European Information Society Technologies (IST) Research (2005-2006): Building on Assets, Seizing Opportunities

During the second half of the EU's Sixth Research Framework Programme for 2002-2006 (FP6), the Commission's IST research activities are building on the lessons learnt during the first two years and focus on a limited set of Strategic Objectives.

If Europe is to meet its "Lisbon goal" of becoming the most competitive and dynamic knowledge-based economy in the world, it must both increase its public research effort and make the EU more attractive for private investment in research.

Taken as a whole, the EU *can* offer companies a world-class pool of high quality research resources. Through European cooperation and coordination leadership in key technological areas can be built and common goals pursued;

Nowhere is this research effort more important than in Information and Communication Technologies (ICT) – the largest thematic priority of FP6. The Strategic Objectives for 2005-06 reflect the changing environment for ICT research:

- ICT research is increasingly organised on an international scale, as firms relocate research and development (R&D) activities in the face of global competition;
- innovation processes are more open, with wider and faster exchanges of ideas, people and resources;
- technology chains are more complex, making it more difficult for any single player to establish industrial leadership in any ICT field and
- new promising fields are emerging at the cross-over between ICT and other disciplines such as biotechnologies.

An Integrated Approach

The IST Strategic Objectives therefore address technology components, their integration into systems and platforms, and the development of innovative applications and services.

Proposals addressing a specific Strategic Objective should cover all the research necessary to achieve its goals, possibly spanning the value chain from technology components to applications and services.

A key component of this integrated approach is the need to bring together different types of communities from the IST user and supply industries, academic research, and large and small companies. The goal is to help establish solid frameworks for collaboration both within and across industrial and technology sectors.

This is reflected in the programme-wide emphasis on the needs of small and medium-sized enterprises (SMEs); the integration of the IST research effort in an enlarged European Union; the involvement of Associated Candidate Countries and Associated States; and international cooperation.

Over recent years, over half of the productivity gains are explained by advances in ICT and their impact on organisations, business processes and markets

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The European Union's ICT Policy at a Glance

The EU's ICT policy is built on three interlinked pillars.

- stimulating R&D in ICT to master the technologies that will drive future innovation and growth;
- promoting the widest and best possible use of ICT-based products and services by all citizens;
- creating a regulatory environment that ensures fair competition and eliminates obstacles to ICT adoption.

By addressing these aspects through a coherent strategy, EU policy aims to enable Europe to take full advantage of ICT. In particular, an indigenous research capacity is essential to master, assimilate and use the technology to benefit Europe's economy and society. Community support for IST R&D focuses on the work that is essential at European level, helping to mobilise the EU's industrial and research community around high-risk, long term goals.

Priorities for 2005-2006

The Work Programme for 2005-06 aims to align research so that it responds to the emerging policy and market environment and puts Europe in a position to exploit future opportunities.

In particular, it puts more emphasis on:

- mastering complexity by pioneering new approaches to cope with the infinitely small as well as the very large – e.g., System on Chip in nanoelectronics, complexity in software development, broadband communications and Grids (which link up huge arrays of computers);

- exploring multidisciplinary fields combining ICT with other science and technology fields – e.g., micro and nanosystems, ICT for health, cognitive systems and Future and Emerging Technologies (FET) and

- promoting innovation from ICT use by bringing services and technology developments closer together – e.g. mobile communications, micro/nanosystems.

Integrated Projects (IPs) will be used as a priority means when appropriate. **Specific Targeted Research Projects** (STREPs) will be used to address specific parts of the technology or value chain or to explore new ideas. **Networks of Excellence** (NoEs) will be used to structure research in specific IST domains. Other instruments such as **Coordination Actions** (CAs) and **Specific Support Actions** (SSAs) will also be used.

The IST priority will also support the further development of Europe's research networking infrastructure. A specific effort will therefore focus on test beds for research networking and on Grid-based technologies.

Funding Opportunities

The IST Work Programme for 2005-06 specifies three Calls for Proposals.

IST Call 4, to be launched on 16 November 2004, with a deadline of 22 March 2005, has an indicative budget of €1.12b, and encompasses:

- Nanoelectronics
- Technologies & devices for micro/nano-scale integration
- Towards a global dependability and security framework
- Broadband for All
- Mobile/Wireless Systems & Platforms Beyond 3G
- Networked Audio Visual Systems & Home Platforms
- Semantic-based Knowledge & Content Systems
- Cognitive Systems
- ICT Research for Innovative Government

- Technology-enhanced Learning
- Integrated biomedical information for better health
- eSafety: Co-operative Systems for Road Transport
- Strengthening the Integration of the ICT research effort in an Enlarged Europe
- Proactive Future & Emerging Technologies:
  - o Advanced Computing Architectures
  - o Presence and Interaction in Mixed Reality Environments
  - o Situated and Autonomic Communications

IST Call 5, scheduled for launch in May 2005, with a deadline of 21 September 2005 has an indicative budget of €638m, and will address:

- Photonic components
- Micro/nano based sub-systems
- Embedded Systems
- Advanced Grid Technologies, Systems & Services
- Software and Services
- Research networking testbeds
- Multimodal Interfaces
- ICT for Networked Businesses
- Collaborative Working Environments
- Access to and preservation of cultural & scientific resources
- eInclusion
- ICT for Environmental Risk Management
- Proactive Future & Emerging Technologies: Simulating Emergent Properties in Complex Systems

The 'Open Call' under Future and Emerging Technologies, finally, has the deadline of 14 February 2006 for full FET STREP proposals (which follow a successful short proposal).

See Also:

- Fact Sheet 28: IST Research in FP6

All Fact sheets and more can be downloaded from "Europe's Information Society: Thematic Portal", below.

Further Information

- **IST Research:** http://www.cordis.lu/ist/

- **Europe's Information Society: Thematic Portal** http://europa.eu.int/information_society/

- **Information Society and Media Directorate-General:**
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