Innovate UK grant awarded to develop Seracam® for image guided surgical oncology

London, UK 26 March 2024, Serac Imaging Systems Limited ("Serac Imaging Systems" or "the Company"), the medtech company developing Seracam®, a portable hybrid gamma-optical camera for medical imaging, and Loughborough University announce that a grant has been awarded by Innovate UK, the UK's innovation agency, to Loughborough University to co-fund the development of the camera for image guided surgery.

The aim of the project is to demonstrate proof of concept for intraoperative gamma imaging for sentinel lymph node biopsy and cancer diagnosis. Application of the camera in this new setting has the potential to improve patient outcomes and reduce healthcare system costs.

The project will be undertaken by researcher Andrew Farnworth and supervised by Dr Sarah Bugby, Lecturer in Physics at Loughborough University; both have been involved in the prior development and testing of the camera. The team will research and design new intraoperative functionality and demonstrate its performance in simulated surgical scenarios in order to create a new imaging tool for surgeons to localise and treat cancers.

Seracam is a highly innovative camera incorporating game-changing molecular imaging technology which has been designed for use at the patient bedside rather than within a nuclear medicine department. Currently, Seracam is in user studies at sites in the US and Malaysia where it is being used in the clinic for small organ imaging ahead of 510(k) registration. In addition, its compact design, light-weight portability, fused image overlay and excellent performance in spatial resolution, make it well suited for imaged guided surgery.

Intraoperative radioguidance is a surgical technique which uses radiolabelled pharmaceuticals to guide surgeons. One common standard care procedure is sentinel lymph node biopsy, which is used to stage many cancers including breast, melanoma and head and neck, which combined account for more than 85,000 diagnoses annually in the UK. Current practice involves pre-surgical imaging in a nuclear medicine department, followed by intraoperative use of a non-imaging gamma probe which surgeons use to identify uptake of a radiotracer in the target tissue, which it does by emitting an audible signal. The effectiveness of this approach relies heavily on surgical skill, can be time consuming, and becomes particularly challenging in scenarios with uptake in multiple nodes in close proximity. A portable gamma camera with a variable field of view and accurate anatomical referencing could provide an alternative with greater functionality to surgeons in situ, and has the potential to improve surgical outcomes.

Mark Rosser, Chief Executive Officer of Serac Imaging Systems said:
"This prestigious Innovate UK grant secured by the experienced and highly skilled team at Loughborough University, will enable us to explore Seracam's potential as a disruptive technology in a new surgical setting. Improving surgical outcomes is a key driver for this innovation, and this project will enable us to work closely with end-users to modify the camera to meet their precise needs. Image guided surgery presents a significant opportunity to extend the utility of the camera into a new setting, with the potential to improve patient care, expedite surgical workflow and reduce healthcare system costs."

Dr Sarah Bugby, Senior Lecturer in Physics at Loughborough University added:
"This co-funding from the UK's innovation agency, Innovate UK, enables us to translate our research in nuclear medicine and gamma imaging outside the laboratory where, combined with Serac Imaging Systems innovative technology, it has the potential to benefit a wide range of patients. Identifying and developing the required modifications to complement the existing robust optical-gamma registration and portability, will be key for intraoperative use, and we are looking forward to collaborating on novel surgical use cases."

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Notes to Editors

About Serac Imaging Systems and Seracam®
Serac Imaging Systems Ltd is the medtech company developing a portable hybrid gamma-optical camera for medical imaging. Our lead product is Seracam® which is in development to bring the benefits of high-resolution molecular imaging to a patient's bedside, instead of being confined for use in a hospital's nuclear medicine imaging department. A unique feature of Seracam is the real-time overlay of a gamma image with an optical image of the same anatomical location under examination. Such highly versatile and enhanced imaging technology has the potential to help clinicians make better, more informed and more timely treatment decisions.

Seracam® is a UK and EU registered trademark. Serac Imaging Systems Ltd is a wholly owned subsidiary of Serac Life Sciences Limited.
For further details, please see www.seracimagingsystems.com

Seracam® is for investigational use only and has not been cleared or approved by the FDA or UK and European regulatory authorities.

About Loughborough University
Loughborough is one of the country's leading universities, with an international reputation for research that matters, excellence in teaching, strong links with industry, and unrivalled achievement in sport and its underpinning academic disciplines.

It has been awarded five stars in the independent QS Stars university rating scheme and named the best university in the world for sports-related subjects in the 2023 QS World University Rankings – the seventh year running.

Loughborough is ranked 7th in The UK Complete University Guide 2024, 10th in the Guardian University League Table 2024 and 10th in the Times and Sunday Times Good University Guide 2024.

Loughborough is consistently ranked in the top twenty of UK universities in the Times Higher Education's 'table of tables', and in the Research Excellence Framework (REF) 2021 over 90% of its research was rated as 'world-leading' or 'internationally-excellent'. In recognition of its contribution to the sector, Loughborough has been awarded seven Queen's Anniversary Prizes.

The Loughborough University London campus is based on the Queen Elizabeth Olympic Park and offers postgraduate and executive-level education, as well as research and enterprise opportunities. It is home to influential thought leaders, pioneering researchers and creative innovators who provide students with the highest quality of teaching and the very latest in modern thinking.

About molecular imaging

Molecular imaging is a type of medical imaging that provides unique insights into what is happening inside the body at the cellular and molecular level helping physicians to deliver personalised medicine by delivering the right treatment to the right patient at the right time. Unlike other medical imaging technologies such as x-rays, computed tomography (CT) and ultrasound (US) which provide structural images, molecular imaging allows physicians to see how cells, tissues and organs are functioning and to measure chemical and biological processes without having to resort to biopsy or surgery.

About Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas.

We connect business to the partners, customers and investors that can help them turn their ideas into commercially successful products and services and business growth.

We fund business and research collaborations to accelerate innovation and drive business investment into R&D. Our support is available to business across all economic sectors, value chains and UK regions.

Innovate UK is part of UK Research and Innovation.
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