Engineering and Physical Sciences
Research Council

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Investing in research for discovery and innovation

EPSRC ICT Theme Update

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UK Ontology Network Meeting, 14 April 2016

What am I going to talk about?

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- Quick introduction to EPSRC and the ICT Theme
- Share current EPSRC and ICT Theme strategy
- Update on current financial situation
- Update on Balancing Capabilty refresh exercise
- Some opportunities

Introduction to EPSRC

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- EPSRC is the main UK government agency for funding research and training in engineering and the physical sciences, investing more than £850 million a year.
- With a mission to promote and support, by any means, high quality basic, strategic and applied research and related postgraduate training in engineering and the physical sciences.
- And advance knowledge and technology, and provide trained scientists and engineers, which meet the needs of users and beneficiaries, to the benefit of the UK.

EPSRC Strategic Plan

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One vision……

Our vision is for the UK to be the best place in the world to research, discover and innovate

Two goals…..

RESEARCH and DISCOVER

RESEARCH and INNOVATE

Three strategies…..

Balancing capability

Building leadership

Accelerating impact

Science for a successful nation

The case we have made to Government

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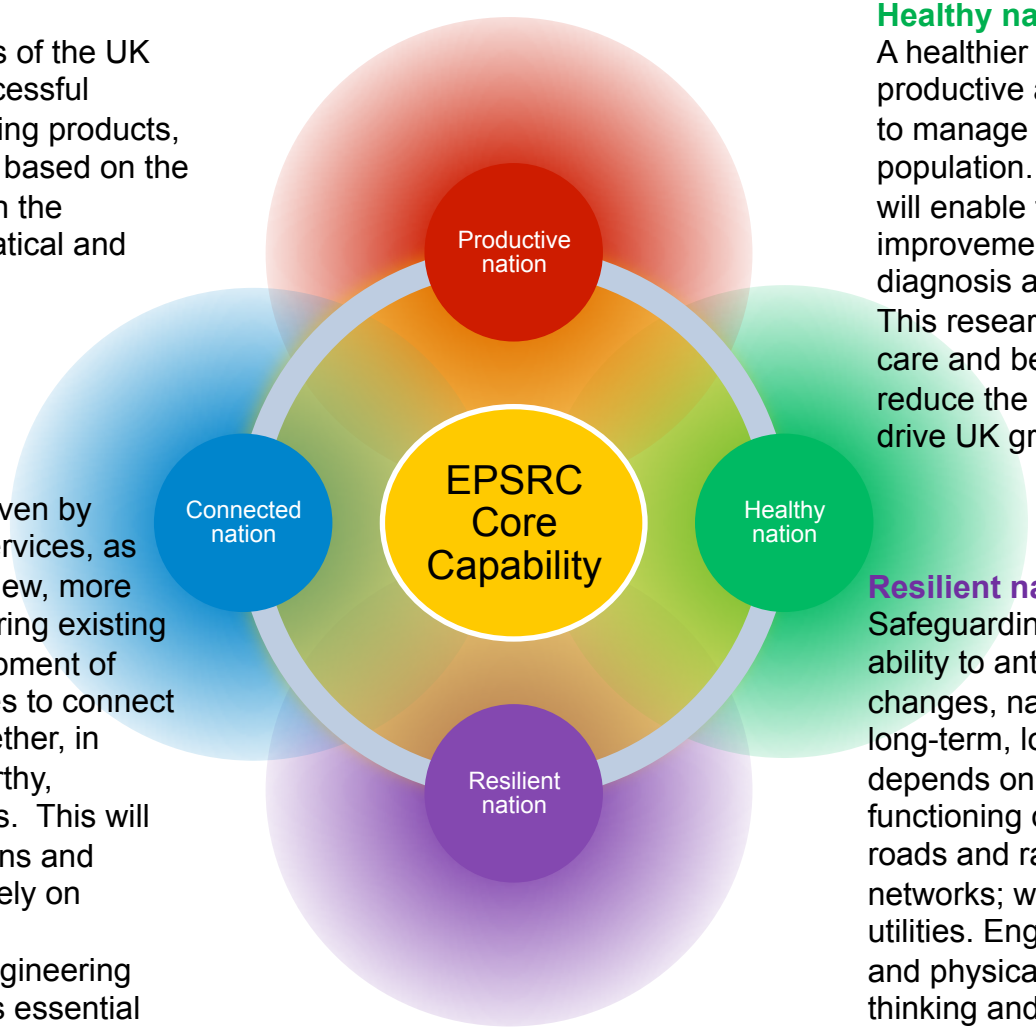
Productive nation

The future competitiveness of the UK economy requires the successful development of world leading products, processes and technology based on the discovery and innovation in the engineering, ICT, mathematical and physical sciences

Healthy nation

A healthier society will be more productive and resilient, and better able to manage the impacts of an ageing population. Innovative technologies, will enable transformative improvements in the prevention, diagnosis and treatment of illness. This research will deliver higher quality care and better patient outcomes, will reduce the cost of healthcare and will drive UK growth.



Connected nation

The UK's success will be driven by whole new industries and services, as yet unimagined, as well as new, more cost effective ways of delivering existing services through the development of transformational technologies to connect people, things and data together, in safe, smart, secure, trustworthy, productive and efficient ways. This will drive growth across all regions and sectors of the UK. This will rely on discovery and innovation in mathematics, computing, engineering and physical sciences and is essential to deliver a knowledge economy.

Resilient nation

Safeguarding our way of life requires an ability to anticipate, adapt and respond to changes, natural or man-made, short or long-term, local or global. UK prosperity depends on the smooth and sustainable functioning of complex infrastructures: roads and railways; communications networks; water, energy and waste utilities. Engineering, mathematics, ICT and physical sciences can lead the new thinking and innovation needed to build a truly resilient nation for the future.

Funding situation

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- Research budget - including the Research Councils: **flat in real terms**
  - Allocation to Research Councils
    - Research Council baselines
    - Prior commitments
    - Official Development Assistance
  - RCUK Communications soon
  - EPSRC Delivery Plan in mid-April
  - **Funding doesn't stop**

ICT Theme overview

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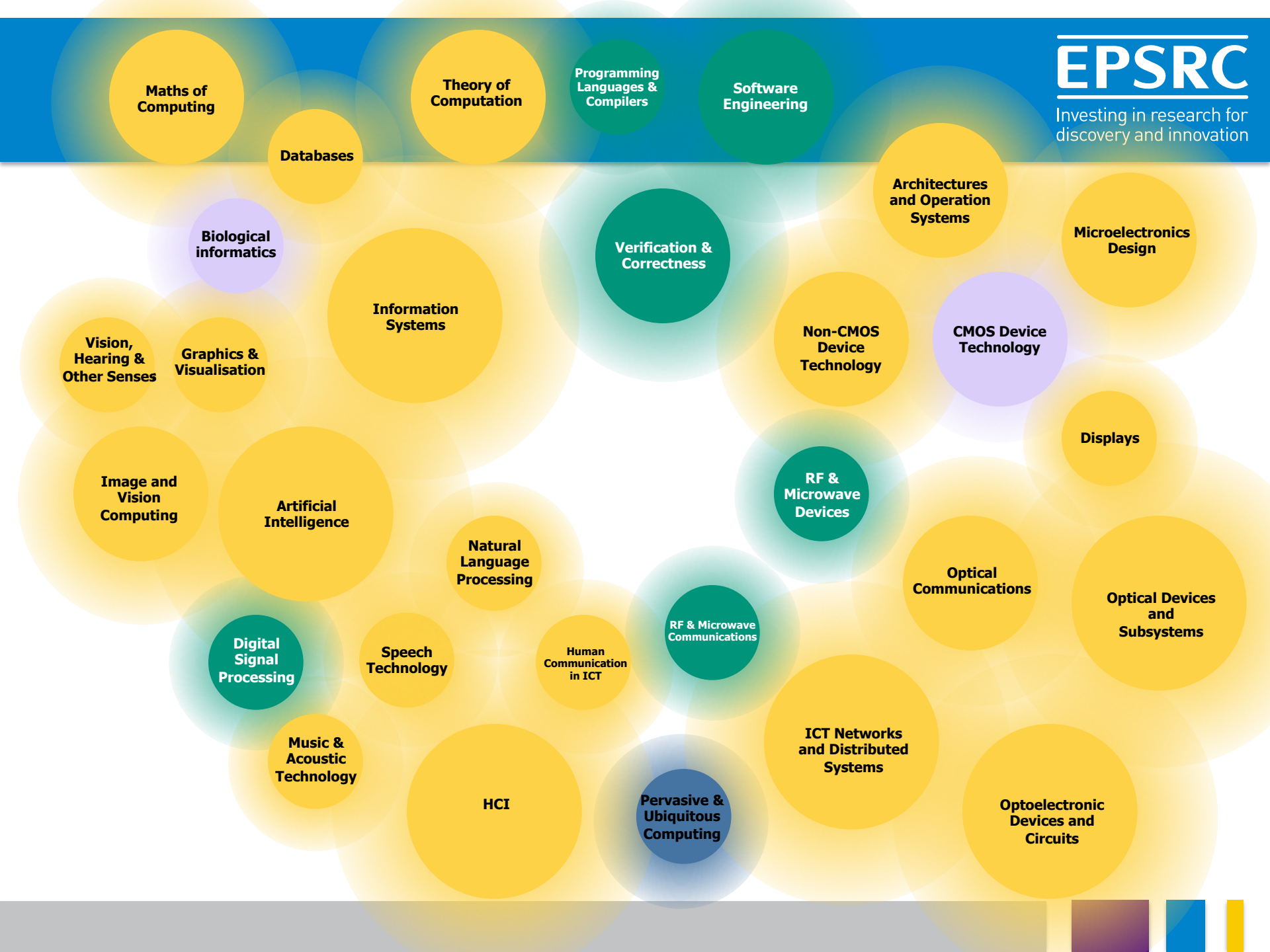
- Includes UK research into computer science, user-interface technologies, communications, electronics and photonics-around the common thread of:
  - New ways to transmit, present, manage, analyse, process, generate or understand information
- Focus is on ensuring there is a strong UK capability
- Covers a broad and diverse range of areas, communities and disciplines
- Large domain with active interfaces with all other Themes
- Interrelationships between research areas, within and beyond ICT are important
- Has a technological context and the connection to practice is important


Maths of Computing
Theory of Computation
Programming Languages & Compilers
Software Engineering
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Databases
Architectures and Operation Systems
Microelectronics Design
Biological informatics
Verification & Correctness
Information Systems
Non-CMOS Device Technology
CMOS Device Technology
Vision, Hearing & Other Senses
Graphics & Visualisation
Displays
Image and Vision Computing
Artificial Intelligence
RF & Microwave Devices
Natural Language Processing
Optical Communications
Optical Devices and Subsystems
Digital Signal Processing
Speech Technology
Human Communication in ICT
RF & Microwave Communications
ICT Networks and Distributed Systems
Music & Acoustic Technology
HCI
Pervasive & Ubiquitous Computing
Optoelectronic Devices and Circuits

ICT Cross ICT priorities

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- *Towards an intelligent information infrastructure (TI3)*
- Many-core architectures and concurrency in distributed and embedded systems (MACDES)
- Photonics for future systems (PfFS)
- New and emerging areas (N&E)
- *Working together (WT)*

Strategy and priorities for ICT research and research training

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- We are in the middle of work on refreshing our
  - Positions on individual research areas
  - Cross research area priorities
- Which remain in place until we refresh them….

Refresh of positions and priorities-why?

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- Finite resources
- Need to address strategic priorities
- Ensure they are a useful way of managing the portfolio-understandable and meaningful
- Allow new areas to emerge
- Achieve appropriate balances between
  - Priorities
  - Flavours of research
  - Themes
  - Mechanisms
  - Research areas

Refresh of positions and priorities- how and what?

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- Lots of thinking has already been done
- We have shared some thinking and gathered feedback on it
- Cross Theme discussions
- We have engaged through various workshops, meetings, and visits and will continue to do so

Refresh of positions and priorities- what?

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- Still work to be done, but thinking is well developed
- Haven't reached conclusions-so input is welcome but sooner rather than later (see next slide)
- Announcement of conclusions in December 2016
- Planning sessions, workshops and visits to assist communication and implementation of these

Call for Evidence

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- Call for evidence - open now to provide EPSRC with evidence
- Returns from universities, businesses, and recognised professional bodies
- All research areas will invite responses however research areas will be highlighted where specific evidence is sought
- Input will be against the following headings:
  - Quality
  - National Importance
  - Capacity (including research and people)
  - Further information
- Inputs will need to be backed by publications, reports, reviews, strategies and professional communications rather than personal views or opinions
- The returns period will open on **11 April** and will close on **03 June 2016**. More details here: https://www.epsrc.ac.uk/newsevents/news/bcevidencecall/

Some opportunities…

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- **EPSRC Associate Peer Review College** refresh
  - EPSRC has an Associate Peer Review College, and a Full Peer Review College. All new members are initially invited to join the Associate College, with the opportunity to be promoted to the Full College once they have fulfilled certain criteria.
  - Expressions of interest are now being invited from candidates who wish to join the Associate Peer Review College.
  - Aspiration to better reflect the diversity and experience of our science base and increase our access to expertise in cross and multi-disciplinary areas.
  - Deadline for Expressions of interest: **10 May 2016.**
  - More details here: https://www.epsrc.ac.uk/funding/calls/associatepeerreviewcollege/

- **Strategic Advisory Team nominations** coming up soon
  - keep an eye on the website

The ICT Team

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Liam Blackwell	Theme Lead
Nigel Birch	Digital Signal Processing; Music & Acoustics
Zoe Brown	Graphics, Image & Vision, Speech, Biological Informatics
Lisa Coles	HCI, Pervasive and Ubiquitous Computing
Miriam Dowle	Information Systems, Databases, Software Engineering
Ellie Gilvin	Impact in the ICT Theme
Diane Howard	Artificial Intelligence, Natural Language Processing
Alex Hulkes	Cybersecurity
Adam Luqmani	Fundamentals of Computing
Sarah Newman	Electronics
Matthew Scott	Communications
Susan Peacock	Photonics
Helen Money-Kyrle	Year in Industry Student

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Thank You

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