The future of EU funding for research and innovation

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Plymouth University

- €11 Million EU research funding over last 4 years
- Top 50 Research University
- Research Fortnight magazine's 'most improved' for RAE2008
- EU projects in key areas such as Marine and Robotics
- 'Off the curve' – high Q research in key areas and 95% of intake from state schools

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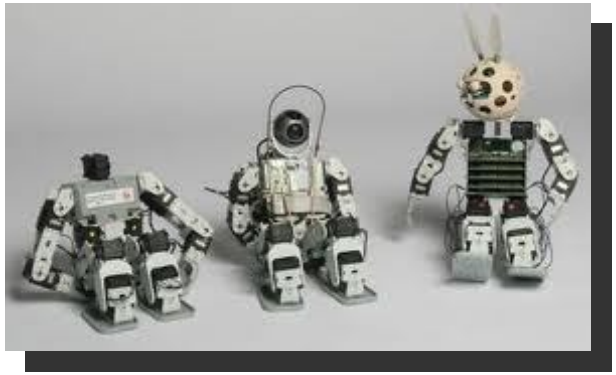
Robotics

FP7 - ITALK studies how language and action interact with cognition using a humanoid robot, the iCub, as a test platform to research how intelligence can be recreated. ***[€6.25M project]***

Marie Curie ITN - ROBOTDOC trains early career researchers to study cognition



FP7 - ALIZ-E studies human-robot interaction

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Marine

FP6 - ELME models the impact of EU policy on human impact on Europe's regional Seas

FP7 - KnowSeas assesses sustainable management of European Seas and how scientific knowledge informs decision makers.

FP7 - SOWFIA looks at the wider impact of Ocean Wave Farms.

INTERREG IV - PROTTEC works to develop *Technology Transfer with* SMEs in the field of marine renewable energy.

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Setting the scene

- UK has solid foundation - but EU lags behind other international competitors – US, China
- A quarter of total world R&D expenditure in EU
- On the current trend, China is set to overtake the EU by 2014 in terms of intensity of R&D expenditure.
- EU - major asset –large number of researchers and skilled human resources

1.5 million FTE researchers in EU
1.4 million in the United States
0.71 million in Japan.
China - world lead with 1.6 million

- The EU will need to create at least 1 million new research jobs if it is to reach an R&D intensity of 3%

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Relevance of EU research funding

- Research funding generates innovation
- Innovation drives UK economic growth
- UK needs to increase applications to get a greater share of the funding
- EU needs a million doctoral graduates – big push – opportunity for the UK
- European innovation partnerships – accelerate UK research development

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Driving collaboration

- EU research funding supports partnerships with groups across Europe and beyond
- Importance for internationalisation
- Both capacity building and shared excellence
- Access to shared resources and technology
- Opportunities for PG/PDoc students
- Positive impact on industry and business (SMEs)

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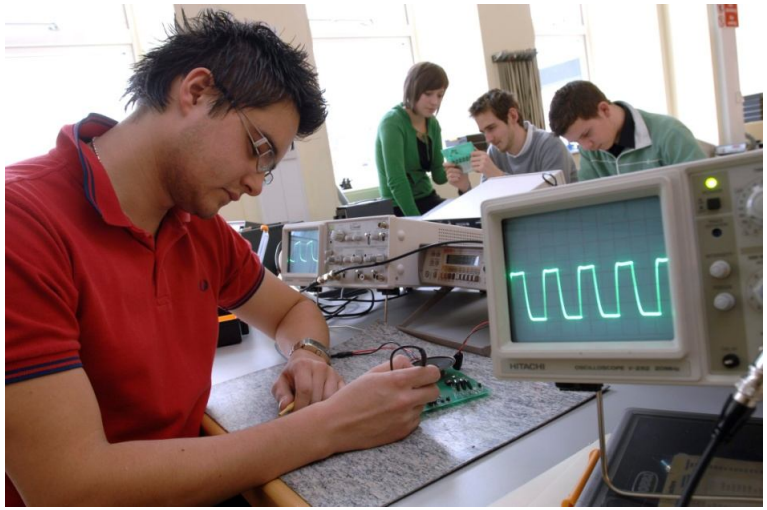
Innovation for growth

Research and innovation is vital to growth in excellence in Europe *(Europe 2020)*



Increased focus on:

- Impact
- Evaluation
- Dissemination
- Knowledge Transfer & commercialisation

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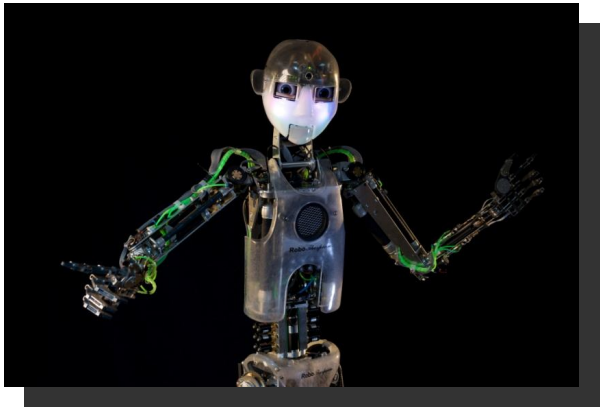
EU research programmes

FP7 (2007-13)

- €6 billion/year increasing to €10+ billion (2013)
- Funds 5% of overall EU civil investment in R&I



FP6 contributed to:

- Increased industrial competitiveness
- Generated extended networks
- Strengthened knowledge and infrastructure in Europe

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Thematic approach

That mirror EU societal challenges

- Climate change
- Energy security
- Water security
- Food security
- Ageing population
- Protection of natural resources

... ***emphasis on innovation***

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Working with SMEs

- *Importance of universities as SMEs R&D arm*

- **Capacities Programme - Research for the benefit of SMEs (€1336M in FP7)**

- Objective is to strengthen ‘innovation capacity’ of SMEs

- SMEs - 99% of enterprises in EU/66% of EU GDP/75M jobs

- Big opportunity for UK …

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Supporting national agenda

- Expand national opportunities such as KTPs which have traditionally offered link into SMEs

- Grow regional innovation landscape

Eg Plymouth – Innovation Centres in Cornwall, Tamar Science Park, Marine commercialisation

POOL INNOVATION CENTRE™

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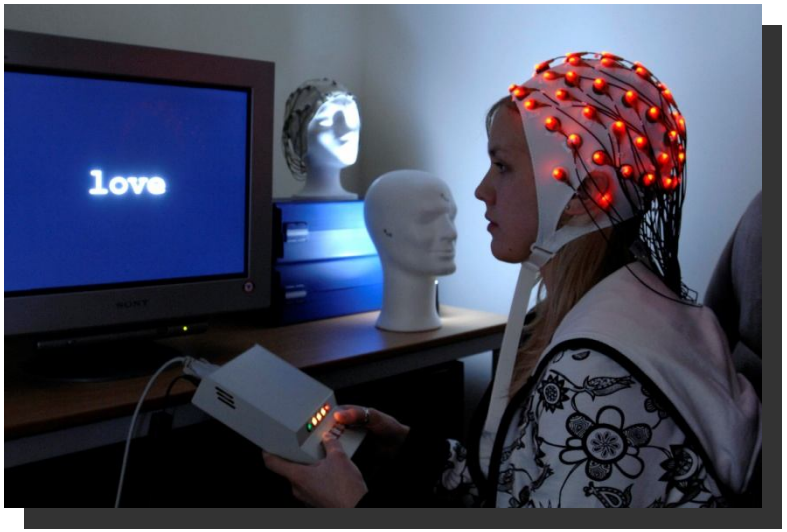
Multidisciplinary approach

Knowledge for the future

Focused on key technologies such as:

- ICT
- Nanotech
- Biotech
- Space
- Aerospace



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Interdisciplinary opportunities

FP6 – PLYMOUTH European Lifestyles and Marine Ecosystems project

- 4 year programme
- Involving 20+ institutions across Europe
- Pioneering interdisciplinary approach
- Combining teams of ecologists, chemists, modellers and fishery scientists with lawyers, economists and anthropologists

This allowed a complete assessment of how human activities have impacted European seas, the social and economic drivers forcing these changes and how changes to European economic scenarios will alter policy, economic and social activity and thus predict the impact of these activities on the marine environment.

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Issues

- Bureaucratic
- Financially complex
- Resource demanding
- Excessive financial reporting to commission
  (especially for lead partner - requires dedicated staff)
- Time sheet requirements administratively demanding
- INTERREG programme auditing particularly onerous paper trails

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Vision for the future

- Simplification
- Trust based - tolerance of risk
- Increased flexibility
- Greater SME engagement
- Accounting and reporting minimum
- Emphasis on impact (papers, outputs)
- Agile and responsive – frontier research
- A balance of curiosity and agenda driven
- Coherence with other programmes
- Address ‘grand’ societal challenges
- Alignment with Europe 2020

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Direction of travel

- Strategic & connected
- Collaboration – EU/third countries/SMEs
- Multi-disciplinary (sciences, arts, humanities and tech)

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Next steps

- Emphasis on societal benefit
- Importance of investment in education , R&D, innovation and ICT *(Even in times of fiscal constraint)*
- Stronger link between EU and nation R&I systems
- Modernise education systems
- More innovation from research
- Co-operation between research and business *(remove obstacles & put incentives in place)*

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Thank you

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