

Scottish universities awarded £20 million from UK Government

- University of Edinburgh, Edinburgh Napier University, University of Glasgow and Herriot-Watt University to benefit from £20m UK Government investment to transform NHS healthcare delivery
- Projects include AI X-ray scanner to diagnose cancer and osteoarthritis more effectively and clinical sensors to provide feedback on health and wellbeing in homes
- Funding is part of UK Government commitment to increase R&D public spending by £22 billion by 2024/25
- The £20m awarded to Scottish universities is part of a £32m UK wide announcement for healthcare projects announced by UK Government Science Minister, Amanda Solloway at London Tech week today

Debilitating diseases such as cancer and osteoarthritis could be identified and treated faster and more effectively, thanks to four new Scottish tech projects that aim to transform care and treatments in the NHS by 2050, helping to improve people's quality of life as they age.

InlightenUs, led by the University of Edinburgh, will receive £5.4 million to use a combination of artificial intelligence (AI) and infra-red lasers to produce fast, high resolution 3D medical images, helping to identify diseases in patients more quickly.

Working with the universities of Nottingham and Southampton, the new research will initially be developed for use on hospital wards and GP surgeries, and by 2050 aims to scale up to walk through airport style X-Ray scanners, which will be able to pick up detailed images of structures often hidden within the human body that can reveal tumors.

COG-MHEAR, led by Edinburgh Napier University will receive £3.2 million, to develop hearing aids designed to autonomously adapt to the nature and quality of their surroundings. Currently only 40% of people who could benefit from hearing aids have them, while most current devices make only limited use of speech enhancement. These hearing aids would be able to adapt to the nature and quality of the visual and acoustic environment around them, resulting in greater intelligibility of noise and potentially reduced listening effort for the listener.

Quantum Imaging for Monitoring of Wellbeing and Disease in Communities, led by the University of Glasgow, will receive £5.5 million to develop a project which aims to create a home of the future, providing homeowners with feedback on their health and wellbeing.

Bringing clinically approved sensors into the living environment will enable individuals, carers or healthcare professional to monitor blood flow, heart rate and even brain function, in the home. Monitoring physical and emotional well-being in the home will enable tailored programmes to be built for

lifestyles improvement, as well as rehabilitation.

U-care, led by Heriot-Watt University, in partnership with the universities of Bath and Edinburgh, it will receive £6.1 million to exploit new laser, optical fibre and imaging technologies, delivering therapy for bacterial diseases and viruses in confined regions of the body such as the lungs, catheters inserted into the body for prolonged periods and areas of the body that have been subject to surgical procedures.

The platform will be able to cut out single cells leaving the cells around it undamaged in cancer surgery, aiming to offer a cure for currently unresectable tumors – tumors that are too close to critical structures and cannot be cut away safely with current approaches.

Science Minister, Amanda Solloway said:

The pioneering projects we are backing today will help modernise healthcare, improving all of our lives now and into the future.

Today's announcement is part of our ambitious R&D Roadmap and underlines our commitment to back our incredible scientists and researchers and invest in ground-breaking research to keep the UK ahead in cutting-edge discoveries.

Scotland Minister, Iain Stewart said:

Scotland is home to a world-leading research and tech sector. This UK Government is determined to support Scottish Universities and the incredible talent they have. We are committed to help keep them at the cutting edge.

It is a fantastic to see such a variety of projects awarded funding, from identifying cancer more quickly to managing health and wellbeing in the home, all will make a positive difference to health of millions of people across the UK and important contribution to the future of the NHS.

The funding is being delivered through the Engineering and Physical Sciences Research Council (EPSRC), part of UK Research and Innovation, through the Transformative Healthcare Technologies for 2050 call.

EPSRC Executive Chair, Professor Dame Lynn Gladden, said:

The projects announced today will develop new approaches which could become routine in the NHS and community and home care in the coming decades.

Harnessing the latest technologies and the UK's world-leading expertise will allow us to deliver a step-change in how healthcare

is delivered and benefit millions of people, emphasising the critical role the UK's R&D sector plays in improving the health of the nation.