Report

ICT scientific societies at the dawn of the 21st century: which opportunities for Europe?

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Disclaimer

1 Introduction

Professional and scientific societies play a significant role and make crucial contributions by promoting excellence in their respective fields, by impacting on government and EU policies, by circulating information and by organising events and promoting discussion of topics which effect research, innovation, education and society.

In particular they pursue a number of objectives, including:

- promoting the related academic curricula and certification of skills (accreditation),

- issuing technical standards for products or processes,

- fostering links between multiple aspects of that discipline (scientific, legal, ethical, etc.),

- disseminating technical information through conferences and journals,

- protecting the interest of the professionals vis-à-vis their clients and the national governments.

Because of their multiple, cross-cutting roles, ICT scientific societies contribute to numerous policy aspects of crucial relevance for Europe, particularly as related to the future of research, education and innovation policies. These include key issues such as the need to shortening the time to market of ICT research results, stimulating entrepreneurship and nurturing fast-growing ICT companies in Europe, reducing the shortage of ICT skills, ensuring the widest dissemination of scientific knowledge, furthering the construction of a European ICT Research Area, as well as promoting the international dimension of ICT.

The Directorate General Information Society and Media is preparing a Communication on "A Strategy for ICT R&D and Innovation in Europe" to address the above issues in a coherent manner, and enable Europe to lead ICT developments and applications in the next decade.

Within this context, in the last quarter of 2008 a group of experts was convened to launch a reflection on the needs, opportunities and options for actions to further promote European scientific societies in the field of ICT, with a view to achieve a critical mass and visibility commensurate to the relevance of the European ICT market and contribution to the scientific and technological developments of ICT. This report provides a summary of this consultation, including an analysis of the scientific societies and a set of recommendations. The consultation complements other initiatives addressing similar topics from related policy perspectives.

2 Overview of European Scientific Societies

There are a large number of European ICT scientific societies covering a wide range of topics, engaging in different activities and operating at different geographical levels. In addition some of these societies are membership-based (i.e. members are individual scientists, students or professionals) while other societies are composed by representatives of institutions or departments within institutions.

2.1 Scope of activity

A preliminary analysis of European societies indicates that their main activities can be classified into the following topics:

- Education, including skills development, life long learning, schools, etc.
- Publishing, including books, proceedings, technical reports, etc.
- Standardisation, including technical specifications, certification, etc.
- Conferences, workshops and seminars
- Accreditation of professionals
- Prizes and awards
- Fellowships
- Promotion and representation of the discipline

There is no European society which engages in all of these activities and the societies give different emphasis and priority to these various activities in the services that they offer.

2.2 Scientific and technological scope

There are a large number of ICT or ICT-related topics covered in the European landscape of societies which are represented in the following list, namely,

Science and engineering, Computer science and information technology, Operating systems and systems software, Databases and information systems, Mathematics, Telecommunications, Automated reasoning and theorem proving, Logic programming, Computational linguistics, Computational mechanics, Cognitive sciences, Pure and applied cybernetics, Computer graphics and visualization, Machine translation, Signal theory and processing, Image processing, Neural networks, Fuzzy Logic, Autonomous systems, Robotics, Artificial intelligence, Cryptology, Modelling and simulation, Programming languages, Complex systems, Nanotechnology, DNA computing, Game theory and applications.

This diversity and range of topics gives an insight into the wide variety of interests of European researchers and industry and the number of existing communities across Europe. These are therefore topics which are of crucial importance to the European scientific and industrial communities as they are currently very active areas of research and development and many of them have been established for a number of years. However, none of the European ICT societies are on the same scale or have the same track record and prestige as some of the long-standing US-based ICT societies. There is a sizeable European membership in US societies and also a large number of influential European researchers active in US societies. This wide fragmentation may be detrimental to the full promotion of ICT among European researchers, industry and society.

2.3 Geographical coverage

An examination of ICT societies from a geographical perspective and for what they regard as their sphere of influence further underlines the diversity of European societies and the sometimes limited range of their operation. It is clear that there are a number of European societies operating internationally in many fields while there are many European organisations operating only within Europe nut with a clear potential to make a contribution outside Europe. There is a third category operating

only within Member States and sometimes using the national language for exchanging information.

There are therefore gaps in the European landscape of ICT societies in operational scope and themes. Filling these gaps is regarded as essential to the promotion and consolidation of ICT and of benefit to researchers, industry and society.
The following is a non-exhaustive list of societies grouped by international scope. Three levels of geographical visibility can be distinguished: international, European and national.

International: Association for Computing Machinery (ACM); Institute of Electrical and Electronics Engineers (IEEE); Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering (ICST); Association for Automated Reasoning (AAR); British Computer Society (BCS); Institution of Engineering and Technology (IET); Cognitive Science Society; Cybernetics Society (CS); Intelligent Autonomous Systems Society (IAS); International Artificial Intelligence in Education Society (AEID); International Association for Computational Mechanics (IACM); International Association for Cryptologic Research (IACR); International Association for Mathematics and Computers in Simulation (IMACS) ; International Federation for Information Processing (IFIP); International Federation of Robotics (IFR); International Society for Nanoscale Science, Computation and Engineering (ISNSCE); International Society of Artificial Life (ISAL); European Telecommunications Standards Institute (ESTI).

European: Council of European Professional Informatics Societies (CEPIS); European Association for Theoretical Computer Science (EATCS); The European Professional Society on Computer Systems (EuroSys); European Research Consortium for Informatics and Mathematics (ERCIM); Association of Logic Programming (ALP); European Chapter of the Association of Computational Linguistics (EACL); Central European Association for Computational Mechanics (CEACM); European Association for Computer Graphics (EG); European Association for Computer Science Logic (EACS); European Association for Machine Translation (EAMT); European Association for Speech, Signal and Image Processing (EURASIP); European Neural Network Society (ENNS); European Society for Fuzzy Logic and Technology (EUSFLAT); European Association for Programming Languages and Systems (EAPLS); European Association of Software Science and Technology (EASST); Complex Systems Society (CSS); International Society of Dynamic Games (ISDG); European Council of Applied Sciences and Engineering (Euro-Case); Informatics Europe; Euromicro; Association Internationale pour les Technologies Objets (AITO).

National: Association Française d'Intelligence Artificielle (AFIA); Association Française des Sciences et Technologies de l'Information (ASTI); Société de l'Electricité de l'Electronique Technologies de la Communication et de l'Information (SEE); Gesellschaft für Informatik (GI); Verband der Elektrotechnik, Elektronik und Informationstechnik (VDE); Associazione Informatici Professionisti (AIP/ITCS); Associazione Italiana per l'Informatica ed il Calcolo Automatico; Asociación de Doctores Licenciados e Ingenieros en Informática (AICA); Société des Personnels Enseignants et Chercheurs en Informatique de France (ALI).

3 Scientific societies in the European R&D and Innovation policy context

Because of their multiple, cross-cutting roles, ICT scientific societies contribute to numerous aspects of crucial relevance for Europe, particularly as related to research, education and innovation policies. It is therefore essential for the purpose of this report to provide a broader policy context and an overview of main initiatives undertaken at the European level to support these policies.

3.1 Promotion and development of ICT skills

Stimulating the best ICT talents to develop their careers in Europe and attracting more innovative and qualified ICT professionals is at the core of the EU 'Lisbon Strategy' for sustainable growth and jobs and the creation of a European Higher Education Area. More ICT skills are demanded by industry and public services not only for the use of the technology, but also core ICT professional competencies at the widest possible levels. These issues are addressed in the Communication of the European Commission "e-Skills for the 21st Century: Fostering Competitiveness, Growth and Jobs".

The shortage of ICT skills seems to be caused by an EU-internal insufficient supply, more than to the often mentioned brain-drain to the US. To address this issue, the European Commission, Member States and stakeholders have undertaken a series of action, including the set up of a permanent forum on e-Skills, the follow-up of the "Thessaloniki declaration", and the actions laid down in the above mentioned Communication on e-Skills.

A recurrent theme in this context has been the need to ensure more coherence and inter-operability across the different ICT-related curricula and educational systems so has to help harnessing the vast amount and diversity of professional profiles behind the European ICT workforce. The Bologna framework provides already the basis for quality assurance and recognition of qualifications and periods of study, but it would be too broad to cope with the specificity and dynamism of ICT-related disciplines. A more structured and coordinated approach is crucial to ensure compatibility and mutual recognition of ICT scientific curricula and professional skills across Member States and to speed-up the creation of an "internal market" for the free circulation of students, researchers and professionals.

Finally, in November 2007 the Forum of National ICT Directors convened in Braga (PT) to address more specifically how to foster ICT R&D skills, including education (technical and tertiary) and the transition of graduates into the R&D workforce (industrial and academic careers). The Forum highlighted the importance to promote ICT R&D skills to continuously advance the frontier of the technology itself and transform it into new and more innovative products and services.

3.2 Contributing to the Knowledge Triangle

The capability of Europe to generate new knowledge and to translate it into innovation opportunities is vital to its future prosperity. In the field of ICT, Europe has already excellent education and research institutions. However, to build the "critical mass" necessary for innovation, the connections between these institutions and the business world need to be increased and made more profitable. The European Institute of Innovation and Technology (EIT) is the first European initiative established to address this issue by fully integrating the three sides of the "Knowledge Triangle" (Higher Education, Research, Business-Innovation). An EIT's

"Knowledge and Innovation Community" (KIC) is going to be created in the field of ICT, involving business stakeholders, large industry, SMEs and academic institutions. Scientific societies could cooperate with the future KIC on ICT in facilitating the convergence of the three sides of the triangle.

3.3   Promotion and development of ICT standards

Recently, the European Commission has undertaken a series of initiatives related to the future of standardisation in the field of ICT. The communication "Towards an increased contribution from standardisation to innovation in Europe" adopted by the European Commission in March 2008 identifies key elements for focusing EU standardisation policy on innovation.

3.4   FP7-ICT Cooperation theme

The ICT Themes of the Specific Programme Cooperation of the Seventh Framework Programme (FP7) supports numerous activities that are related to of scientific societies.

European Technology Platforms (ETPs) provide frameworks to define research and development priorities, timeframes and action plans on different strategically important issues. From an industrial perspective, their scope include cross-cutting issues related to scientific societies such as the development of strategies for knowledge dissemination, technology take-up, assessment of future education and training needs, standards, IPR and regulatory issues.

Within the ICT Theme there are numerous Networks of Excellence (NoEs) whose objective is to reduce fragmentation and promote excellence in the different fields of ICT. These large instruments bring together the best centres of excellence around Europe with the aim to build critical mass so as to strengthen European footprint in a specific ICT topic. NoEs could benefit considerably from European-rooted scientific societies.

The Future and Emerging Technologies scheme supports long-term foundational research in ICT targeting academic and industrial communities. It is one of the most productive areas of the ICT Theme in terms of scientific publications and awards, catalysing new research communities, promoting cross-domain synergies and involving high-tech start-ups. FET projects could be important clients of European-rooted scientific societies.

4   Key Roles for European Scientific Societies

4.1   Overcome fragmentation and promote a new European system

In the US the position of ICT scientific societies is extremely important with the ACM and IEEE performing significant roles including:

- organising the most authoritative conferences and publishing some of the journals   with the highest impact factor in the field
- producing guidelines and reference curricula for education in ICT at all levels
- producing reports on research and innovation that have a meaningful impact on governmental decisions etc.

In Europe such a role is almost absent with existing societies unable to exert the same influence. In general European ICT societies are not homogeneous, mainly small and specialised, mostly single-country and single-topic and sometimes based on a specific national language. However because of excessive fragmentation, the impact of ICT societies in Europe is far from optimal and there is a need to stimulate European societies to organise across country and topical boundaries.

This lack of generalised ICT scientific societies rooted in Europe is widely perceived as a weakness of the whole ICT education, research and innovation ecosystem. There is an urgent need for a new European system to strengthen the links between industry and academia, foster scientific and technological excellence, build and spread technology transfer and entrepreneurship, and preserve cultural heritage within the context of the whole ICT ecosystem. Such a system should make entry easy, dissemination global, be self sufficient and address not only European specific issues, but also open global initiatives.

4.2   International visibility and influence on ICT developments

There is no doubt that the major influence on the ICT field emanates from the international societies which are US based. Some Member States based organisations have international visibility and recognition and other European societies operate worldwide in the production and dissemination of research bulletins, books and events. However, European membership societies are often too small to have a sufficient impact and visibility outside Europe. European researchers need to become more active and visible within the major world-wide membership organisations in ICT.

Several European organisations have established positive connections with US based organisations to increase their influence on the field. The possible creation of a European federated society could reinforce such collaborations and facilitate the creation of new ones with a global impact.

4.3   Standardisation

IEEE plays an important role in standards. Some European scientific societies play a role in standardisation - both initiation and dissemination - but some do not. The emergence of strong European scientific societies could help shortening the path from R&D to ICT standardisation, for example by promoting the standardisation processes in curricula and to educate researchers on the role and importance of standardisation in the whole R&D lifecycle.

4.4   Industry co operation

Scientific societies serve the needs and interests of their members and cannot replace the roles of industry. However they can contribute to the circulation and advancement of knowledge, which indirectly benefits industry. Conversely, industry contributes to science when it engages with research. Industry engagement is essential for research to be relevant and have impact. Industry would benefit from exposing scientists to relevant problems, through joint research projects, by inviting PhD students to work as summer interns, and by consulting with academia.

ICT scientific societies can do much to strengthen cooperation with industry and they can play a pivotal role in technology transfer. Scientific societies could facilitate discussions between the broad academic community and the most important FP6 and FP7 projects and other EU activities such as Joint Technology Initiatives (JTI),

European technology Platforms (ETP) and the European Institute of Innovation and technology (EIT). The possible creation of a European federated society could reinforce such links. The EIT will seek to stand out as a world-class innovation-orientated reference model, inspiring and driving change in existing education and research institutions in order to face the challenges of globalisation. This may well involve technology transfer and innovation activities, complementing the role of European ICT societies.

4.5 Education and training

The development of a broader agenda on education and training in ICT goes beyond the usual scope of scientific societies. The contribution of scientific societies is through dissemination of information and best practices, organising events and periodic schools (e.g. summer schools), setting policies, educational agendas, curricula, building of student chapters and student participation, etc.

Scientific societies can also help to set goals for Governments on higher education, define educational standards, help to improve the mobility of researchers and help to establish ties between university research centres and industry. ICT scientific societies could play an important role in orchestrating joint approaches and in joining forces to fight obstacles in institutions of higher learning that do not yet give ICT science a priority within the range of the established disciplines.

4.6 Promoting skills and attracting researchers in ICT

The problem of recruiting more young researchers and more female researchers to ICT is complex and relates to several socio-economic and cultural factors. This is a key issue for the development of the European economy. Around 0.5% of the European workforce works in ICT, and this generates 2% of the European Gross Domestic Product. This means that an ICT job is worth four times its value, in comparison with other businesses. Lack of professionals means also lack of growth.

Recruitment could be enhanced through a programme of internships for non-European students as well as for Europeans. This would help to change the way young people perceive ICT technologies. Mechanisms like grants and prizes for young researchers and successful innovations should be further promoted and are influential in raising the quality and impact of research programmes. European-rooted scientific societies could greatly help in promoting these mechanisms and thus contribute to make Europe a more attractive place for ICT researchers.

4.7 Accreditation and knowledge creation.

Scientific societies can play a major role in ICT scientific quality accreditation (a) of persons and (b) of publication output. They can play a direct formal role in the former - even including prizes and awards - and an informal role as accreditation bodies via publishing in prestigious peer-review journals, books and technical reports. In addition, the emergence of new participative paradigms for sharing knowledge, from digital repositories to Web 2.0 and onwards to liquid publications, could significantly change the way reputation building and scientific accreditation will take place in a global context.

4.8 The knowledge triangle

The connection of the three sides of the Knowledge Triangle (Higher Education, Research, Business-Innovation) and the role of scientific societies needs to be articulated.

The European Institute of Innovation and Technology (EIT) has been conceived to reinforce the links between the different sides of the knowledge triangle and scientific societies should not directly interfere with the action of EIT. However, they can cooperate with the EIT to cover not just business-innovation but also creativity and innovation in general. A stronger articulation among scientific societies could facilitate such cooperation with EIT, but also with other institutions such as the European Research Council.

5   Conclusions and Options for Action

There was general consensus among the experts that a European society representing ICT scientists and professionals could significantly contribute to strengthening European efforts in the development and promotion of ICT. However, several different opinions emerged over the nature and structure such a society should take. It is not the purpose of this section to provide either a detailed description of the problem or an exhaustive list of possible solutions. Moreover, the practical implementation of any solution goes beyond the scope of this report and should be left to the initiative of the stakeholders and the market.

A number of general strategic considerations and different options for a prospective European society were analysed, all sharing the following principles:

- independence from political or commercial interests
- possibly based on individual membership of scientists and professionals
- governed democratically by its members
- leadership which is recognised by their peers as top scientists and practitioners
- scientific and professional excellence.

To fulfil its role such a scientific organisation must remain independent financially and politically and should be able to sustain itself through membership fees, conference revenue, and publications. Sponsorship by, for example, government and industry in recognition of the organisation's contributions to society would be welcome (especially with seed funding at the beginning) but should not be necessary for the sustainability of the organisation.

These requirements are necessary pre-conditions to scientific recognition. It must also be realised that the European ICT community is not homogeneous and is spread over many small and specialised societies, nationally and internationally. Running a sustainable organisation and providing all the necessary support services, requires a permanent office and the employment of a number of full-time people with varying duties and responsibilities. It also requires a Board of scientists that are recognised in the community and that represent the views (and ideals) of the members.

Once recognised scientifically, such an organisation would naturally become a major player in European discussions involving new technology, informatics, etc. in the sciences and in society. It would advise government and industry on policy in these areas. It would co-operate with other relevant organisations on setting the agenda for informatics in primary, secondary, tertiary and continuing education. For practical

reasons, accreditation, technology transfer and standardisation should not be priorities (at least initially), although the organisation should facilitate them whenever possible.

If such an organisation is to be international and have broad scientific scope then it would need to be in the same league as ACM/IEEE. To create a European competitor to ACM/IEEE would however be counter-intuitive and perhaps too ambitious in the short-term time horizon.

Any organisation would need to be able to unite existing European membership societies (both topical and national) in one or more bodies, possibly with the support of ACM and IEEE and in cooperation with them. This approach would have the advantage of building on existing European national (and sometimes wider) societies, in general focussing more on professional accreditation and business needs rather than research.

Considering the specificity of the European scientific societies' landscape, a resulting alliance of European organisations could cooperate with international societies such as ACM or IEEE without being in direct competition with them. There are several examples of European societies currently cooperating at an international level, for example in conferences co-sponsorships, digital libraries cross-listing, etc.

One suggestion was to utilise existing Europe-wide organisations that acts with nodes in each country to coordinate professional activity in academia and industry. This would have the advantage of a strong existing coordination structure with education, research and innovation components, but the usual structure would be based on organisations rather than individual members;

Another suggestion was to create a European society using a grassroots approach from researchers across Europe combined with an alliance of existing research societies. Such a bottom-up approach could make strong use of Web 2.0-based collaboration tools for sharing scientific knowledge, enabling the active and seamless participation of potentially all researchers around the globe.

Another suggestion was to expand on the existing collection of Networks of Excellence (NoE), ETPs, JTIs etc. They provide a set of structures which may also be more in tune with the needs of reaching and serving the community and for organising European-wide activities. Again this would be based on organisations rather than individual members.

There is also a need for having both industry and the academic world (teaching and research) represented in one organisation so that a more coherent synergy would emerge throughout Europe.

Currently most European scientific societies use traditional models and approaches to organise and support their communities. With any new structure or society more attention should be placed on the opportunity that emerging ICT technologies can provide not only to build communities but also to further European technology strengths and competitiveness.

6   Recommendations

All these different options should be further explored beyond the scope of this consultation. The experts welcome the initiative of the European Commission to start a discussion on this matter and recognise the need for a wider and more articulated action, for example through a series of conferences and ad-hoc working groups involving all the European societies, industry and academia.

One approach is to roadmap strategic evolutionary convergence from where we are now to where we wish to be. It is clear that time is needed to resolve differences of opinion and approach and to reach the optimal model. Nonetheless, there is no case for hesitation and a start must be made now.

Concretely the recommendations are:

1. As a short term effective measure a workshop should be convened by the EC within the first 4-6 months of 2009 with wider representation to discuss the options identified in this report and collect support for its aims and ideas for shaping the direction to follow;
2. More detailed scenarios should be identified as to the scope, structure, legalistic sustainability and membership of a prospective European ICT Scientific and Professional Society;
3. A roadmap should be produced with a convergent evolutionary path from the present state to the desired scenario;
4. That the EC considers a coordinating or supporting action to help discussing and structuring the work in this area in order to reduce fragmentation and create the conditions for the development of world-recognised European ICT Scientific and Professional Societies.

Annex 1: Terms of Reference

Introduction and rationale

Professional and scientific societies are established to further a particular discipline, be it scientific, engineering or otherwise, by promoting the related academic curricula and certification of skills (accreditation), issuing technical standards for products or processes, fostering the links between multiple aspects of that discipline (scientific, legal, ethical, etc.), disseminating technical information through conferences and journals, and protecting the interest of the professionals vis-à-vis their clients and the national governments.

In the field of Information and Communication Technologies (ICTs), the most accredited societies are IEEE (Institute of Electrical and Electronics Engineers) and ACM (Association for Computing Machinery). They started life many years ago in the US but are now truly international organisations covering a multitude of missions, from standardisation bodies to scientific publishers, from accreditation systems to liaison with governments and industry. The long-lasting dominance of US in certain ICT sectors would be unimaginable without the significant contribution of these societies.

In Europe the situation is much different and more articulated than in the US. Several National Societies in the field of ICT do exist, (e.g. the British Computer Society or the Gesellschaft für Informatik in Germany), as well as few pan-European associations such as the European Professional Society on Computer Systems (EuroSys), the European Association for Theoretical Computer Science (EATCS), or the European Current Research in Information Systems (euroCRIS). The Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering (ICST) has been created more recently with main focus on research, innovation and technology transfer. Other associations have adopted a federative approach, such as the Council of European Professional Informatics Societies (CEPIS) which has National Societies as members, but focus mostly on accreditation and promotion of informatics skills and professionals. Overall, none of these organisations reach an international scope, technical coverage and global authority in science and technology comparable to that of IEEE or ACM.

Because of their multiple, cross-cutting roles, ICT scientific societies contribute to numerous policy aspects of crucial relevance for Europe, particularly as related to the future of research, education and innovation policies. Those include key issues such as the need to strengthening the European contribution to ICT standards, shortening the time to market of ICT research results, stimulating entrepreneurship and nurturing fast-growing ICT companies in Europe, reducing the shortage of ICT skills, ensuring the widest dissemination of scientific knowledge, furthering the construction of a European ICT Research Area, as well as promoting the international dimension of ICT. Some of these issues have been highlighted in the context of the recent assessment on the effectiveness of ICT research in the 6th Framework Programme (Aho report).

In the past few years, numerous actions have been undertaken at European and national levels to address the above issues from different perspectives, specifically or as part of wider initiatives. Some of them have led to concrete achievements, such as the cooperation between ICT research institutes (e.g. ERCIM), the creation of new institutions (e.g. the European Institute of Innovation and Technology), the launch of new innovation-oriented programmes (such as the CIP-PSP), the launch of Joint Technology Initiatives, and the undertaking of more policy related initiatives (e.g. i2010) and regulations. However, none of them, alone, are sufficient to achieve the

overall objective of a strong global positioning of Europe in the ICT field. The Directorate General Information Society and Media is preparing a Communication on "A Strategy for ICT R&D and Innovation in Europe" to address the above issues in a coherent manner, and enable Europe to lead ICT developments and applications in the next decade. The Communication is scheduled to be adopted in April 2009 and should spawn a series of new actions and instruments to be implemented as of 2011.

One dimension that has not been fully investigated is a more structured and coordinated involvement of European ICT scientific societies to address the issues mentioned above, possibly within the frame of a coherent strategy for ICT set by the above Communication. A more vigorous and systematic participation of European scientific societies could provide a complementary, though significant, contribution to further the development of ICT skills, knowledge and standards at a European level, so as to strengthen the competitiveness of European ICT industry in an increasingly global market landscape.

Scope and objectives of the consultation

Against the above background, the objective of this consultation is to launch a new reflection on the needs, opportunities and options for actions to further promote truly European scientific societies in the field of ICT, with a view to achieve a critical mass and visibility commensurate to the relevance of the European ICT market and contribution to the scientific and technological developments of ICT. The consultation complements other initiatives addressing similar topics from related policy perspectives.

More specific tasks in the context of this consultation are:

1) To perform a stocktaking of ICT scientific societies, including an inventory and a comparative analysis of the most important organisations within and outside Europe, focusing particularly on the specific roles and contributions of ICT scientific societies in the research, education and innovation landscape in Europe.

2) To analyse the possible gaps, missed opportunities and threats caused by the lack of world leading ICT scientific associations based in Europe, in the face of the increasing globalisation of knowledge production and market competition.

3) To understand if and how the scope and activities of scientific societies might be better articulated and coordinated to reinforce the European footprint on research, education and innovation, and on the creation of ICT skills, knowledge and standards;

4) To identify future needs and options for action in the light of the recent European policy developments, namely the Ljubljana process and the free circulation of researchers, skills and knowledge (5th freedom), the ongoing debate on standardisation, the revitalisation of the Lisbon strategy and ongoing discussion on a European strategy for ICT R&D and Innovation in Europe.

Expected outcome

The outcome of the consultation will be a report providing an analysis of the status of scientific societies in Europe and a number of policy options to the European Commission ranging from "no need for action" (meaning that current initiatives are working and contributing well), need for further reinforcement of existing scientific associations through a more incisive coordination of existing organisations and initiatives, up to proposals for the establishment of, for example, new EU-based

entities designed to strengthen the various functions and missions presently covered by existing scientific societies.

Initial list of issues proposed for discussion

The basic structuring elements for the consultation report as well as an initial list of questions proposed for discussion are provided in a separate background document. They are based on the different roles typically covered by scientific associations. Details will be provided through the consultation process.

Modus operandi

The consultation will be structured as follows:

– The European Commission will contract an external expert as a 'rapporteur' for the group's meetings and as chief editor for the group's report to be produced at the end of the consultation.

– A kick-off meeting will take place on 27 November 2008 in the context of the ICT 2008 Conference (Lyon, 25-27 November 2008). Background documents will be distributed beforehand to the participants. A follow-up meeting could be called for January 2009, if required.

– Before the meeting the group will be asked to produce a first contribution along the structure and the questions provided in a separate background document. The editor will consolidate the experts' contributions in the first draft report, to be circulated before the meeting.

– The editor will integrate the outcome of the meeting into the report. After the meeting the experts will have the opportunity to comment and send further contributions. The final report is planned to be issued in January 2009.

– The Commission will host the meetings and will act as facilitator/secretariat for the whole consultation process. The report will represent the views of the experts in their personal capacities. No reimbursement of travel and accommodation costs is foreseen.

Invited experts

The consultation will involve representatives from existing European and National societies, standardisation bodies, industry and academia, as well as representatives from related European Technology Platforms.

Annex 2: List of participants

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