Strategy options to enable European scientific societies in the area of information and communication technologies to become more competitive at an international level.

POSITION DOCUMENT[1]

Workshop, 18th and 19th January 2011, Brussels

Organised by:

ASM Market Research and Analysis Centre Ltd, Poland

APINTECH Ltd, Greece

In the framework of European Commission, Directorate-General for Information Society and Media SMART 2009/0061 study

Background

The SMART (2009/0061) project (ROLE AND IMPACT OF PROFESSIONAL AND SCIENTIFIC SOCIETIES IN ICT RESEARCH, EDUCATION AND INNOVATION) was launched with the key objective to **identify the needs, opportunities, and options for action to foster European scientific societies in the area of information and communication technologies and to make them more competitive at an international level.**

The project has now completed a data collection task, which included:

- a **factual survey**, whereby an European ICT society inventory has been produced. This inventory includes structured descriptions of 444 EU ICT societies, as regards their activities, products, membership scheme, finance model, etc.
- an **opinion survey**, whereby the information collected includes views and opinions on diverse aspects of ICT societies. Interviews have been performed with 474 respondents, related broadly to ICT, who wished to register their views and suggestions with the survey. 334 of them were EU ICT society members, 67 scientists, 28 business/industry representatives, 28 policy makers (including independent experts who have influence on policymaking in ICT domain) and 28 in other ICT-related activities.

Data collection has been conducted by on line questionnaires and, in some cases, telephone interviewing.

Following to the data collection phase, **a data analysis phase is currently unfolding**, seeking to provide insight in the vast data collected, and to exploit them in setting up recommendations about the key study issue, "*How can EU societies become internationally more visible and more competitive?*"

Various, side, products, based on the data collected, are also now in development, and will yield special, focussed, reports, that may be used either in a stand alone fashion, or as an analytical backup and justification for the strategy formulation.

What will a more competitive EU ICT society landscape lead to in the mid term?

What will the tangible impact be, of successfully addressing the current ICT society fragmentation issue and providing for a one-strategic-voice throughout the EU?

Follow below some **key** expectations.

Research	• Higher rank in citation index of the EU society journals
	• Higher reach of research results to the research community
	• Joint activities and more interaction within EU society members
	• Joint activities launched with emerging countries
Research policy	• A more streamlined and effective process
Education	• Increased number of students from the emerging countries
	• Development of a EU wide, ICT education evaluation reference and certification process
	• Joint activities and more interaction within EU society members
	• Joint activities launched with emerging countries
Society	• Citizen awareness on ICT policies and standards

Scope

The document is meant to serve as a **basis for discussion on the issue of appropriate ICT society strategies**, especially, yet not exclusively, during the workshop planned in Brussels on the 18/19 January. It will not refer explicitly to the on going data analysis, although it will implicitly take advantage of some of its results and present some relevant figures, backing some of the recommendations made.

The workshop **is held in order to debate and collect ideas as to possible EC policy action that can help the process of increasing the competitiveness of EU ICT societies**. In order to provide some guidance to this discussion, a number of possible action guidelines are presented below. Though these may not be exhaustive and further suggestions may be raised during the workshop itself, it is nevertheless hoped they may serve as a base for a fruitful and targeted discussion.

Following the event, **a strategy recommendation report will be drafted and distributed to people with whom the project has established a communication** (workshop participants, survey respondents, etc.). This report will obviously strongly reflect the key findings and suggestions, raised in the course of the workshop.

At the end, ICT societies are responsible for their own development strategy, for launching new products, optimising internal procedures, reaching out to new markets. **Collaboration and co-ordination of activities may however result to some common benefit, overcoming the fragmentation and establishing a more strong, unified and visible EU pole for the ICT societies. This clearly was the noticed, as a trend, in the study itself.**

Study Facts

- **Four out of five respondents indicated that are have already engaged in some sort of co-operation** with other EU or more global societies. Inventory results show moreover that: 54,1% are officially associated with other national societies operating in their countries, 44,6% with European societies, with worldwide societies - 42,8% and less with other national societies in other countries - 34,5%.

- A **desire for more intense co- operation among societies was registered; both between the national and the EU level as well as the EU and the international level**. However, a large part of the respondents (~40%) did not fill in their opinion in this question.

> 70,57% of respondents who answered this question think increase of stronger cooperation between **national and European** ICT societies is needed, only 9,57% is against. 67,73% of all respondents think increase of stronger cooperation between **European and worldwide** ICT societies is needed, whereas 12,06% is against.

- **Co- operation** of societies represented in the on-line survey most often was considered as some sort of official association (29,3% in cooperation with European societies and 27,2% in terms of cooperation with international societies) although co-organisation of workshops (20,4% - with European and 20,1% with international ones), knowledge transfer (17,4% and 14,1%) and research co- operation (15,6% with European but only on the last place with international societies with 9,6%) appear also to be significant. As less developed areas of co-operation certification and standardisation activities as well as prize awards where noted.

In the same sense, **initiatives such as ICT society mergers are considered under the exclusive interest of the societies in question and, though they may truly have similar consolidation impacts, they will <u>not</u> be discussed here, as possible, collective action, pathways**.

With this mandate in mind, a number of possible action paths will now be presented.

Important to note is that the directions below are not, by definition, mutually exclusive. Though there are presented, and also roughly evaluated, in a stand alone fashion, the workshop could contribute towards highlighting potentially interesting and synergistic "mixes", of the below directions, along other suggestions that may emerge during the event.

ICT SOCIETY STRATEGY DIRECTION No 1: Towards an EU ICT society umbrella organization

Context

There is a significant experience, in the EU, in umbrella type of organizations, established with the purpose to enhance collaboration, develop common agendas, achieve focus and visibility, succeed in a better dissemination reach. European Technology Platforms (ETPs) is one of the most well known instruments of this type. European Economic Interest Groupings (EEIG) and Associations Internationales Sans But Lucratif (AISBL) are other, similar constructs. Public private partnerships (PPPs) are more business driven variants, seeking to mobilize the industrial forces and entrepreneurs behind an ambitious innovation-driven agenda. In the ICT context, such is, for example, the case of the public-private partnership on the Future Internet.

Such umbrella platforms typically have a thematic focus (materials, energy, construction, etc.), more or less targeted. They carry out regular events, and other promotional activities. Very often they act as consultants to the EC, in designing research instruments or other initiatives of a bilateral interest.

There is often a modest membership fee to participate to such a platform, which supports the running costs of an, otherwise, lean organizational set-up.

National level representatives are also often foreseen, in order act as effective links among he EU and the national level activities, policies, etc.

Overall, it is difficult to issue an assessment statement of the technology, and perhaps, other, similar typology, platform experiences. Nor is it necessary that they all conform to the same efficiency pattern. For sure there are many things that can be looked into, so as to enhance the efficiency of technology platforms. More **visible services to their members** and a **more extrovert attitude**, building links across the world, can be claimed to be to key directions where action needs be taken.

Study Facts
- 39,5% of the survey respondents consider Institute of Electrical and Electronics Engineers (IEEE) as leading International ICT society followed by Association for Computing Machinery (ACM) – 26,6%.

- 15,4% of the survey respondents consider European Research Consortium for Informatics and Mathematics (ERCIM) as leading European ICT society followed by Council of European Professional Informatics Societies (CEPIS) – 12,4%. Moreover, 5,7% think that ERCIM has the potential to be more competitive at international level and 5,10% opt for CEPIS.

- **Highest-ranked publications is the most crucial criteria for considering an association an ICT leader** – 24,5% of respondents and top-class conferences and workshops for 24,3%. Internationally accepted technical standards and certificate and status of widely recognized representative of the discipline were mentioned in following positions.

- **Recognition** (12,26% of all responses given) **and high quality products** (11,04% of all responses given) are the **most desired unique qualities/characteristics** a society needs to have to differentiate itself from and better than of its competitor.

Strategic directions proposed

Design and work towards the set- up of a lean ICT umbrella like organization, an **EU ICT society platform**, with the aim to provide a ground where all ICT societies will meet, interact, lobby, and design joint activities. Though this may certainly inspire from the technology platform model, special attention must be paid to:

- the particular characteristics of the societies
- the actions required to secure, from the early moments **a one source of reference and directory like service for the ICT societies in the EU** and, connected to this, **increase their global visibility**
- As the issue of co- operation and co- ordination among the EU and the national level has been particularly emphasized in the study, it would be important to **design an effective link between the EU level and the national level** so that it may be efficient, foster a better flow of information and remain open to new entrants

ICT SOCIETY STRATEGY DIRECTION No 2: Towards a virtual EU ICT society platform

Context

A virtual platform is essentially a variant of the umbrella organization, discussed above. Although there is no real fundamental difference, this direction, as the world suggests, would build its strategic advantage more around Internet and less around the physical world, with the offices, meeting venues, etc. that go with it. It would also be more lightweight, preserving perhaps better society autonomy, while contributing to convergence and co-ordination among ICT professionals in Europe.

The virtual platform would be characterized by a strong on line presence and would not necessarily require any organizational set- up. Especially within the ICT society context, it would largely build on participative approaches (and mentalities) and the backing Web 2.0 technology.

Study Facts

- A lot of societies from EU inventory (47,07%) already use web 2.0 technologies (N=444)
- Often however, due to a number of issues, use of these technologies is marginal.
- Most of the societies that already apply web 2.0 most frequently use Forum (91) followed by Profile on a social networking portal (73), Other participative technologies (59), Blog (54), Wiki (31). Only at the end the collaborative management tool was placed with 27 responses.
- Even more societies and society stakeholders (77%) acknowledge the importance of these technologies agreeing that participative technologies can play a useful role in spreading the knowledge on society existence and its activities.

Strategic directions proposed

Design and work towards the set- up of a virtual EU ICT society platform, built around the web 2.0 model. The platform should stay clear from emerging in "one more site", or turning into a replica of the individual society web sites. The platform should, first and foremost, provide a crystal clear on line **directory service** (who is who) and then **design innovative services that may create synergy, co- operation and visibility.**

Such a EU wide activity would, on the one hand, leverage services to its members (whose membership will be automatically secured by membership in one of the supporting societies), while on the other hand would develop new services, which might have been more difficult or outright impossible in the current fragmented landscape.

- **Towards members,** interactive applications that will allow information sharing, co-working and networking but also **more advanced member interaction services such as partner or job search, ad posting, etc, made more dynamic because of the increased platform visit metrics**

- As an indication alone of a new service: **the design of a ICT framework that will allow to societies to actively interface and mediate between the research, the policy development and the standard adoption process in the EU**, with the mandate to streamline the complex information flows and establish a communication with the EU citizen to which simple and coherent information will be communicated. This is an area where the study has highlighted that society activities are not as strong as in the case of more mainstream activities, such as journal publication and workshop organization. It is however a very important area, where a lot needs to be done to address the, wider, EU, fragmentation in terms of standards and policies.

Study Facts

- Predominantly the EU ICT societies engage in journal and magazine publications (21% of societies from the inventory use magazines as a communication channel and around 17% use journals), educational, including skills development (19,6%).

- **Important areas such as standard development activities (standardization, including technical: 4,1%) and people friendly dissemination of research results and activities are, despite their acknowledged importance, much less represented among the society activities.**

ICT SOCIETY STRATEGY DIRECTION No 3: Towards a targeted networking concept (network of excellence, etc.) around an agreed upon priority

Context

A network of excellence (NoE) is a collaborative concept that has been introduced in the EC FP programmes and has created a significant number of good practices, although, again, a full evaluation of the instrument may have not been carried out.

A NoE traditionally **focuses around a clear technical and research discipline**. As ICT societies, usually, have some technical focus themselves a clear technical focus might not be appealing to a significant number of ICT societies. Perhaps a more broad and perhaps more horizontal consideration of "excellence" should be attempted, to secure maximum interest and participation, which is the ultimate goal. I**f we were to keep the analogue with the FP instruments, perhaps a CA (co-ordination action) would be more close to foster this required wide co-ordination and focus on aspects of a rather horizontal and not thematic nature.**

What could such a horizontal focus topic be like? For example, education and training could be an obvious option; fat better, perhaps, **a focus on the fluid and complex area of EU standards, policies and research as discussed in the previous strategy option. Another option would be to use as a binding agent the concept of international co- operation,** which appears to be increasingly important among society stakeholders and could, gradually, allow a better co-operation among the the EU and the emerging economies.

Study Facts
- A significant number of EU societies (worldwide geographical-scope: 16,9%) are already present in an international level, without however matching the respective US figures, something more broadly reflecting the far better communication between the US has managed to establish with emerging economies and their human resources.
- **Internationalization of activities is generally conceived (do you perceive a need for stronger cooperation between European and worldwide ICT societies? Yes: 40,3%) as something important**

Strategic directions proposed

Identify a **key horizontal aspect of ICT society operation that maximizes ICT society interest and co- operation impact. Focus efforts on this priority element,** in order to, by achieving scale economies, drastically leverage the impact of ICT societies on it. As priority areas the following may be suggested:

- International co- operation
- Streamlining the research, policy development and standard adoption process in the EU

ICT SOCIETY STRATEGY DIRECTION No 4: Fostering open access

Context

The **open source model is strongly contesting long established assumptions and is reshaping the product/ service pricing concept**, creating, now, far more possibilities as compared to the pre- Internet era. Whether an open access scheme is suitable to a particular society cannot be confirmed but by the society itself, by the brand it wishes to establish and by its fit with the society products and in-house culture.

However, open access is having an increasing impact and the trend, according to all indications, is bound to continue. Although, maybe, not applicable to all societies, **open access approaches, generally have a potential to form a good basis for ICT society co-operation.**

The approach haves a strong innovative potential; **what is more questionable is its potential to provide convergence and focus to the one-strategic-voice**, which is among the key expectations of the current study.

Study Facts
- Open access is practiced by an already important number of ICT societies (28,6%)[2], with a clear increasing use trend
- It is also perceived by the majority of survey participants (86,2%) that open access approach to knowledge can play a useful role in the development of ICT societies in Europe (N=282)
- There is no indication that open access results to reduced product quality

Strategic directions proposed

Design a targeted action in the direction of open access products. Design inter-society networks, **contributing to open access products** that
- will result to scale economies
- secure a large visibility, at no expense of the quality of the open access products and
- will establish the EU as forerunner in the emerging open access model

---

[2] If at least one product offered by a society was defined as fulfilling the conditions of being open access (including different models: hybrid, delayed open access) the society was labeled as open access

Strategy direction impact

The table below illustrates key impact areas and provides, for all above directions, a broad assessment of the anticipated impact.

IMPACT AREAS	platform	virtual platform	Horizontal point of focus	Open access
establishing a "single voice"	HIGH	HIGH	LOW	LOW
fostering innovation	LOW	MEDIUM	HIGH	HIGH
increasing individual society competitiveness	LOW	LOW	MEDIUM	MEDIUM
enhancing global visibility	MEDIUM	HIGH	MEDIUM	MEDIUM
leverage co-operation	MEDIUM	MEDIUM	MEDIUM	LOW