Institute for Prospective Technological Studies

Annex 1 to the Final Report

The Thematic Clusters' outcomes

Based on the eEurope Expert Section Meeting (2nd chamber)
Seville, 7-8 October 2004

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This report synthesizes the main points in the debates – plenary and per thematic cluster - held at the Seville workshop in October 2004.

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1. Objectives of the Seville meeting.

In the framework of the eEurope Advisory Group activities, Member States gave a mandate to the Expert Section to provide input to a strategic reflection on future challenges post-eEurope. In that context, Experts decided to undertake a prospective exercise intended to foster interactivity, cross-fertilisation and convergence of ideas on the future design of a 'post eEurope" with the support of European Commission Services, IPTS (JRC) in particular, in a meeting that took place in Seville on 7th and 8th October.

The Seville meeting allowed Experts to pursue discussion within each Thematic Cluster, set up to guide the work internally, and to propose outcomes for the whole presentation. During the meeting, Experts had confronted their contributions and aggregated them into one draft slide presentation to be presented and discussed with Member States.

The Seville meeting was an opportunity for the Experts of the Three Thematic Clusters to meet physically and contribute to their mandate for a strategic reflection on the future European ICT Agenda beyond 2005. It also was a prospective exercise on breakthroughs as policy recommendations for the post-eEurope 2005 Agenda. The results were presented during the eEurope Advisory Group meeting on 21st of October.

The exercise had a **clear target**:

- *formulate a vision which on essential achievements for eEurope by 2010 taking into accounts Lisbon:* fundamental policy objectives,

- *describe the desired state of play (goals) in Europe by 2010*: the roadmap,

- make *proposals for action*: identify critical ICT applications in achieving these goals in each area,

- make *policy suggestions*: to list critical breakthroughs in ICT development and policy to get to the critical achievements,

- make *proposals for actions*: milestones to arrive at the vision, critical obstacles and possible unlocking actions to achieve the vision.

To get there, the meeting used the joint SWOT analysis carried out by the Expert Group, as well as a series of *papers* provided by IPTS[1].

2. Inputs to the debate

The **plenary session** saw presentations of the main ideas of the 3 Thematic Clusters. The ideas that were presented did not constitute an exhaustive list, but rather a selective account of what each Thematic Cluster felt were the main ideas that should shape eEurope in the coming years:

2.1 Thematic Cluster 1: "Governance, Citizenship and Cohesion"[2]

Improve political and social model as a world-class reference

Building a European identity and creating a future where governance, citizenship and cohesion develop in a positive way will require a strong effort towards transparency, participation, community-building, education, as well as security and privacy. It will require the development of European services, especially e-services, which really make a difference in everyday life. It will have to be based on a strong commitment to reduce social polarisation, without which no other progress may be made.

The challenges identified in the EU in relation to Lisbon objectives in the areas of Governance, Citizenship and Cohesion are on the side of:

Governance: Public services and institutions:

- To address challenges that the *ageing population* trends pose to public sectors' economic balance, resources and consequently, efficiency.
- To understand how ICTs can support in increasing the quality, accessibility and efficiency of public services.
- To understand how ICTs can *re-establish public trust* in public institutions and media, and can enable more participative democratic processes

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1 Papers by IPTS:

- Input for FP 7 Consultation process of DG INFSO "Lessons learned and research avenues from FISTE Research"
- "The Future of the European Knowledge Society "by Ilkka Tuomi (JRC-IPTS)
- "FISTERA Special Report to the eEurope Team" (both in the form of a report and slides
- "FISTERA Key factors driving the future Information Society in the European Research Area - Synthesis report on the FISTERA thematic network study (Sep 2002- Sep 2004)"
- "Matrix: Thematic clusters/ SWOT Analysis/Background documents"
- ``Long term Challenges for the European Knowledge Society``
- FIST Era's Delphi results for eEurope

2 Based on TC1 rapporteur's presentation in the plenary and TC1 report prepared by IPTS

- To understand how ICTs can support the balance between the opposing needs for *simplification* of public services and increasing *customization* (individualisation) needs.
- To concentrate the fragmented demand for ICT solutions and services at local and regional level

It is a major challenge to understand how ICTs can support in increasing quality, accessibility and efficiency of public services. Indeed, it is widely acknowledged the lack of evidence on quality due to ICT deployment in public administrations. Furthermore, although ICTs can act as enablers and facilitators for more democratic policy development, implementation and evaluation, for more accountability, transparency and openness, and for greater accessibility, the technology on its own does not suffice to modernize governments[3]. We are, therefore, presented now with a prime challenging opportunity.

Sectors such as Public Health, Education and Tax administration are suitable for their configuration and strategic interest and therefore pointed out as target sectors. It is also important to understand how ICTs can support the balance between the opposing needs for simplification of public services and increasing customization (individualisation) needs. It is inherent to such simplification that citizens should not have to increasingly deal with ICTs. Rather, the use of IST can make time available for valuable personal contact by supporting routine processes, information searches, etc. In many instances, technology will not always need to be visible to the citizens but will rather support operations in the back office so that services can be more effective and personalized[4].

The demand of public needs will be influenced by the political and socio-economic trends in Europe, including the need for increased mobility and the changing demography, characterised by an increasingly ageing population. Public sectors, such as healthcare, will be posed with challenges derived from those trends in terms of economic balance, resources and consequently, efficiency. It represents a big advantage and a European strength, the general open mindedness towards ICT among the older population segments[5]. The development of access technologies for all[6] (e.g. interfaces and new service delivery models) are linked challenges to be addressed. It is also seen as challenging the concentration of the fragmented demand for ICT solutions and services at local and regional level.

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[3] Centeno, Van Bavel and Burgelman, 2004, eGovernment in the EU in the next decade, IPTS. Available at http://fiste.jrc.es

[4] Centeno, Van Bavel and Burgelman, 2004, eGovernment in the EU in the next decade, IPTS. Available at http://fiste.jrc.es

[5] Braun, Constantelou, Ligvoet, Burgelman and Cabrera, 2004, ESTO/IPTS study eHealth in the context of a European Ageing Society http://www.jrc.es/home/publications/publication.cfm?pub=1207

[6] Centeno, Van Bavel and Burgelman, 2004, eGovernment in the EU in the next decade, IPTS. Available at http://fiste.jrc.es

While it is observed that people are disengaging from traditional politics, -it remains to be understood how- ICTs can re-establish public trust in public institutions and media, and can enable more participative democratic processes. In addition, what has often been given for granted, i.e. that ICTs will promote openness, transparency and accountability of public services, still remains a challenging topic to be understood. It is worth to stress that the previously mentioned disengagement refers to formal political participation (voter turnout, membership of political parties, etcetera), while there is a strong tendency towards 'active citizenship' which is expressed in participation in all kinds of social movements, single-issue involvement of citizens, 'bank-account' activism (charity) and a wealth of local, small-scale citizen initiatives7. Hence it is pointed out the challenge to open up participation at local community level (communities should be more formally engaged in decision making processes). Citizens should be given, at least, the possibility to participate in decision making processes at local community level. A reformulation in the sense of building credibility may be needed (as a matter of differentiating example, the market assessment of risk in e-commerce is much more advanced). Besides trust in government and politicians, citizens' participation in the democratic process requires elements such efficient access to politically relevant information, capabilities for managing knowledge, commitment and ability of policy makers to take into account citizen's views and to feed-back to the contributors, etc[8]. Furthermore, democratic participation, which is a key element of democratic governance as well as a contributor to knowledge creation and usage (learning), needs public spaces for policy deliberation[9].

Empowered Citizenship:

- To transform the *cultural and language diversity* in Europe into a competitive advantage, and to understand how ICTs can support the process.
- To better understand how ICTs can enable to maintain the balance needed between ensuring *civil security* while maintaining the necessary privacy, data protection, freedom and openness, as assets of the European society
- To understand how ICTs can support addressing the increasing and complex cultural, social and economic polarization of society (income disparities, urban vs. rural areas, among age groups, related to disabilities, etc)

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[7] Van Bavel, Punie, Burgelman, Tuomi and Clements, 2004, ICTs and social capital in the Knowledge Society. Available at http://fiste.jrc.es/download/eur21064en.pdf

[8] Coleman et al., 2001, Bowling together: Online Public Engagement in Policy Deliberation

[9] Centeno, Van Bavel and Burgelman, 2004, eGovernment in the EU in the next decade, IPTS. Available at http://fiste.jrc.es

Empowerment – Employment for life:

- To address the opportunity of *empowering* the citizen, the civil servant, and the employee, as a source of creativity and innovation, at the core of future economic development, and as a tool for increasing social participation (social capital)
- To better understand how the knowledge society can support in achieving the Lisbon goal of creating 'more and better jobs'.

Europe is characterised by its cultural and language diversity. Transforming this diversity into a competitive advantage can be supported with ICTs. But achieving this transformation remains a huge challenge. For instance, addressing multi-lingual issues, a prominent European characteristic, would pay off since understanding languages is a fundamental need for efficient mobility, but it would require a huge undertaking. Likewise, understanding how ICTs can support addressing the increasing and complex cultural, social and economic polarization of society (income disparities, urban vs. rural areas, among age groups, related to disabilities, etc), while enabling to maintain the balance needed between ensuring civil security and the necessary privacy, data protection, freedom and openness, as assets of the European society and its values. Although identity management is clearly needed for personalization, the question on who is going to administer and manage identities remains open.

Empowering the citizen, the civil servant, and the employee, as a source of creativity and innovation (what in many cases could equate with self-employment), at the core of future economic development, and as a tool for increasing social participation, i.e. to an increase of social capital. Policies that "create spaces" are needed and, subsequently, technologies and tools to allow shared public spaces in support of democratic governance. These spaces would allow knowledge creation and management, moderation, decision making, policy making and the participation of the citizens, businesses and politicians. However, participation in the decision making processes implies a dialogue between governments and the governed. A condition for such a dialogue is the competence of elected representatives.

Last, but not least, there is a crucial need to understand how the knowledge society can support in achieving the Lisbon goal of creating 'more and better jobs' and, especially, how to create 'new' jobs, not old ones.

Increasing Social Cohesion:

- To open, manage and take advantage of the *migration flows* and build integration processes that will allow the new immigrants to become part of the European society. To understand how ICTs can contribute to the process.
- *Globalisation*: the need to address the *global*isation trends while at the same time supporting *local* and regional developments towards a poly-centric development, as a tool for competitiveness and economic development.

Cohesion, together with sustainability, is a political priority in the EU of crucial importance because of the fast changes in society[10]. Thus, new immigrants are to become part of a cohesive European society, what implies to open, manage and take advantage of the migration flows and build integration processes. The challenging question is how ICTs can contribute to this process.

Another need is that to address the globalization trends while at the same time supporting local and regional developments towards a poly-centric development, as a tool for competitiveness and economic development ('globalisation'). Indeed, regional development is a special issue connected with the debates on cohesion. ICTs have the potential to improve the possibilities for rural areas and remote regions to take part in the new Information Society related industrial and social developments[11].

The relationship between ICTs, social capital and the impact on job creation and social cohesion still needs to be explored further[12.]

Some 'early movers' are doing something about it today (such as (e)-communities, media, governments, businesses, ENISA and national regulatory bodies, etc.), but short-, medium but also long-term actions are needed for enabling and using ENISA, e-Learning about EU, establishing e-transparency, extending communities of identities, building Europe digital and cultural memory and establishing European e-Universities.

From the perspective of Governance, Citizenship and Culture, what we want to achieve is a dynamic, open and cohesive society at local, national and European levels, the development of a European identity that complements Europe's diversity, achieving a growing participation in European issues by all stakeholders, stronger security with preserved civil liberties and Europe's tradition of free and open society and migration flows that strengthen the European Union and build a multi-cultural society.

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[10] Burgelman, J-C., Tuomi, I., Punie, Y. & Van Bavel, R. (eds.) (2004) Mapping the European Knowledge Base on Socio-economic Impact Studies of IST (EKB SEIS), IPTS Technical Report EUR 21375 EN, September 2004. Available at http://fiste.jrc.es/ekb-seis/

[11] Burgelman, J-C., Tuomi, I., Punie, Y. & Van Bavel, R. (eds.) (2004), Ibid.

[12] Van Bavel, Punie, Burgelman, Tuomi and Clements, 2004, ICTs and social capital in the Knowledge Society. Available at http://fiste.jrc.es/download/eur21064en.pdf

2.2 Thematic Cluster 2: "Growth, Innovation and Sustainability"

Europe as a hub of widespread knowledge exchanges and networks [13][14]

Europe has a strong global leadership in mobile, a high "technical culture" and a strong research base in ICT, but it needs to reap the full benefits from ICT on productivity and growth, encompass ICT within policies for sustainable development and so on,. New stakeholders are addressing new solutions, but with different notions of and understanding ICTs (as opportunities, for accessing better jobs, social gap between who can access and can not, globalisation, and so on).

Although the aging population will be an increasingly important driver for innovation in the future, to a large extent growth has to be based on innovation thrust of youth and the entrepreneurial spirit emerging in the new member states., Better interchange between the academic world and the industry and better follow up of ICT investment and national policies with regard to R&D are also needed. Standardization of ICT environments in Europe may be needed to trigger and enable new business, although traditional standardisation probably will be inadequate when services and applications are developed and delivered through culturally and technically diversified networks. Cheaper and faster broadband access and development of the European content industry will also be key factors underlying growth in Europe.
Policy focus on 'early movers' (rresearchers, young people with mobile experience, politicians and civil servants, etc) could have a particularly high-impact. Effective actions with effective and efficient instruments are needed on deregulation; opening up for labour markets, market integration, investments in education and training, intra-union knowledge exchange and best practices exchanges to enable distributed learning experiences, broadband and content attractive policies for companies and mobile deregulation.

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[13] On this topic see also "The future impact of ICT on environmental sustainability". Editors: Carlos Rodríguez Casal, Christine Van Wunnik, Luis Delgado Sancho, Jean Claude Burgelman and Paul Desruelle. Authors : Lorenz Erdmann (IZT), Lorenz Hilty (EMPA/FHSO), James Goodman (Forum for the Future), Peter Arnfalk (IIIEE). Published by the European Commission (2004) EUR 21384, AND

"The future of mobile communications in the EU: assessing the potential of 4G". Editors Carlos Rodríugez Casal, Jean Claude Burgelman, Gerard Carat. Authors: Eirk Bohlin, Sven Lindmark, Joakim Björdahl, Arnd Weber, Bernd Wingert and Pieter Ballon. Published by the European Commission (2004). EUR 21192 EN

[14] based on TC2 rapporteur's presentation in the plenary

2.3 Thematic Cluster 3: "People, Culture and Diversity"[15]

Simplify, adapt for developing skills and relationships

The people of Europe are changing. Europe has a number of economic, structural challenges, as well a diversity of notions about ICT.

From the perspective of People, Culture and Diversity, we should aim for the possibility for all Europeans to have a rich quality of life, benefiting from social protection, security, health care, culture and personal development; Also important is a "A Mobile Europe" with physical mobility (e.g.; being connected everywhere, anytime), knowledge mobility (e.g. long-life learning), professional/job mobility, ..; We should also strive for a flexible, well-educated and ICT knowledgeable workforce and for Europe to be a global leader in terms of economic development in the 21st century

In order to get there, we need to establish short-term and long-term priority lists for Europe 2010 along the following lines: to simplify and adapt to the new Europe, to develop and maintain skills, to develop and foster European presence in growth sectors (software and content), to create new "universal" services for all Europeans, to create new ways of "contact" between Europeans and exploit European Cultural diversity in a different way and integrate immigrants much faster and more smoothly into Europe.

On shorter-term, we need to create a European ambient society which draws on technological convergence and user-centric BB services to help bring Europeans in closer contact in diverse ways including broadband availability for all, to accelerate the widespread broadband penetration, to invest and make e-services « universal » while at the same time simplifying government procedures and laws. This also includes greater ease of use, transparency and creating incentives for users. Investing in e-education and e-skills is a tool for integration and maintaining employability while creating new opportunities for young Europeans in creative industries that build on Europe's inherent cultural diversity.

On long-term, ICT should become a priority for the Lisbon Agenda in Europe to increase employment, productivity growth and European industrial leadership in key areas such as software and content. European leadership in eServices should permit the European multimedia services and rich content industry to strengthen its position worldwide. Right conditions should be created for greater R&D and investment in creative industries.

A number of key breakthroughs in the field of ICT have been suggested as means for revitalising the Lisbon process[16].

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[15] based on TC3 rapporteurs'presnetation in the plenary

More should be done to remain globally competitive: the EU, governments and the market have their respective responsibilities to achieve the Lisbon goal[17]. Amongst them, The European Union (Member States and Commission) should strive to keep people involved in the future information society by complementing the access-for-all-policy with a skills-for-all strategy.

There is a sense of urgency in achieving the Lisbon agenda, due to the lack of policy support in Member Countries[18].

2.4 Results from the Delphi exercise

An analysis of the importance of IST areas with respect of EU goals[19] as given by the experts of the Second Chamber of eEurope (WG3) compared to some 505 experts throughout Europe displays shared opinions of the former[20]. For example, when it comes to competitiveness for EU Goals, it seems that the Top 4 important areas contributing to it are quite apparent for both groups of experts (Round 1 experts and eEurope Team), that is work organization, education & learning management and government. Shared opinions on the eEurope team side are on the cultural diversity area, considered by eEurope team as a higher contributor to competitiveness in Europe than transport. The full report, as well main findings (slides) have been made available to the experts during the Workshop.[21]

In terms of the *Long term challenges for the European Knowledge Society*[22], there a need for *thinking different,* taking into deep consideration the changing context, disruptive technology and social trends, as well as the new strategic thinking (Korean approach to IS).

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[16] See Price Waterhouse Coopers report on "Re-thinking the ICT Agenda - Ten ICT-breakthroughs for reaching Lisbon goals" launched by Dutch Presidency and discussed in Amsterdam in a High-Level EU Conference, available at http://www.ictstrategy-eu2004.nl/pdf/PresidencyConclusions.pdf

[17] Presentation of the Amsterdam High-Level European Conference outcome as on "Working on growth with Europe: Looking into the future of ICT", 29-30 September 2004 by Arie Van Bellen

[18] On this topic, see the Kok report on "Facing the challenge – the Lisbon strategy on growth and employment" November 2004 available at http://europa.eu.int/comm/lisbon_strategy/index_en.html

[19] FISTERA mini-Delphi to eEurope's Second Section organised in three sections (R&D and social needs; EU goals and IST areas; 12 ¨Panoramic Delphis¨ (such as health, security, education and culture, ageing, ...) available at http:// http://les.man.ac.uk/PREST/fistera/default.htm

[20] "FISTERA Special Report to the eEurope Team" by C. Pascu, JC Burgelman and R. Compano available at http://fistera.jrc.es

[21] Also available at http://fistera.jrc.es

[22] "Long term Challenges for the European Knowledge Society", "Future European Knowledge Society" and "Think Different" by Ilkka Tuomi (JRC-IPTS)

Strategic questions may come on several fronts:

- Iinstitutional and societal view on ISTs
    - ISTs are rapidly changing the global division of knowledge-intensive labour, and innovation networks are becoming increasingly distributed. How can we simultaneously promote balanced regional development and global innovation collaboration?
- The organisational and knowledge management view on ISTs
    - The rate of knowledge creation will grow globally and product cycle-times decrease. Innovation capability will depend on the speed with which new knowledge can be absorbed. How can ISTs be used to improve knowledge absorption capacity?
- Growth in capitalism depends on entrepreneurial hunger and intergenerational accumulation[23]. How can the energy in the new member states produce fast growth in EU?

3. Summing-up the debate

There was significant overlap between the 3 Thematic Clusters. Some ideas were reflected in all groups – perhaps tackled from a different perspective, but the core of the ideas remained the same.

These ideas reflect current thinking about the Information Society, namely that as technology continues to advance, it is necessary to concentrate on *people*. They are the ones who will make use of and benefit from technology. In policy terms, a gradual shift in focus is required, from an emphasis in technology (e.g. broadband deployment) to a greater emphasis on people (e.g. 'services for all'). In technology terms, there is the shift from access to applications, skills and use, although the former needs continuous effort. There is also a shift from connectivity (getting people connected) to connectedness (the way of communicating and interacting).

Focussing on people means ensuring the Information Society leaves no citizen behind. It means guaranteeing 'services for all' by tackling those barriers that exclude people from full participation. The twin issues of accessibility and skills need to be addressed. But this can only be done in a "European" way, i.e. bottom-up, consultative and democratic. Also it should embrace diversity at all levels and promote cohesion. The arguments for such an approach are threefold:

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[23] Schumpeter , J.A. (1975) Capitalism, Socialism and Democracy. New York: Harper and Row

1. *Quality of life.* ICT has the potential of affecting people's well-being in ways which are not captured by indices of productivity and economic growth – in short; it can improve people's quality of life[24]. This improvement can be observed at an individual level (e.g. people can have better access to health services) and also at the societal level (e.g. ICT can offer additional ways of accruing social capital).

2. *Demographic change*. The European pool of human talent and resource is facing a steady decline: inevitable, the EU will be confronted with the negative economic effects of this trend. Therefore, the trend must be confronted at an early stage. With fewer, people, it is imperative to make better use of the available pool of talent and resources – this implies ensuring everyone can be functional and contribute in an Information Society[25].

3. *Ethics*. Finally, there is an ethical imperative to ensure that disadvantage sectors of society can also reap the benefits of the Information Society. This ensures a cohesive society and stands out as a value which Europeans should strive for and which the EU must defend[26].

Also, Europe should position itself in the global community. Looking at the global context does not mean importing other agendas (e.g. EU vs. Korea), but rather re-thinking the role of the states and looking for EU solutions from the perspective of all stakeholders: citizens, regions and society at large. That is, a European model that should "work for the world".

The debates in the Thematic Clusters (TC1-3) on the challenges that the EU is facing to achieve the Lisbon objectives in each of the areas, and the social, economic and technological trends have constituted the basis for formulating a *vision* for those areas and of a roadmap. Eventually, Thematic Groups made policy proposals relevant to the achievement of the vision, as well as for concrete ICT applications and actions.

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[24] See for a discussion on ICTs and Quality of Life, for instance Punie, Y., Bogdanowicz, M., Berg, A-J., Pauwels, C. & Burgelman, J-C. (2005 in press) 'Consumption and quality of life in a digital world', in Silverstone, R/ & Sørensen, K. (eds.) *Media, Technology and Everyday Life in Europe: From Information to Communication*, London: Ashgate Publishers Ltd. (Spring 2005)

[25] On this topic see also Bogdanowicz, Centeno, Burgelman (2004). Information Society developments and policies towards 2010 in an Enlarged Europe: Ten Lessons from the past and three challenges for the future. IPTS, Sevilla. And: Coomans (2004). The Demography / Growth squeeze in a Knowledge - based economy: the role of Education,. GeoLabour/Work Research Center, 2004. Ed. IPTS, Sevilla.

26 Huesing (2004). The impact of ICT on Social Cohesion: Beyond the Digital Divide. Empirica. Ed. IPTS, Sevilla