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# Drayson Technologies partners with Oxford University and Oxford University Hospitals NHS Foundation Trust to deploy digital health technologies for the NHS

The collaboration will see Drayson Technologies bring to market Oxford technologies that can positively impact on patient health outcomes, admissions, and costs within the NHS.

- Three new digital health products developed by Oxford University in collaboration with OUH NHS Foundation Trust over the past seven years promise significant improvements in patient health outcomes and reduced costs for the NHS following multiple clinical trials.
  - SEND: a system for vital-sign observations in hospital patients, which has enhanced the clinical care of over 80,000 patients over the past two years.
  - GDm-health: a system for the management of diabetes in pregnant women, tested in over 1,000 patients, showed a 25% reduction in clinic visits, when evaluated at the Royal Berkshire NHS Foundation Trust.
  - EDGE-COPD: system for the management of chronic obstructive pulmonary disease, developed with support from the Department of Health and Wellcome Trust through the Health Innovation Challenge Fund, showed a 17% reduction in hospital admissions during a 12-month clinical trial.
- These products are now ready to undergo further clinical evaluation in up to 4 additional NHS Trusts across the UK over the next 12 months
- Drayson Technologies will provide a dedicated development operations team to support this further evaluation and will work with the University and the Trusts to develop additional capacity to deploy these technologies across the NHS
- Drayson Technologies to set up a dedicated internet of things digital health team at Oxford Science Park.

**2 February 2017, Oxford, UK – Drayson Technologies**, Oxford University and Oxford University Hospitals (OUH) NHS Foundation Trust have signed three agreements to collaborate on the development, testing and future commercialisation of three clinically validated digital health products arising from research undertaken by engineers and doctors at Oxford University and the OUH Trust.

The products are designed to provide significant improvements in health outcomes for patients and reduce healthcare costs in the NHS. They have undergone significant clinical testing and validation involving over 80,000 patients and generated over 16 million data records to date. Results suggest that these technologies could deliver significant improvements in patient health outcomes and reduction in costs for the NHS.

Drayson Technologies' role will be to support the wider testing of these products in up to four additional NHS Trusts across the UK over the next 12 months prior to taking over responsibility under an exclusive licence agreement for managing the wider deployment and commercialisation of these pioneering products across the NHS. By investing to provide a commercial and operational infrastructure in Oxford, Drayson Technologies will enable these products to be adopted by other NHS Trusts across the UK.



SEND, GDm-health and EDGE-COPD are all digital health products that use machine learning artificial intelligence software, developed at Oxford University's Institute of Biomedical Engineering, to analyse data and provide decision support and patient safety information to both patients and healthcare professionals.

Drayson Technologies intends to develop SEND into a central platform with which other digital health applications, starting with GDm-health and EDGE-COPD, can inter-operate, allowing for the potential for further improvement outcomes for patients and efficiencies for the NHS.

Lord Paul Drayson, Chairman and CEO of Drayson Technologies, said:

"These products have shown in clinical trials that they improve patient health outcomes and reduce costs for the NHS. We are delighted to be working with Oxford University and the Oxford University Hospitals NHS Foundation Trust to complete clinical evaluation and deploy these products more broadly across the NHS."

Professor Lionel Tarassenko, Head of Engineering Science, Oxford University, added:

"SEND, GDm-health and EDGE-COPD, demonstrate the benefits of the multi-disciplinary collaboration we have developed over the past decade in Oxford. We have combined worldclass engineering and clinical research with feedback from frontline NHS staff to create products that deliver real benefits to patients. In Oxford, we can go all the way from laboratory prototypes to clinically-validated products."

Dr Adam Stoten, Head of Life Sciences, Oxford University Innovation, added:

"Digital health has enormous potential to generate patient benefit and economic savings throughout the NHS. In Drayson Technologies we have found a partner committed to providing the resources and expertise needed to support the use of these ground-breaking technologies across multiple NHS Trusts and beyond."

The NIHR Oxford Biomedical Research Centre (BRC), a partnership between Oxford University and OUH, has funded the digital health research programmes that have successfully brought SEND, GDm-health and EDGE to their current stages of development. Oxford University Innovation, the research commercialisation company of Oxford University, licensed the technologies to Drayson Technologies.

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### Further information on the collaboration

SEND, GDm-health and EDGE-COPD have been clinically validated and adopted for widespread pilot clinical use within the Trust at John Radcliffe Hospital, Nuffield Orthopaedic Centre, Churchill Hospital and Horton General Hospital with excellent results. Results have demonstrated the significant patient benefits and reduction in healthcare costs that arise from their use.

### **About Oxford University Innovation**

Oxford University Innovation supports innovation activities across all University Divisions, managing technology transfer and consulting activities, and providing an innovation management service to clients around the world.

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We provide access to technology from Oxford researchers through intellectual property licensing, spinout company formation and material sales, and to academic expertise through our Consulting Services team. The New Venture Support & Funding team supports investors or donors with an interest in early-stage ventures, and manages the Oxford Angels Network.

Our Startup Incubator supports members and ex-members of the University who wish to start or grow entrepreneur-driven ventures that are not University spinouts.

Oxford University Innovation is the highest university patent filer in the UK and is ranked 1st in the UK for university spinouts, having created over 140 new companies in 25 years. In the last reported financial year we completed 529 licenses and consulting agreements. Isis Enterprise, our innovation management consultancy, works with university, government and industrial clients from offices around the world. For updates on innovations from Oxford, follow Oxford University Innovation on LinkedIn and Twitter or subscribe at http://innovation.ox.ac.uk/about/contact-us/#enquiry

## About Oxford University Hospitals NHS Foundation Trust

**Oxford University Hospitals NHS Foundation Trust (OUH)** is one of the largest acute teaching trusts in the UK, with a national and international reputation for the excellence of its services and its role in patient care, teaching and research. The Trust supports world-leading research programmes in cardiovascular diseases, musculoskeletal disorders, neurological disorders such as Parkinson's and Alzheimer's through its designation as one of the UK's five comprehensive biomedical centres and units. It works in close partnership with the University of Oxford and is a leading centre for cancer, neurosciences, diabetes, genetics and many other fields. Research themes of particular strength are: cancer, cardiovascular science, diabetes, endocrinology & metabolism, infection and immunology, musculoskeletal science, neuroscience and reproduction and development. As of October 1 2015, the Trust was awarded Foundation Trust status. This decision comes after the Care Quality Commission gave OUH an overall rating of 'Good' in May 2014, and after scrutiny of the Trust's quality, finances, service delivery and governance arrangements by the NHS Trust Development Authority and Monitor. The Trust has been designated as a major trauma centre and is one of four UK centres for craniofacial surgery and The Trust employs over 12,000 staff and consists of four hospitals: the Churchill Hospital, John Radcliffe Hospital and Nuffield Orthopaedic Centre in Oxford and the Horton General Hospital in Banbury. www.ouh.nhs.uk

The NIHR Oxford Biomedical Research Centre is funded by the National Institute for Health Research, and is a partnership between the Oxford University Hospitals NHS Foundation Trust and the University of Oxford. The NIHR provides the NHS with the support and infrastructure it needs to conduct first-class research funded by the Government and its partners alongside high-quality patient care, education and training. Its aim is to support outstanding individuals (both leaders and collaborators), working in world class facilities (both NHS and university), and conducting leading edge research focused on the needs of patients.

The National Institute for Health Research (NIHR) is funded by the Department of Health to improve the health and wealth of the nation through research. The NIHR is the research arm of the NHS. Since its establishment in April 2006, the NIHR has transformed research in the NHS. It has increased the volume of applied health research for the benefit of patients and the public, driven faster translation of basic science discoveries into tangible benefits for patients and the economy, and developed and supported the people who conduct and contribute to applied health research. The NIHR plays a key role in the Government's strategy for economic growth, attracting investment by the life-sciences industries through its world-class infrastructure for health research. Together, the NIHR people, programmes, centres of excellence and systems represent the most integrated health research system in the world. For further information, visit the NIHR website (www.nihr.ac.uk).

### About the Health Innovation Challenge Fund

The Health Innovation Challenge Fund is a parallel funding partnership between the Wellcome Trust and the Department of Health to stimulate the creation of innovative healthcare products, technologies and interventions and to facilitate their development for the benefit of patients in the NHS and beyond. www.hicfund.org.uk

### About the Department of Health

The Department of Health (DH) helps people to live better for longer. The Department leads, shapes and funds health and care in England, making sure people have the support, care and treatment they need, with the compassion, respect and dignity they deserve. The Department encourages health research and use of new technologies because it's important to the development of new, more effective treatments for NHS patients. Innovation is needed so that decisions about health and care are based on the best and latest evidence. www.dh.gov.uk



### About the Wellcome Trust

The Wellcome Trust is a global charitable foundation dedicated to improving health. We support bright minds in science, the humanities and the social sciences, as well as education, public engagement and the application of research to medicine. www.wellcome.ac.uk

#### **About Drayson Technologies**

Drayson Technologies is an internet of things (IoT) platform company headquartered in London, UK with offices in San Francisco and Mexico City. It has developed proprietary wireless charging technology and machine learning software to create smart sensor networks that generate actionable insights to improve people's lives and deliver value to business customers.

Drayson Technologies uses <u>Sensyne</u><sup>TM</sup> machine-learning software and <u>Freevolt</u><sup>TM</sup> enabled personal smart sensors to create hyper-local air pollution information that enables people to "see the air they breathe" and to help enterprises and municipalities implement projects that improve air quality.

Drayson Technologies operates <u>CleanSpace</u><sup>™</sup>, an IoT sensor network to monitor air pollution, and <u>Aura</u><sup>™</sup>, an end-to-end IoT network to measure and monitor indoor assets and environmental conditions.

For more information please visit: www.draysontechnologies.com