European Union
European Regional Development Fund

Project Specification

Tender details – the opportunity

Company name	Medical Intelligence Group
Company address	Registered address: 2 Brimstage Avenue, Wirral, CH63 5QH
Description of company activity/SIC code	• 72110 - Research and experimental development on biotechnology • 86900 - Other human health activities
Objective of the proposed innovation project– this MUST involve activity that results in the development of or introduction to the market of a new product or service (max 300 words)	The problem: The UK has over 4 million diabetics who are 23x more likely to develop foot ulcers (DFUs). Progression can lead to foot amputations costing the NHS over £1bn a year, and in the worst cases loss of life. Expert opinions from members of the multidisciplinary team (MDT) agreed that the 'Right care, Right time by Right Person' is not possible due to the bottlenecks in care pathways coupled with the sheer volume of patients. The solution: MIG has created a solution that adopts 3D imagery and depth scanning technology to provide monitoring, detection and prediction of DFUs. MIG's AI engine uses machine-learning algorithms to actively monitor areas that are deemed at risk and detect ulcers, and in the long-term, predict ulcers to prevent them altogether. Our value is being able to perform a high level diabetic foot exam outside of a clinical space (such as at the patients home) to drive down diabetic foot ulcers that lead to amputations. The objective of this project is to complete the prototype build of our bespoke mobile application and platform dashboard to view the 2D and 3D model of the foot for medical professionals to stabilise the technology and add new features post feedback from our patient and clinical professional groups. This will be instrumental in conducting our pilot study in partnership with NHS Tameside Hospital involving feedback from >30 patients. Upon completion of key milestones which include software development for the technology and patient

	& clinical engagement, the next phase would be conducting the pilot study in partnership with NHS Tameside Trust hospital for MIG's first simulated usability study and patient feedback across >30 patients. This involves measuring the ulcers automatically and comparing it with the ground truth data.
Company's current situation – existing project team and innovation project development stage (max 400 words)	MIG to date has successfully integrated with CE marked Depth sensor to capture 3D data points of the foot and developed a bespoke mobile application to capture 2D imagery and patient information. The app is in working order, however further development is needed to stabilise the technology in preparation for its upcoming pilot study with NHS Tameside Hospital Trust, Manchester. MIG's team and advisory board covers the breadth of expertise across medicine, technology (specifically engineering, computer vision and R&D), clinical research, manufacturing, finance and marketing. The MIG executives consists of: CEO - Dr Sagar Jadeja, Founder of Medical Intelligence Group, background as a dentist who took a place at the prestigious London Interdisciplinary Doctoral program working with UCL and King's College London. Sagar's understanding around study design, research and understanding patient centred healthcare will be integral as the project lead on TASHA. CTO - Divia Bhatnagar has come from being a Director of Technology specialising in Artificial Intelligence at a Computer Vision start-up. Divia has a proven track record within Medical Intel Group with the successful development of the SPACER COVID-19 application the company produced with support from Innovate UK. Divia's role on project TASHA will be focused on the technology front. CMO - Dr. Ankur Khandelwal as a General Practitioner (GP) in Bedfordshire, with experience in diabetic foot care, liaising with a MDT including diabetic specialist, community and tissue viability nurses along with the hospital diabetic clinics. He is

	also an Associate Lecturer at University of Cambridge Clinical School and is a medical adviser on TASHA. The remainder of MIG's team are in engineering and marketing, permanent employees and subcontractors.
Business need – what expertise and support is required to reach the objective(s) above? (max 400 words)	To provide an innovation that can deliver impact and value, the focus for TASHA will be on 2 key areas: firstly being able to perform a high level diabetic foot exam outside of a clinical space (such as at the patients home), secondly growing a predictive system that can detect abnormalities to prioritise patients to the correct pathway of care through an advanced alert mechanism and active monitoring. Given the complexity and specificity of the technology being developed MIG is looking to further contract a developer capable of producing a prototype that can be used in a useably study that will be conducted over in 2023. As such a contractor specialising in the area of kotlin, embedded systems for integration with hardware to capture point clouds is critical. The technical deliverables and complexity can be segmented into the below expertise to align with our objective to create the application for foot scanning: - TASHA app to integrate with depth sensor: as integration with the 3D depth imaging device requires streaming of the point clouds and metadata and an SDK integration, specific skillsets in java and python are essential. - Point cloud rendering from 3D depth scanner. This requires using WebGL technology to render the point clouds and usage of timestamps from the device to visualise the point cloud on the device - 2D imagery upload. The app has the ability to take photos of the foot and upload to a secure cloud. This aspect of the technology is complete however requires further stability including unit and integration test coverage The technical deliverables above requires someone who has the expertise in point clouds, data visualisation and rendering using WebGL, in addition to building the app in kotlin for android systems.

	MIG has also joined with IBM to gain access to their cloud services – as such the contractor must work closely with our CTO to migrate the platform to these
Please list six key words that describe your potential project, i.e. ICT, engineering, biotech etc.	Engineering, Machine Learning, Research and Development, Health Tech, Med Tech
Required timescales (if any) for Project Start and duration, and if applicable anticipated product launch date	Duration: 3 months Start: 15/08/2022 End: 15/11/2022
Optional - company budget available to match fund KEEP+ grant (if known) please see 'Further details' for maximum funding amounts	£10,000
Company Contact for further information	Divia Bhatnagar (CTO): divia@medicaliintelligencegroup.co.uk +447725916858
Required tender response date (10 working days from posting of advert)	
Criteria for Decision making	Assessment criteria are as follows • Expertise fit • Timing & availability fit • Geographically local preferable
Date for Contract Decision	Minimum of 10 working days from date of advertisement
Tender response templates	Please approach the company for the exact format of your response.