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for  
Geographic Information*

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**EUROPEAN COMMISSION – DG Information Society**

**IST 2005-06 Work Programme**  
***A web-based consultation – 10 minutes***

The IST 2005-06 Work Programme will define the content of calls for proposals and tenders in 2005 and 2006 for the IST priority. Consultation with the industrial and academic research community is a key input into this definition. This is to be done through meetings, workshops and a series of **web-based consultations** which will help define the main features and key priorities of the Work Programme.

The aim of the consultation process is to:

- **Review and adapt** the main research challenges to be addressed: key objectives and target breakthroughs, demanding research tasks to focus on.
- Provide guidance on types of activities and types of instruments required.
- Align priorities with related regional, national and international activities and policies.

To assist with this process the DG InfSoc has invited EUROGI to submit our ideas and suggestions.

The following pages list Strategic Objectives. We ask you to review them and place a number in the left column, as you perceive their importance:

<b>1</b>	<b>=</b>	<b>high priority</b>
<b>2.</b>	<b>=</b>	<b>Fairly high priority</b>
<b>3.</b>	<b>=</b>	<b>Priority</b>
<b>4.</b>	<b>=</b>	<b>Low priority</b>

Name	
EUROGI Member Association	

PLEASE RETURN TO EUROGI SECRETARIAT BEFORE APRIL 20<sup>TH</sup> 2004 – [eurogi@euronet.nl](mailto:eurogi@euronet.nl)

Order of preference	IST 2005-06 Work Programme – Strategic objectives
	<p><b>2.3.1.1 Pushing the limits of CMOS and preparing for post-CMOS</b></p> <p><i>Objective:</i> To develop, ahead of the ITRS international roadmap, semiconductor devices shrunk by an order of magnitude down to the 5 nm size, and alternative devices for the post-CMOS era. Research will also aim at enabling the design in-time and at cost, of reliable 1 billion gate systems-on-chip or systems-in-package, improving productivity by a factor of 10 by 2010. This will help prepare for the electronic components of 2010 and beyond.</p>
	<p><b>2.3.1.2 Micro- and nano- systems</b></p> <p><i>Objective:</i> To improve the cost-efficiency, performance and functionality of micro and nano-systems and to increase the level of integration and miniaturisation allowing for improved interfacing with their surroundings and with networked services and systems. This should foster their integration into a wide range of intelligent products and applications.</p>
	<p><b>2.3.1.3 Broadband for all</b></p> <p><i>Objective:</i> To develop the network technologies and architectures allowing a generalised availability of broadband access to European users, including those in less developed regions. This is a key enabler to the wider deployment of the information and knowledge-based society and economy.</p>
	<p><b>2.3.1.4 Mobile and Wireless Systems Beyond 3G</b></p> <p><i>Objective:</i> To realise the vision of "Optimally Connected Anywhere, Anytime". Early preparatory work has characterised Systems beyond 3G as an horizontal communication model, where different terrestrial access levels and technologies are combined to complement each other in an optimum way for different service requirements and radio environments. They may include the personal level (Personal/Body Area/Ad Hoc Network) the local/home level (W-LAN, UWB) the cellular level (GPRS, UMTS) the wider area level (DxB-T, BWA). The resulting access landscape is complemented by a satellite overlay network, providing notably a global multicast layer (e.g. S-DMB). Reconfigur-ability is a key enabler to support such an heterogeneous and generalised wireless access.</p>
	<p><b>3.1.5 Towards a global dependability and security framework</b></p> <p><i>Objective:</i> To strengthen security and enhance dependability of the information and communication systems and infrastructures and to ensure trust and confidence in the use of IST by addressing new security and dependability challenges. These are resulting from higher complexity, ubiquity of computing and communications, mobility, and increased dynamiticity of content. Integrated and comprehensive approaches involving all relevant stakeholders of the value chain should address security and dependability at different levels and from different perspectives.</p>
	<p><b>2.3.1.6 Multimodal interfaces</b></p> <p><i>Objective:</i> To develop natural and adaptive multimodal interfaces, that respond intelligently to speech and language, vision, gesture, haptics and other senses.</p>
	<p><b>2.3.1.7 Semantic-based Knowledge Systems</b></p> <p><i>Objective:</i> To develop semantic-based and context-aware systems to acquire, organise, process, share and use the knowledge embedded in multimedia content. Research will aim to maximise automation of the complete knowledge lifecycle and achieve semantic interoperability between Web resources and services.</p>

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	<p><b>2.3.1.8 Networked Audio-visual systems and home platforms</b></p> <p><i>Objective:</i> To develop end-to-end networked audio-visual systems and applications, and open trusted and interoperable multimedia user platforms and devices, notably for broadcasting and in-home platforms with full interactivity capacity.</p>
	<p><b>2.3.1.9 Networked businesses and governments</b></p> <p><i>Objective:</i> To develop ICTs supporting organisational networking, process integration, and sharing of resources. This shall enable networked organisations, private and public, to build faster and more effective partnerships and alliances, to re-engineer and integrate their processes, to develop value added products and services, and to share efficiently knowledge and experiences.</p>
	<p><b>2.3.1.10 eSafety for Road and Air Transport</b></p> <p><i>Objective:</i> To develop, test and assess an integrated and global approach to intelligent road vehicles and aircraft which offers higher safety and value added services, where interactions between the person in control, the vehicle and the information infrastructure are addressed in an integrated way.</p>
	<p><b>2.3.1.11 eHealth</b></p> <p><i>Objective:</i> To develop an intelligent environment that enables ubiquitous management of citizens' health status and to assist health professionals in coping with some major challenges, risk management and the integration into clinical practice of advances in health knowledge.</p>
	<p><b>2.3.1.12 Technology-enhanced learning and access to cultural heritage</b></p> <p><i>Objective:</i> To develop advanced systems and services that help improve access to Europe's knowledge and educational resources (including cultural and scientific collections) and generate new forms of cultural and learning experiences.</p>
	<p><b>2.3.2.1 Advanced displays</b></p> <p><i>Objective:</i> To develop, demonstrate and prepare for industrialisation emerging display technologies related to organic materials, lightweight near-to-the-eye information terminals and large size displays for the consumer like wall paper TV displays in order to improve their performance, cost efficiency, their integration in any system and their interfacing with the user.</p>
	<p><b>2.3.2.2 Optical, opto-electronic, and photonic functional components</b></p> <p><i>Objective:</i> To develop advanced materials, micro- and nano-scale photonic structures and devices, solid-state sources and to realise opto-electronic integrated circuits (OEIC). In the last 20 years, optics and photonics have become increasingly pervasive in a wide range of industrial applications. It has now become the heart of a new industry, building on microelectronics with which it will be increasingly linked. Projects are expected to address research challenges for 2010 and beyond in one or more of the following application contexts: "telecommunication and infotainment" (components for "low-cost high-bandwidth" and "Terabyte storage"), "health care and life science" (minimally invasive photonic diagnostics and therapies, biophotonic devices), and "Environment and Security" (photonic sensors and imagers)</p>

<b>Order of preference</b>	<b>IST 2005-06 Work Programme – Strategic objectives</b>
	<p><b>2.3.2.3 Open development Platforms for software and services</b></p> <p><i>Objective:</i> To build open development and run-time environments for software and services providing the next generation of methodologies, interoperable middleware and tools to support developers - through all phases of the software life-cycle, from requirements analysis until deployment and maintenance - in the production of networked and distributed software systems and services, embedded software and value-added user services. This will enable the development of future software engineering methods and tools.</p>
	<p><b>2.3.2.4 Cognitive Systems</b></p> <p><i>Objective:</i> To construct physically instantiated or embodied systems that can perceive, understand (the semantics of information conveyed through their perceptual input) and interact with their environment, and evolve in order to achieve human-like performance in activities requiring context- (situation and task) specific knowledge.</p>
	<p><b>2.3.2.5 Embedded systems</b></p> <p><i>Objective:</i> To develop the next generation of technologies and tools for modelling, design, implementation and operation of hardware/software systems embedded in intelligent devices. An end-to-end systems vision should allow to build cost-efficient systems with optimal performance, high confidence, reduced time to market and faster deployment.</p>
	<p><b>2.3.2.6 Applications and Services for the Mobile User and worker</b></p> <p><i>Objective:</i> To foster the emergence of rich landscape of innovative applications and services for the mobile user and worker and to support the use and development of new work methods and collaborative work environments. These should be based on interoperable mobile, wireless technologies and the convergence of fixed and mobile communication infrastructures. Such applications and services will enable new business models, new ways of working, improved customer relations and government services in any context. The target applications and services will be capable of being seamlessly accessed and provided anywhere, anytime and in any context.</p>
	<p><b>2.3.2.7 Cross-media content for leisure and entertainment</b></p> <p><i>Objective:</i> To improve the full digital content chain, covering creation, acquisition, management and production, through effective multimedia technologies enabling multi-channel, cross-platform access to media, entertainment and leisure content in the form of film, music, games, news and alike. It will accelerate take up in B2B, B2C and C2C, currently hampered by insufficient productivity, convergence and high cost.</p>
	<p><b>2.3.2.8 GRID-based Systems for solving complex problems</b></p> <p><i>Objective:</i> To expand the potential of the Grid and peer-to-peer approaches to solving complex problems which can not be solved with current technologies in application fields such as, but not limited to, industrial design, engineering and manufacturing, health, genomics and drug design, environment, critical infrastructures, energy, business and finance, and new media. To overcome present architectural and design limitations hampering the use and wider deployment of computing and knowledge Grids and to enrich its capabilities by including new functionalities required for complex problem solving. This should help the larger uptake of Grid type architectures and extend the concept from computation Grids to knowledge Grids, eventually leading to a "semantic Grid".</p>

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	<p><b>2.3.2.9 Improving Risk management</b></p> <p><i>Objective:</i> To develop open platforms, integrated systems and components for improved risk management, civil security applications (including threats from anti-personnel landmines) and environmental management. To foster the emergence of a European info-structure and service platforms which will facilitate the use of interoperable components and sub-systems. The work should contribute to the implementation of the GMES action plan, notably to the development of the part related to risk management.</p>
	<p><b>2.3.2.10 eInclusion</b></p> <p><i>Objective:</i></p> <ul style="list-style-type: none"> <li>• To promote eInclusion as a core horizontal building block in the establishment of the Information Society to ensure equal access and participation for all in Europe.</li> <li>• To develop intelligent systems that empower persons with disabilities and ageing citizens to play a full role in society and to increase their autonomy.</li> </ul> <p>Research activities will also be conducted in two others priorities: 'Citizens and Governance in a Knowledge Society' and 'Support to EU policies'.</p>
	<p><b>2.3.3.1 Products and Services engineering 2010</b></p> <p><i>Objective:</i> To strengthen further Europe's competitive position by developing collaborative technologies and methodologies for extended service and product development approaches, including associated services and distributed global manufacturing organisation. Community funding should help integrate, in a global context, fragmented European and international (e.g. IMS) RTD efforts in product and process design, and to focus on new holistic product/service concepts.</p>
	<p><b>2.3.4.2 Proactive Initiatives</b></p> <p><i>Objective:</i> Proactive initiatives aim at focusing resources on visionary and challenging long-term goals that are timely and have strong potential for future impact. These long-term goals are not necessarily to be reached during the lifetime of projects but provide a common strategic perspective for all research work within the initiative and a focal point around which critical mass can be built and synergies developed. Calls for proposals for proactive initiatives may be preceded by invitations to submit 'expressions of interest'.</p>
	<p><b>2.3.5 Research networking test-beds</b></p> <p><i>This work is complementary to and in support of the activities carried out in the area of Research Infrastructures on high-capacity and high-speed communications network for all researchers in Europe (GÉANT) and specific high performance Grids.</i></p> <p><i>Objective:</i> To integrate and validate, in the context of user-driven large scale test-beds, the state-of-the-art technology that is essential for preparing the future upgrades in the infrastructure deployed across Europe. This should help support all research fields and identify the opportunities that such technology offers together with its limitations. The work is essential for fostering the early deployment in Europe of Next Generation Information and Communications Networks based upon all-optical technologies and new Internet protocols and for incorporating the most up-to-date middleware.</p>