently, the market proposes several solutions that support asset owners from the operational perspective but no one is able to provide technical real time data on energy production and financial expertise in a single solution. MARICube aims to develop an innovative platform for managing RESs that simultaneously considers both the technical and the economic and market factors that can affect strategic choices. The platform is designed to exploit the available data (both internal from SCADA, and external, weather forecasts or energy market indexes) to predict asset operation and evaluate alternative strategies for supplying energy to the grid. This approach, in conjunction with energy storage technologies, allows the management system to optimise the production of the asset and also the sale of energy and the consequent RoI in short time (1-3 y) according to the nature of the plant.