£29 million government funding to boost digital revolution and help keep people safe online

- £29m for research projects in Bristol, Bath, Newcastle, Nottingham, Surrey and Lancaster
- Includes £7m for a new online safety research centre of excellence
- New technology trials to boost online privacy, tackle disinformation and increase wellbeing

A new online safety centre of excellence and six new research projects across the UK will help people seize the possibilities of the digital revolution while addressing challenges to online safety and privacy.

The initiatives are part of a £29 million investment by UK Research and Innovation (UKRI) and include projects to test how immersive technology can improve people's education and explore how the Internet of Things can benefit people's lives and improve their wellbeing.

The package includes £7 million from UKRI's Strategic Priorities Fund for a new National Research Centre on Privacy, Harm Reduction and Adversarial Influence online (REPHRAIN) bringing together researchers from the universities of Bristol, Edinburgh, Bath, King's College London and UCL.

REPHRAIN will also work with industry, academics and the voluntary sector to develop new technologies to help human moderators tackle the spread of online disinformation and identify harms linked to online targeting and manipulation.

The centre will develop a world-first Privacy Enhancing Technologies (PETs) test site to trial new ways to boost data privacy.

Minister for Digital and Culture Caroline Dinenage said:

"The UK's world-renowned universities and fast-growing safety tech sector are coming up with answers to the important questions of the digital age – around privacy, security and online wellbeing.

"With this investment we are supporting organisations to build trust in the technology of tomorrow so people and businesses can use it to improve their lives and boost the economy.

"Add to that our forthcoming pro-innovation online harms legislation and we will give tech companies the clarity and responsibility to create safer online spaces for future generations to enjoy."

The government is investing in this research as part of efforts to support the UK's burgeoning safety tech sector which is creating solutions such as

automated content moderation to tackle online harms including disinformation and providing age-appropriate experiences for users.

UKRI will invest £22 million in five Next Stage Digital Economy Centres, delivered by the Engineering and Physical Sciences Research Council (EPSRC). The centres will explore ways of using technology safely to enhance people's lives:

- CAMERA 2.0, led by the University of Bath, will use 3D cameras and artificial intelligence to improve participants' health and deliver education or training in virtual environments which can be transferred to the real world. For example, users would be able to transfer motor skills learnt in virtual environments to tennis and other elite sports, or increase their performance in complex engineering tasks by using VR and AR training simulations.
- The Centre for Digital Citizens (CDC), led by Newcastle and Northumbria Universities, will design new digital technologies and services to bring about smarter living through 'digital citizenship', which involves better use of shared data to inform public health and wellbeing, community engagement including citizen-led public services and technology enhanced learning opportunities for the old and the young.
- The Horizon Institute, led by the University of Nottingham, will explore how to build better consumer trust around the use of personal data in new technologies and products that blend physical and digital elements: for example, community participation in virtual music festivals and personalised digital health plans which could make predictions about mental health to improve treatment.
- The Centre for the Decentralised Digital Economy (DECaDE), led by the University of Surrey, will explore how the platforms which underpin our peer-to-peer digital economy could be transformed by emerging data-centric technologies such as artificial intelligence (AI) and Blockchain, and made more accessible to individuals across society through alternative governance models to control by large organisations.
- The Future Places Centre, led by Lancaster University, will explore how technologies such as the Internet of Things can help individuals design and adapt the places they live, work and spend time in for healthier and more sustainable living. This could be, for example, exploring how using IoT sensors to monitor pollutants such as tumble-dryer generated microplastics could lead to more sustainable living.

The EPSRC contribution of £22 million has leveraged an additional £29.5 million of partner contributions from industry and the universities involved.

Minister for Science, Research and Innovation Amanda Solloway said:

"We rely on technology for so many things in our lives – from paying our bills and buying our weekly food shop to tackling climate change and finding new treatments for diseases. We must continue investing so we can keep pushing the boundaries of technological developments that improve our daily lives and transform industries.

"The six new research centres announced today will support our ambitious

scientists and researchers to develop incredible innovations such as strengthening our online safety and delivering virtual education and healthcare, helping to cement the UK as a science superpower."

EPSRC Executive Chair, Dame Professor Lynn Gladden, said:

"New and emerging digital technologies will have a profound impact on many aspects of our lives, from our health and wellbeing to our work and leisure time.

"The investment announced today will not only support new ways of capitalizing on this opportunity but will also help to ensure that those using these new technologies are safe while doing so."

The centres will be an important part of the government's ambition for the UK to cement its status as a science superpower, set out in its ambitious Research and Development Roadmap in July this year.

The funding comes as the government moves closer to publishing its response to the Online Harms White Paper consultation – setting out its final decisions on new regulations to put more legal responsibility on online platforms to protect people online.

ENDS

More information on the projects

REPHRAIN is supported by £7 million of funding from UK Research and Innovation's (UKRI) Strategic Priorities Fund and will distribute the funding between three projects:

- CLARITI will look at fake news and conspiracy theories and how and why users engage with and spread disinformation, with a view to developing an automated intelligent agent to lessen the burden on human moderation of online services, communities and platforms where disinformation spreads.
- NEWS will investigate whether engagement with news articles can be used to predict automatically an individual's personality, and to provide more evidence around the online harms possible through manipulative targeting.
- QUERY will explore developing privacy mechanisms for sequential data, like location data and activity logs about a person, and to provide a way to analyse the data without revealing the details of an individual.

Notes to editors:

- UK Research and Innovation works in partnership with universities, research organisations, businesses, charities, and government to create the best possible environment for research and innovation to flourish. We aim to maximise the contribution of each of our component parts, working individually and collectively. We work with our many partners to benefit everyone through knowledge, talent and ideas.
- Operating across the whole of the UK with a combined budget of more than

£8 billion, UK Research and Innovation brings together the seven research councils, Innovate UK and Research England.

- The Strategic Priorities Fund (SPF) is one of the UK's largest, publicly funded, programmes of work to spearhead multi and interdisciplinary research and innovation. Established in 2018 and led by UKRI, the SPF aims to:

- drive an increase in high quality multi and interdisciplinary research and innovation

- ensure that UKRI's investment links up effectively with government research and innovation priorities and opportunities and ensure the system responds to strategic priorities and opportunities.

- For more information about any of the projects, please contact james.giles-franklin@ukri.org at the UKRI press office.

- The Safety Tech Innovation Network, run by DCMS and Nominet, will help develop technologies to protect citizens online and make online experiences safer.

- A fund of £2.6 million to support the development of AI systems was announced in September.

- More information about the Research and Development Roadmap can be found here.