Research Councils UK
Digital Economy
Transforming Business and Society

DIGITAL ECONOMY

PIONEERING A DIGITAL FUTURE

Research Councils UK Digital Economy Programme

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"The Web, as I envisaged it, has not been seen yet. The future is still so much bigger than the past."

SIR TIM BERNERS-LEE, MIT

£120m
Investment between 2008–11

£29bn
estimated size of UK ICT sector by 2012

3m
jobs in the UK creative industries and ICT sectors

£1.77bn
potential savings by providing all public services online

10m
people in the UK have never been online

"There is a powerful need for researchers to understand the social and economic contexts in which technology will be applied."

DR RICARDO BAEZA-YATES, VP YAHOO! RESEARCH

Digital technologies are transforming business, government and society. Research is vital in making sure they have the best possible impact for everyone.

The Research Councils UK (RCUK) Digital Economy Programme is supporting research to understand how the novel design and use of digital technologies can contribute to a innovative, healthy economy and inclusive society.

Opportunities

Digital technologies offer huge potential for providing efficient and easy to access public services. They can connect people in rural areas, enable remote access to healthcare, build social inclusion, and help solve our energy crisis. It has been estimated that if everyone was connected the Treasury would make overnight savings of £1.77bn.[1]

The UK has strong and vibrant creative industries and ICT sectors well placed to take advantage of the opportunities provided by new digital technologies and services. As a proportion of GDP, the UK has the largest creative industries sector in the world. Our ICT sector is the largest in Europe and expected to grow to over £29 billion by 2012. Combined these two sectors employ over 3 million people in the UK.[2]

Our priorities

The UK has world leading researchers and a history of excellent research in all the areas needed to create a truly inclusive digital economy. We are developing a research strategy around four main priorities to make sure we continue to be a world leader.

Communities and culture

Communities, participation and culture are changing in the digital age. It is important that we ensure digital interaction enhances, not replaces, current interactions.

IT as a utility

Digital infrastructure should be so simple, accessible and reliable it is invisible. In delivering this, questions need to be answered about whether people will trust it, how to ensure privacy is respected, and how to pay for it.

New economic models

The economy is becoming increasingly global and borderless. As new companies and individuals use digital technologies to innovate, the market can change rapidly. New business models will be created to adapt and take advantage of the changing environment.

Sustainable society

In the sustainable societies of the future, people will be able to make informed choices. Improved delivery of information and services will foster changes in behaviour to minimise the negative impact of our activities.

Research for the future

To address these challenges and opportunities, the RCUK Digital Economy Programme is bringing together a unique community of researchers from diverse disciplines including social science, engineering, computer science, the arts, and medical research to understand how digital technologies can be used to benefit different areas of society and the economy.

The programme includes projects focusing on healthcare, digital inclusion, improving our quality of life, increasing innovation in the UK economy, and stimulating the creative industries. Investments in large scale multidisciplinary research hubs are creating a critical mass of research activity.

Skills for the future

Seven unique training centres are bringing together students from a diverse range of backgrounds around central themes such as digital entertainment and web science. These are the only centres of their kind and will train over 450 PhD students in the next 5 years. All of the centres work closely with partners from industry, SMEs, government and charities to make sure their training and research meets real world needs.

[1] Digital Britain Report
[2] UK Trade and Investment

DIGITAL ECONOMY PROGRAMME IMPACTS

450
PhD students

400
user partners on digital economy research

Our investment includes:

£38m
investment in 3 major research hubs

£36m
investment in 7 Centres for Doctoral Training

Creating new partnerships

It is crucial to the aims of the programme that all research is driven by user needs. Over 400 organisations to date are involved in our projects, providing a real world context for the research. Many of the partners are new to the research area and are bringing interesting perspectives to the projects.

The programme has also established significant partnerships with government, industry and researchers in India and the US.

Partners include: Aardman Animation Alton Towers Resort Alzheimer's Society AT&T BBC Boots British Library BT Commission for Rural Communities DC10 Plus Deutsche Bank DSTL Electronic Arts E.ON FirstGroup Goldman Sachs Google HP Labs HSBC IBM Jaguar last.fm Merrill Lynch Microsoft Mott MacDonald Network Rail NHS NHS Direct Nokia Norfolk County Council O_2 Ordnance Survey Reuters RNIB Rockstar Games Saatchi & Saatchi Scottish Ambulance Service Serious Organised Crime Agency Siemens Sony Southampton City Council Tate Threeways School UKTI Unilever United Visual Artists V&A Museum Welsh Assembly Government Yahoo

"Working with universities has stimulated our thinking. I recommend it to any company seeking to innovate in a tough economic climate."

KEVIN THISTLETHWAITE, MOTT MACDONALD

CURRENT PROJECTS

- Led by the University of Ulster, a £9 million joint project with the Indian Government is bringing online education and healthcare to remote areas of the UK and India.
- New research led by the University of Oxford to create a 'digital hospital' could dramatically improve patient care and help save lives, time and money.
- VoiceYourView, led by Lancaster University, is helping make public spaces safer by facilitating the collection of spontaneous observations from the public.
- Bespoke, led by the University of Surrey, is helping people tell their own stories and use them to inspire radically simple design solutions.

Research Hubs:

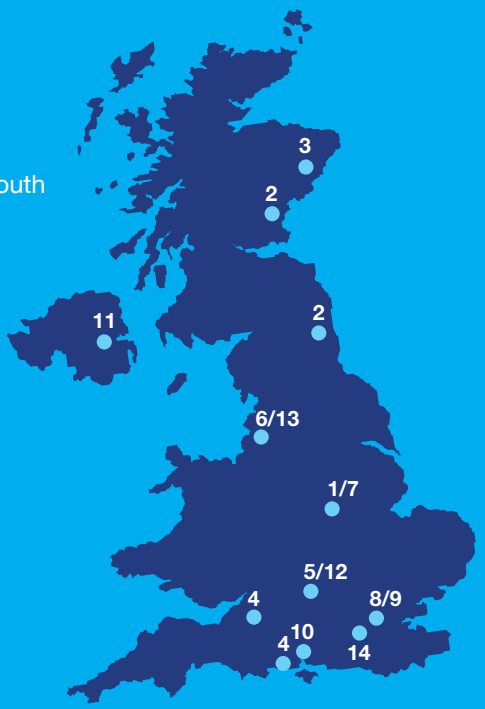
1. Horizon, University of Nottingham
2. Social inclusion through the Digital Economy, Newcastle University and University of Dundee
3. dot.rural, University of Aberdeen

Centres for Doctoral Training:

4. Digital Entertainment, Universities of Bath and Bournemouth
5. Healthcare Innovation, University of Oxford
6. High Wire, Lancaster University
7. Horizon, University of Nottingham
8. Media and Arts Technology, Queen Mary University of London
9. Financial Computing, University College London, London School of Economics, and London Business School
10. Web Science, University of Southampton

Current projects (see above):

11. University of Ulster
12. University of Oxford
13. Lancaster University
14. University of Surrey



CASE STUDY 01
HARNESSING OUR DIGITAL FOOTPRINTS

Researchers in the **'Horizon'** Research Hub at the University of Nottingham are exploring how to beneficially harness the tracks we leave behind whenever we use mobile, internet and other digital technologies.

Researchers are investigating the developments needed if this information is to be controlled, managed and harnessed to develop new products and services for societal benefit. Their research is combining technological advances with an exploration of the ethical and business transformation issues involved – seeking to stimulate a public debate on potential concerns about 'surveillance society'.
www.horizon.ac.uk

70% of UK households

are connected to the internet. The ethical use of 'digital footprints' could help develop new products and services.

CASE STUDY 02
BUILDING A TRULY INCLUSIVE DIGITAL ECONOMY

Poor health, disability, family breakdown, poverty and unemployment are just some of the reasons why people of all ages may become marginalised within society. They may also lack the skills, confidence and opportunities to access the digital technologies that could transform their lives.

The **'Social inclusion through the Digital Economy'** Research Hub at Newcastle University is addressing four fields where digital technologies can help build a truly inclusive digital economy that delivers major social benefits. These are: connected homes and communities; accessibility; inclusive transport services; and creative industries.
www.side.ac.uk

AgeUK, Philips Research, IBM, Microsoft, Alzheimer's Society

and other partners will be closely involved in the research.

CASE STUDY 03
EMPOWERING CHILDREN WITH COMMUNICATION DIFFICULTIES

New technology is helping children with disabilities to take control of their conversations and share school experiences with family. The software system gathers information about a child's daily experiences at school and a computer converts the data into a story the child can share at home.

The system was developed by researchers at the Universities of Dundee and Aberdeen to enable children with disabilities to have conversations in a faster, more interactive way. It works through a sensor attached to the child's wheelchair, which tracks and records their movements during the school day. Teachers and carers use swipe cards to tell the system who the child has met and what activity they have been involved in.

5,500
five year olds
in 2007 had complex communication needs

CASE STUDY 04
HELPING END RURAL ISOLATION

Healthcare, transport and other vital aspects of rural life could be fundamentally transformed by digital technologies.

Researchers at the **'dot.rural'** Research Hub at the University of Aberdeen are exploring the contribution digital technologies can make to enhancing key services, generating business opportunities, boosting quality of life and promoting economic, social and environmental sustainability in rural areas of the UK.
www.dotrural.ac.uk

15m people
living in rural areas in the UK could benefit from new digital technologies that target isolation

Led by the Engineering and Physical Sciences Research Council (EPSRC), the Digital Economy Programme brings together the work of EPSRC and that of the Arts and Humanities Research Council (AHRC), the Economic and Social Research Council (ESRC) and the Medical Research Council (MRC).

www.rcuk.ac.uk/digitaleconomy