Innovate UK

Results of Competition: Northern Angel Hub Regional Angel Investment Accelerator Pilot: Round 2

Competition Code: 1906_RAIA_RD2_N

Total available funding is £1m

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
DALES LAND NET LIMITED	Field Validation of Soil Monitor Units Leading to Full Production and Sales	£59,993	£29,996

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
BACKGROUND The soil conditions underground are often very different from the surface due to multiple soil types and recent weather conditions. If you are trying to make important decisions regarding flood prediction or how to maximise farming operations, just knowing what's on the surface is not enough. Until now, soil sensors were expensive and they required wired power and connectivity, which doesn't work very well when the data you need is located in a remote field or valley. As a result, there are very few units in the field providing real time status on the local conditions, and farming and flood prediction is based on scant data. The Dales Land Net Soil Monitor sits 50cm into the ground, and provides real time readings of soil moisture and temperature every 30 minutes, using IoT network connectivity. The unit provides soil moisture data from 4 separate zones, and 6 soil temperature readings from 6 different depths. Dales Land Net is manufacturing the unit in low volumes and is currently in field tests with a range of researchers in agriculture and flood prediction along with farm technology suppliers. THIS PROJECT Grant funding is sought to undertake extensive validation of the data produced by the unit, followed by efforts to customise the presentation of the data to meet the differing needs of farming and flood prediction. The validation of the data and the customising of it will form the foundation of our go to market strategy, providing potential customers with the assurance that the Dales Land Net Soil Monitor will facilitate accurate decision making for farming and flood prediction.

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AIPATIENT LTD.	Design and development of a Virtual Standardised Patient platform for improving medical training	£299,982	£149,991

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Project description - provided by applicants
"It is likely that most people will experience at least one diagnostic error in their lifetime, sometimes with devastating consequences" (Institute of Medicine, 2015), with UK-based studies indicate estimating that 1 in 10 patients admitted to hospital suffer harm (Vincent et al., 2001). Unnecessary tests and treatments have been reported to cost the NHS £2.3 billion and directly linked to training, as the Academy of Medical Royal Colleges commented: "_Deciding how and when to use these resources are clinical questions that can only be answered by those with sufficient training and experience"_ (AoMRC, 2014). At the same time, in 2018/2019, the NHS paid a total of £2.4 billion in clinical negligence payments to cover patient damages and legal costs (NHS Resolution, 2019). In the UK, there is an urgent need for medical training beyond the traditional "see one, do one, teach one" model (Rodriguez-Paz et al., 2009), while globally there is an increasing shortage of skilled healthcare workers, particularly in resource-poor settings (WHO, 2013). Artificial intelligence (AI), defined as computer systems performing tasks without receiving instructions directly from humans, has the potential to revolutionise both healthcare and education (AoMRC, 2019). Similarly to the "virtual doctor" that provides users (patients) with remote diagnosis/advice, "virtual standardised patients" support users (students and practitioners) by providing an opportunity for them to practise communication, interpersonal, and diagnostic reasoning skills through conversational interactions. Such simulations are engaging for learners, safe for patients and learners, and provide an opportunity for effective feedback (So et al., 2019). AiPatient is a Manchester-based start-up founded in 2018 by Scott Martin, a qualified doctor and entrepreneur, winner of AIMed Europe Dragon's Den 2018 and the Manchester Enterprise Centre Official's Venture Further Award. Our mission is to improve the quality, accessibility, and affordability of medical education worldwide. With funding from Innovate UK and the Northern Angel Hub, we will develop and test the feasibility of a Virtual Standardised Patient training platform that supports independent skills-based learning for medical students and practitioners worldwide. Our aim is to improve communication skills and reduce misdiagnosis and other medical errors; thus, improving patient satisfaction, care, and reducing avoidable NHS costs. With a team composed predominantly of University of Manchester graduates, AiPatient are building on University alumnus Alan Turing's legacy as the "Father of AI", ensuring the UK remains world leading in this field.

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