

Walk-through cancer diagnoses and robotics muscles among groundbreaking projects backed by government

- Six pioneering health technology research projects aiming to transform NHS healthcare delivery benefiting from £32 million government investment
- projects include novel AI X-Ray scanner to diagnose cancer and osteoarthritis more effectively and robotic muscles to assist those who have suffered from a stroke
- ventures part of the government's commitment to help advance healthcare outcomes through its ambitious Research and Development (R&D) Roadmap and to increase R&D public spending to £22 billion per year by 2024 to 2025

Debilitating diseases such as cancer and osteoarthritis could be identified and treated faster and more effectively, thanks to 1 of 6 projects benefiting from £32 million government funding.

As part of a keynote speech on research and development at London Tech Week 2020, the Science Minister Amanda Solloway will today (Monday 7 September) announce 6 new projects aimed at developing revolutionary new technological approaches 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 tumours.

Another of the 6 projects, emPOWER, will be led by researchers at the University of Bristol, and will receive £6 million to develop artificial robotic muscular assistance to help restore strength in people who have lost muscle capability. This could include patients who have suffered a stroke or are living with degenerative diseases such as sarcopenia and muscular dystrophy.

Using these highly targeted robotics will help overcome the limitations of current wearable assistive technology of regenerative medicine. Often, these technologies can be bulky and uncomfortable to wear, and can require 2 people to put on and take off. Users can also find the movements too slow. Through using robots, emPOWER will provide life changing benefits for sufferers,

restoring their confidence, independence and quality of life, all while reducing the cost to the NHS.

Ahead of her keynote speech on R&D at London Tech Week, 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.

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.

As part of her speech, Minister Solloway will set out the government's ambitions for research to address significant issues such as advancing healthcare outcomes for patients and ensuring the UK is at the forefront of transformational technologies like artificial intelligence.

It follows the launch of the government's [R&D Roadmap](#) in July 2020 which detailed plans to make the UK the best place in the world for scientists and researchers to live and work, building on the government's commitment to increase R&D public spending to £22 billion per year by 2024 to 2025.

Innovation minister Lord Bethell said:

Throughout this global pandemic, the NHS has continued to be there for us all and to treat cancer patients and those living with chronic illness as a priority.

These pioneering new projects will help us further improve care for patients and make life easier for NHS staff, cementing the UK's status as a world leader in research and technology and ultimately saving thousands of lives.

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.

Other projects receiving funding

Non-Invasive Single Neuron Electrical Monitoring (NISNEM)

Led by Imperial College London, it will receive £5.5 million to develop a Non-Invasive Single Neuron Electrical Monitoring technology, which when combined with AI will allow researchers to monitor the brain in a way never achieved before. This will help scientists gain a better understanding of neurological diseases such as Parkinson's and Alzheimer's. Currently approaches to monitoring the brain are invasive and so this new method would enable new pharmacological and neurotechnology-based treatments to be developed which are far more effective than any current treatments.

COG-MHEAR: Towards Cognitively Inspired 5G-Internet of Things enabled, Multi-Modal Hearing Aids

Led by Edinburgh Napier University, it 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, it 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 tumours – tumours that are too close to critical structures and cannot be cut away safely with current approaches.

Notes to editors

The Engineering and Physical Sciences Research Council (EPSRC), in collaboration with the Medical Research Council, will shortly be inviting proposals for adventurous projects as part of the second phase of the Transformative Healthcare Technologies for 2050 call.

This call will target projects that are guided by a longer-term vision to pursue new, 'high risk high reward' ideas and develop thinking and approaches supported by the next generation of underpinning science, engineering and emerging technologies in the healthcare space. We seek and encourage adventurous ideas, new thinking and collaborations that have the potential to significantly improve healthcare delivery by 2050. [Read further details](#).

[Louise Smyth appointed as interim Regulator of Community Interest Companies](#)

News story

Business Secretary Alok Sharma confirms Louise Smyth as interim Regulator of Community Interest Companies



Louise Smyth has been appointed as interim Regulator of Community Interest Companies for a period of six months, the government announced today (6 September).

Louise Smyth is currently the Registrar of Companies for England and Wales, and Chief Executive of Companies House, and will take on the position of interim Regulator alongside these roles.

The current Regulator, Ceri Witchard, was appointed on 14 September 2015 and

is now coming to the end of her 5-year term.

The Regulator of Community Interest Companies is an office holder established by the Companies (Audit, Investigations and Community Enterprise) Act 2004. A community interest company is a special type of limited company which exists to benefit the community rather than private shareholders.

The Regulator decides if an organisation is eligible to become, or continue to be, a community interest company. The Regulator investigates complaints – taking action if necessary – against community interest companies and provides guidance and assistance to help people set them up.

Notes to editors

Louise Smyth Biography

Louise Smyth joined Companies House in September 2017 as Chief Executive and Registrar for England and Wales.

Before joining Companies House Louise held a number of senior positions at the Intellectual Property Office (IPO), including Director of IT, Director of People, Places & Services.

Louise went on to become Chief Operating Officer in 2014, responsible for Corporate Services: IT, People, Places and Services and Finance.

Published 6 September 2020

Suspected criminals held for longer as criminal courts recovery plan announced

- Ministers act to keep dangerous suspects off our streets
- Temporary measure to extend custody time limits by two months
- £80m plan for criminal courts to recover from pandemic, with more staff and Nightingale courts

People arrested for serious crimes can spend longer in custody as they await trial, under government measures to keep the public safe while courts recover from the pandemic.

Under temporary legislation announced today, the period of time that offenders can be held before a trial – known as the Custody Time Limit – will be increased from 182 days to 238 days. These would include violent offenders

and those accused of sexual crimes.

The move will protect victims and keep dangerous criminals off our streets – particularly in cases where there is a risk that defendants may abscond or commit offences if released on bail.

It addresses the delays to jury trials that have been caused by the pandemic – despite the world-leading efforts of judiciary, court staff and lawyers to keep justice moving since March and will prioritise cases such as domestic abuse and child protection.

Today's announcement comes as the Lord Chancellor also unveils a comprehensive plan – backed by £80m of funding and developed with the judiciary – to boost capacity across criminal courts.

While the number of outstanding Crown Court cases reached a 10-year low in 2019, the impact of social distancing during the pandemic means courts cannot currently hear the volume of cases required to reduce the backlog.

Under the plan, a range of measures will be deployed to meet this unprecedented challenge. These will include employing 1,600 new staff to support the recovery; setting up more temporary 'Nightingale Courts'; a further rollout of technology; and changes to the physical set-up of courtrooms to minimise risk, such as the introduction of plexiglass barriers.

The Lord Chancellor, Robert Buckland QC MP, said:

Throughout the pandemic this government has taken the necessary steps to protect the public while ensuring that justice continues to be delivered.

This temporary extension to custody time limits will keep victims and the public safe, and we should not apologise for making that our priority.

At the same time, the measures I have announced today will get the criminal courts system back to where it needs to be – reducing delays and delivering speedier justice for all.

In welcoming the recovery plan, the Lord Chief Justice of England and Wales, The Lord Burnett of Maldon said:

The pandemic has had an adverse impact on the timeliness of the criminal justice system, with many trials necessarily delayed. This plan is an important document which gives a clear path towards recovery as the judges and magistrates, in partnership with HM Courts Service, the Ministry of Justice and many others, strive to ensure that cases are heard as soon as possible in the public interest and the interests of all those involved in the criminal process.

The legislation is expected to come into force on 28th September and will apply to anyone who is arrested and remanded for an offence deemed serious enough for a Crown Court trial after that date. The new custody time limits will remain in place for nine months. After which, current time lengths will resume.

Meanwhile, the Criminal Courts Recovery Plan sets out a range of measures which are designed to help the courts return to normal business as soon as possible and minimise any delays in delivering justice. These include:

- Employing 1,600 court staff to support recovery measures;
- Maximising the existing physical estate, for instance through introducing plexiglass screens to separate members of the jury to enable safe use of more court rooms;
- Increasing capacity through 'Nightingale Courts' – an initial 10 are up and running with a further eight planned to open shortly;
- Using video technology wherever appropriate – allowing more cases to be heard remotely;
- Exploring new 'COVID operating hours' – increasing the number of hours that court buildings can be used for trials outside the standard weekday times of 10am – 4pm. This time-limited measure seeks to maximise HM Courts & Tribunal Service's (HMCTS) own estate, while ensuring no one party would be required to attend court for longer.

In March, almost half of all courts were closed and jury trials were paused to minimise social interaction between court users. Since then, court staff, legal professionals, and the judiciary have collaborated to prioritise cases and keep the justice system running throughout the pandemic – with up to 90% of all court buildings now open. Jury trials were reintroduced in May and are now taking place in more than three quarters of Crown Court buildings, with more than 900 cases listed. Additionally, HMCTS is on track to have opened 250 rooms suitable to hear jury trials by the end of October. Magistrates' Courts are also currently disposing of more cases than they receive per week – helping to prevent delays.

This has been made possible by new safety measures being introduced across the estate. This includes employing extra cleaners and rolling out Plexiglass screens to allow jurors to safely sit closer together, enabling more trials to be heard. The transparent barriers are being installed in 160 courtrooms and 80 jury deliberation rooms across England and Wales.

An additional eight Nightingale Courts confirmed today follow an initial 10 unveiled earlier this summer. The temporary sites have been rapidly set up to provide extra capacity for more cases to be heard, adding a further 16 court rooms.

Meanwhile, 'COVID operating hours' are being piloted in Liverpool Crown Court. Two lists are operating in one courtroom – one in the morning from 9am to 1pm, and a second in the afternoon from 2pm to 6pm. Crucially, no one individual will be expected to participate in both the morning and afternoon sessions. This temporary proposal is being evaluated, with further pilots scheduled to begin in Hull, Stafford, Cardiff, Snaresbrook, Portsmouth and

Reading in the coming weeks.

A major £142 million investment across the courts system has also been announced to speed up technological improvements and modernise courtrooms.

[From Arab headdresses to the aerospace industry, the thread of history links us to the Middle East](#)

Covid-19 has forced many of us to be furloughed or to work from home for months. While for some it has been a pleasant experience to reconnect to our families and communities it has also, for many, been an anxious time. Wondering whether our jobs will be safe, or our high streets will return to normal. The UK has got used to thinking we are a service-based economy. It is true to say that it is that part of the economy that is on the front line of lockdown. But, all the while, another part of the economy has been sustaining British jobs and helping our forces stay safe from our adversaries.

The British aerospace industry has been at the forefront of our resilience. BAE Systems, Rolls-Royce, Babcock International and hundreds of innovative small and medium-sized enterprises up and down the country have been working throughout lockdown. We should be proud of what they have been doing and proud of the fact we have this world-class aerospace industry – an industry I'll be championing as I head to the Middle East this week. The defence and security sector is a breeding ground for science, invention and world-beating technology, as the bedrock of hundreds of thousands of jobs in the UK. In the northwest alone more than 16,000 jobs are directly part of aerospace manufacture, which in turn supports around 120,000 in the supply chain across the UK. That is an awful lot of bricks in the northern "red wall."

But our aerospace industry isn't just a domestic concern – its exports amount to £34bn. In pure defence products we are the world's second-biggest defence exporter and our security manufacturers are breaking records in the field of cyber-technology and sensors. Their exports enable us to afford the best for the men and women of the services. No country that wants to keep ahead of our enemies, not even America, can afford to not export. That's why we will soon be publishing a Defence Industrial Strategy alongside the Integrated Review.

The review, which we are currently in the middle of, will be the deepest and most far-reaching foreign policy and defence review for decades. As defence secretary, I recognise we desperately need to reform and modernise our armed forces if we are to meet emerging threats. For too long we have had a sentimental attachment to a static, armoured centric force structure anchored in Europe, while our competition has spread out across the globe. If we are to truly play our role as "Global Britain," we must be more capable in new

domains, enabling us to be active in more theatres. But the review will focus not just on foreign policy and defence operations, it will also recognise the importance of research, skills and the aerospace industry. Without them, our forces could risk losing the battle-winning advantage we will need in this ever more insecure and anxious world.

So this week, I'll be visiting Oman and Qatar. It isn't a sales exercise, but an affirmation of our friendship and shared interests. Unlike some "fly by night" partners, the UK has stood alongside the great peoples and nations of the region for more than 100 years. We recognised, as a trading nation, that the Gulf's stability and our stability are linked. Before oil, before aerospace, we were there. We haven't always got it right, but the UK has always had an inherent love of the region. More than a century ago we understood the delicate but vital importance of keeping in balance the strategic and sometimes competing interests of great empires, such as the Ottoman. And we also were there when the empires retreated and the new powers emerged – Saudi Arabia, Israel, Qatar, the United Arab Emirates and Iraq, joining longstanding friends such as Oman.

In my own constituency I have a traditional cotton mill that to this day makes top-quality shemaghs (Arab headdresses). It started as a partnership between a Lancashire mill owner and a Saudi businessman in the 1920s. Today the Saudi's family own the mill and the partnership still endures.

It used to be said that "Britain's bread hangs from Lancashire thread." Just like the mill, the partnership between the Middle East and the aerospace industry endures for the mutual benefit of us all.

[British High Commissioner congratulates 16 Chevening Awardees from Bangladesh](#)

The British High Commissioner to Bangladesh HE Robert Chatterton Dickson has congratulated this year's cohort of Chevening Awardees from Bangladesh. 16 Bangladeshi Chevening Awardees will soon be leaving for the UK to start one-year Masters degrees at some of the UK's most prestigious universities. Successful applicants have been sharing their stories through the #ChosenForChevening hashtag on [Facebook](#), [Twitter](#) and [Instagram](#).

British High Commissioner Robert Chatterton Dickson said

Every year the Chevening Programme selects the very best candidates to study in the UK. We are looking for scholars who can demonstrate their potential and readiness to be future leaders and influencers in their respective fields.

“Chevening can be a transformative experience, not just for the scholars, but for Bangladesh as they return and use the benefit of their UK experience to make a positive difference in their chosen field. The window for applications is now open. Full details can be found at www.chevening.org/scholarship/bangladesh/. If you have what it takes we want to hear from you.”

Chevening Scholarships are the UK government’s global scholarships programme. Established in 1983 and organised and funded by the UK’s Foreign, Commonwealth and Development Office (FCDO), these scholarships support study at UK universities – mostly one-year Masters degrees – for students with demonstrable potential to become future leaders, decision-makers and opinion formers. The selection process is highly competitive. The programme offers a unique opportunity to develop professionally and academically, network extensively, experience UK culture and build a lasting relationship with the UK.

Applications for Chevening Scholarships to study in the UK are open until 3 November 2020, with applications to be submitted via www.chevening.org/apply. The British High Commission Dhaka is looking for ambitious, professional, and innovative future leaders from any walk of life, who are willing to pursue Masters degrees in the UK, and immerse themselves in all the opportunities offered by the Chevening programme.

Bangladesh has had over 315 successful Chevening alumni and this year a further 16 scholars will embark on the programme. Chevening Scholars in Bangladesh hold prominent positions in government, the private sector and academia.

Chevening’s over 50,000-strong alumni network includes 17 current or former heads of state or government. Chevening alumni excel in a variety of fields outside of politics too. Chevening brings together leaders from more than 160 countries and territories, creating networks, friendships, and shared memories and missions that span the world.

Visit the Chevening Scholarships website for detailed information on the eligibility criteria and scholarship specifications.

Further information

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