Invitation to apply to participate in workshops to develop research challenges and research networks.
Closing date for Expression of Interest applications: 12:00 midday on 30 November 2011.

The Digital Economy Theme

The Research Councils UK Digital Economy (DE) Theme is supporting research to rapidly realise the transformational impact of digital technologies on aspects of community life, cultural experiences, future society, and the economy (www.rcuk.ac.uk/digitaleconomy).

EPSRC leads the DE Theme on behalf of the partner research councils AHRC, ESRC and MRC, bringing together a unique community of researchers from diverse disciplines including computer science, engineering, social science, the arts and medical research; a combination of research and skills that coupled with user-led design will deliver impact.

Digital Economy Sub-themes

The DE Theme has formed four ‘sub-themes’ to describe the research we support (further described at the end of this document):

- **Communities & Culture** - As people interact more and more over the web, what might ‘community and culture’ mean within a digital society?
- **Sustainable Society** - Digital technologies can be used to make services more sustainable and enhance current systems (economic, environmental and social), in a way that is accessible, affordable, bespoke and popular.
- **IT as a Utility** - To realise the digital economy, digital infrastructure should be so simple, accessible and reliable it is invisible to the consumer.
- **New Economic Models** - New business models in a digital economy will create a more flexible, dynamic, resilient and individual-centred economy for the UK.

We now wish to further develop these sub-themes, and so are seeking applications from interested researchers and users to attend a number of one-day workshops, to explore the opportunities and associated research challenges in these sub-themes and also to create a longer term network of researchers and users around the sub-themes.

Sub-theme Workshops & Networks

At the workshops attendees will consider the sub-theme remit and associated DE Theme portfolio, and identify the opportunities within the sub-theme and the associated research challenges, prioritising where the DE Theme could add value and have maximum impact.

Following on from the workshop, we envisage the sub-theme network creating a community around the sub-theme, expanding the network to include other relevant stakeholders, whether academic, users or other stakeholders.

The network will also continue to develop the research challenges and priorities in the sub-theme and also gathering information on the sub-theme landscape (e.g. other activities, funders etc.). The DE Theme will use these network outputs to inform future investment.

Workshop Dates and Locations

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<tr>
<th>New Economic Models - Monday 23 January</th>
<th>IT as a Utility - Tuesday 24 January</th>
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<tr>
<td>Communities &amp; Culture - Thursday 26 January</td>
<td>Sustainable Society - Friday 27 January</td>
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The locations have not yet been confirmed, but attendees will be informed of the location when they are selected.
**Applying to participate**

The EoI form is in two sections:

- **Application to attend the workshop**, open to any interested parties.
- **Application to hold the resultant network grant**, only open to applicants eligible to hold EPSRC grants. Further information on the eligibility criteria can be found on the EPSRC funding guide: www.epsrc.ac.uk/funding/apprev/fundingguide/Pages/default.aspx. A list of organisations eligible to apply is provided at: www.rcuk.ac.uk/research/Pages/Eligibilityforrcs.aspx. Any queries over remit or eligibility for this call should be made by email to the contacts listed below.

Please fill in the appropriate sections, but please note that you will not be considered to hold the grant unless you are selected to attend the workshop. Applicants may apply to attend as many of the workshops as they feel they can contribute to, however an application to attend is taken as a commitment to attend if selected.

Details of how to submit the EoI are contained in the EoI. **The deadline for submission of the EoI is 12:00 on 30 November 2011.** Applicants will be informed of the outcome of their application by the 16 December 2011.

**Selection process**

The panel meeting to select participants will be drawn from the DE Programme Advisory Board.

**Attendees**

From the Expression of Interest (EoI) submitted we will select the attendees based on the following criteria:

- How their expertise is relevant in addressing the opportunities and challenges in the sub-themes
- How their expected interaction with the workshop and network will benefit both them and the network.

We will also look to maintain a balance of Institutional representation. Those selected to attend will receive further briefing before the event.

**Network lead**

The selection panel will then select, from those EoIs selected to attend, one attendee to be the Principle Investigator on the Network Grant, based on the answers to the second section of the EoI. The selection criterion will be the applicant’s vision for how the network will operate and engage with relevant stakeholders. The person selected to hold the network grant will receive further briefing on this aspect before the event, however general information on Networks can be found at www.epsrc.ac.uk/funding/grants/network/networks/Pages/default.aspx.

**Equal opportunities**

EPSRC are committed to a policy of equal opportunities for our applicants for funding. No eligible applicant should receive less favourable treatment on the grounds of disability, sex or gender re-assignment, marital status, sexual orientation, pregnancy, race, colour, nationality, ethnic or national origin, religion or belief, or contractual and work roles.

If anybody has any concerns regarding our equal opportunities policies or any other aspect of the this application process then please contact us to voice these issues as we constantly strive for absolute equality within our organisation, and we make every attempt to make events available to as many people as possible.

**For further information**

- Dr Richard Bailey, Senior DE Theme Manager, Richard.Bailey@epsrc.ac.uk, 01793 444432
- Dr Hannah Foreman, DE Theme Manager, Hannah.Foreman@epsrc.ac.uk, 01793 444428
- Dr John Baird, DE Theme Lead, John.Baird@epsrc.ac.uk, 01793 444047
Why is this an important theme?

Society at large is an interwoven connection of communities, which together define a national (or international) identity from many sub-cultures. These communities, both physical and virtual, can be the glue that enables the country to address and deal with some of the big societal challenges facing us, and yet also support us as individuals to experience, enjoy and deal with life. The impact communities and culture have on our lives are varied and substantial:

- People need to feel we are part of a community, however it is defined. Having social contacts affects individuals in many ways, including their emotional and physical wellbeing, and productivity.
- Civil society – clubs, associations and interest groups form wide ranging networks across society. The information and engagement they bring can change way of life, often centred around social entrepreneurs.
- The expression of creativity leads to the generation of culture and social value. This is how people build a sense of cultural identity (e.g. songs, pictures, stories), and maintain and grow their cultural heritage.

Enabling new communities to grow, whilst supporting the development of new and existing culture is vital to the social and economic prosperity of the country. Communities and society are ever changing, evolving in response to new developments, technologies and ideas. As people interact more and more over the web, what might ‘community and culture’ mean within a digital society? What are the opportunities that a digital society would offer society as we know it today? What new forms of community, creativity and culture might emerge? What dangers and risks to society would the virtual world bring with it, whether new or reimagined?

Why is the Digital Economy important to this area?

There is a real potential for the creative strength and richness of communities and culture to be transformed by the enabling power of digital infrastructure, just as business and industry will be. However communities will need a digital environment in which to develop, an environment that is inclusive, open and does not isolate or alienate parts of the community. To take advantage of this we need an understanding of how such an environment might develop and operate, how it might support a community and how they might respond to it.

- How will wellbeing and personal issues be supported by the DE? What makes people feel connected in the DE? How can you predict how people will respond to digital stimuli?
- What would be the relationship between virtual and real communities? Would society develop a separate view of ‘real’ and ‘virtual’ communities? The physical world can take on new dimensions, new richness, new communities, arising from its interaction with the virtual. What would emerge from a ‘Post-Digital’ age, a hybrid culture?
- How would society be transformed by the digital economy? What new ways of association will be formed? How might we enable a greater diversity of community participation in society? What new forms of dialogue might arise and actually change the level of participation? How do we ensure more cohesion and inclusion as the DE progresses? What is the nature of human capital that needs to underpin this transformation?
- How might the DE enhance creativity? What extra value could be generated by digital interactions and how do you turn this into wealth, both fiscal and cultural? How do you facilitate an individual or community to create/generate new digital culture? How do you capture, preserve and add value to existing culture?
Why is this an important theme?

Digital technologies can be used to make services more sustainable and enhance current systems (economic, environmental and social), in a way that is accessible, affordable, bespoke and popular. The Digital Economy has potential to transform lifestyles and improve quality of life, having an impact on society as a whole.

Our ways of interacting and networking in research, business etc. are changing: using digital technologies to thread disconnected systems together, individuals can be well connected and informed on a personal level. By collating and using information to deliver timely and appropriate options, service providers can enable consumer choice and delivery of improved services at decreased cost.

On an increasingly instrumented planet, there is a need for creation of open standards and development of user accessible tools for life. In sustainable societies of the future, people will be able to make informed sustainable choices. Improved information delivery (economic, environmental, social and political) will foster changes in behaviour to minimise the negative impact of our activities.

Why is the Digital Economy important to this area?

The Digital Economy will help provide the technologies and socio-economic understanding to deliver services sustainably.

Research in this area requires a holistic, multi-disciplinary approach to address not only the technical challenges, but also the human aspects (e.g. how to encourage personal motivation to engage and change attitudes and behaviours, how to build trust in information and services).

Information: people will need the right information at the right time in the right format for them. How do we get individuals well connected and informed? How can we ensure delivery of high quality, trusted information with a consistent, personal, bespoke user experience, but without breaking privacy? What are the challenges in creation of open standards and associated legal frameworks? How can we tackle the challenges of creating knowledge, from information, from data?

*The DE has the potential to transform how we deliver services and thus have a transformational impact on society, for example:*

- Transport: Which technologies and what cultural changes are needed to realise a society where there is no need to own a car and there are real alternatives to long-distance air travel?
- Energy and the Environment: Digital technologies can facilitate energy demand reduction at a number of levels of interaction between society and the energy system. How can the DE lower the negative environmental impact of societies and inform drastic decisions about scarce resources?
- Healthcare: Is the current model sustainable? How can we encourage a shift in focus of the current healthcare system to tackle long-term problems? The DE has a role in addressing the challenges of delivering high quality, personalised healthcare, managing wellness and driving down the cost of healthcare provision.
Why is this an important theme?

To realise the digital economy, digital infrastructure should be so simple, accessible and reliable it is invisible to the consumer. Enabling society to connect digitally, with anyone, anywhere, anytime, will place IT as a utility, alongside water, electricity and gas. This utility utopia will enable all customers to satisfy their IT needs by becoming a basic necessity for living and working in a digital world. This level of service and automation is essential to ensure the UK is one of the most innovative and entrepreneurial societies in the world.

IT as a utility will:

- **Revolutionise services**: Platforms, such as the cloud, will allow new businesses to grow and expand and offer alternative business models.
- **Connect society**: The ability of Government to deliver more services on-line, in a user-friendly manner, will lead to a fairer society.
- **Provide choice**: Proper regulation and standardisation will permit customers to select the best provider for their personal needs and budgets.
- **On demand**: People expect instantaneous and ubiquitous access to content.

In delivering this, questions need to be answered about the social acceptability of such a service, its security and the surrounding issues of privacy and trust.

Why is the Digital Economy important to this area?

There is a need to understand human behaviour and explore future economic landscapes to design a service that has the required functionality, comfort and performance needs of all consumers. There is a risk that the service provision of IT is driven by the technical or financial opportunities and fails to deliver for those that will use it, and those not currently part of the Digital Revolution. In order to mitigate that risk, we must take advantage of the multidisciplinary, user-led approach of the Digital Economy. Key challenges to address include:

- **What platforms should be used?** Consumer’s “on-demand” expectations mean that simply delivering faster broadband will not satisfy their needs. Mobile technologies, such as 3G, will become increasingly critical and opportunities afforded by cloud computing will revolutionise current business practices. It is essential to understand the associated opportunities and challenges.
- **How do we regulate?** In entering this uncharted territory, there are complex legal and economic issues, including questions about choosing an appropriate billing system. Regulation is critical to avoiding monopolies and technology lockowns, which can result in inflexible systems, not fit for purpose. The future could see compute cycles being traded as a commodity on the stock market.
- **How do we access the services?** The apps revolution and proliferation of smart phones is defining how we might interact with these services. The move away from live content to an ‘on-demand’ approach is another defining factor in future access. In considering how we access on-line services an important social issue is managing people’s expectations, for example, what is the long-term storage commitment of providers and do we capture ephemeral data?
- **How do we ensure appropriate security, privacy and trust?** There are crucial questions to be addressed in terms of Data ownership and our digital footprints. How do we regulate the capture, storage and interpretation of personal data?
**Why is this an important theme?**

The digital economy is expanding rapidly, and has the potential to be more important than the industrial revolution. In the industrial revolution, it was the technology that advanced, but it was the economic benefits which transformed communities and the world. It will be the same for the Digital Revolution, new economic models will be responsible for growth in the Digital Economy far beyond the boundaries that exist today.

Currently, the digital economy is a part of the overall economy, will this distinction continue to exist, or will the whole economy become digitised in some way? Using digital technologies to sell products, provide services, find new customers or provide a new interface to your business will all become commonplace in business very rapidly.

Organisations like Google, Egg Bank, Facebook, eBay and iTunes have created new, successful, innovative business models that have an entirely online presence. What made these businesses successful? What does the future hold for them? What will be the next big digital business?

It is also crucial to consider what the new Digital Economy means for existing businesses. How can they best grasp the opportunities and adapt? In order to remain competitive in the, now globalised economy, the UK must seek to create innovative, adaptive and successful businesses for the future.

There will be continued and growing interest and opportunities in mobile devices and connectivity. The business models for this are still emerging, e.g. unlimited data access and paid-for applications. This concentration on the future of mobile technologies will also be driven by countries such as India, Kenya and China, which represent a huge market opportunity. The take up rate of mobile phones has increased by 550% in 5 years in Africa, there are now 350m mobile phone subscriptions in Africa.

New business models in a digital economy will create a more flexible, dynamic, resilient and individual-centred economy for the UK.

**Why is the digital economy important to this area?**

The digital economy will enable new businesses to form and will create opportunities for current businesses to adapt and become more successful.

Many of these new businesses will only be possible due to specific new technologies and others will be novel adaptations of well established technologies. No matter what the enabling technology there are many other factors, which must be considered to ensure that a new economic/business model is sustainable and beneficial to individuals and to the UK.

These factors could include, societal attitudes, technical challenges and law or regulatory matters amongst many others, and will require transdisciplinary input and expertise (both technical and non-technical) in order to investigate and solve the challenges and take advantage of the opportunities that digital technologies are creating.

There is now the potential for a company to grow quickly to the size of GDP of a small country (e.g. Google), without any formal consideration, regulation or control. We must, therefore, ensure that the possible impacts on the individual, society, the economy and national security, amongst others are considered, alongside the potential for wealth creation and technological development.