

# Possible EU Policies Towards ICT Standardisation – Analysis and A First Qualitative Impact Assessment

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**Abstract.** ICT standards are crucially important for the interoperability between both enterprises and individual end systems. The paper first briefly discusses the current situation in the field of ICT standardisation in Europe. Here, the perceived diminishing influence of Europe in the international standards arena has led to first initiatives by the European Commission, aiming at changes in their ICT standardisation policy. Some options currently under consideration are addressed, and the recent White Paper is discussed.

**Keywords:** ICT standardisation, standardisation policy.

## 1. As Introduction – The Emergence of the Current Standardisation Environment

Over the last three decades, the world of ICT standardisation has changed dramatically, from the fairly simple and static situation that could be found in the seventies (see Fig. 1 & 2 below). Back then, there was a clear distinction between the ‘monopolist’ CCITT (International Telegraph and Telephone Consultative Committee, the predecessor of the ITU-T) on the one hand, and the world of IT standards on the other. CCITT were in charge of standards setting in the telecommunications sector. They were basically run by the national PTTs, which still enjoyed a monopoly situation in their respective countries. ISO was in charge of almost all IT-related standardisation activities. The national SDOs developed their own specific standards, but also contributed to the work of ISO.

Over time, two trends contributed to an increasingly complex ICT standardisation environment:

- the growing importance of ICT,
- the globalisation of markets.

These were coupled, and further accelerated, by the Internet, which was ‘discovered’ for commercial use in the mid-nineties. Further complexity

was caused by the liberalisation of the telecommunications markets and the associated emergence of regional bodies, such as ETSI in Europe, and ATIS in the US and TTC in Asia. This was reinforced by the still ongoing merger of the formerly distinct sectors of telecommunications and IT, which caused considerable changes in these markets.

These processes affected primarily SDOs and the relations between them. In addition, and as ‘external’ competitors, standards consortia emerged as a new phenomenon. Well-known examples today include, for instance, the W3C (the World Wide Web Consortium), OASIS (the Organization for the Advancement of Structured Information Standards), or OMG (the Object Management Group).

Also, the economic importance of standards grew. A system ‘ennobled’ by having become a standard held the promise of huge financial gains for its proponents. Likewise, backing a losing system would imply both severe monetary losses and a severely reduced market share for its supporters. In an attempt to save the day, new consortia could be established to standardise the losing system. Obviously, this approach increased the number of consortia [2] and led to an even higher complexity of the standards setting environment.

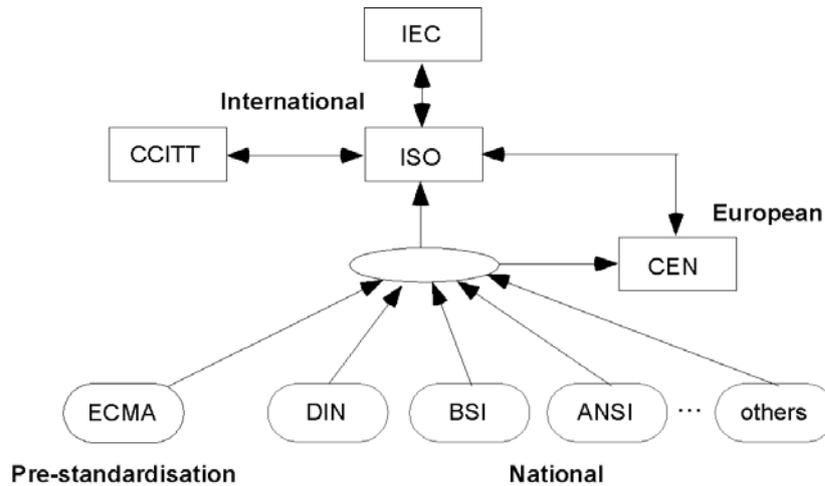


Fig. 1. The ICT standardisation universe in the seventies (excerpt; taken from [1])

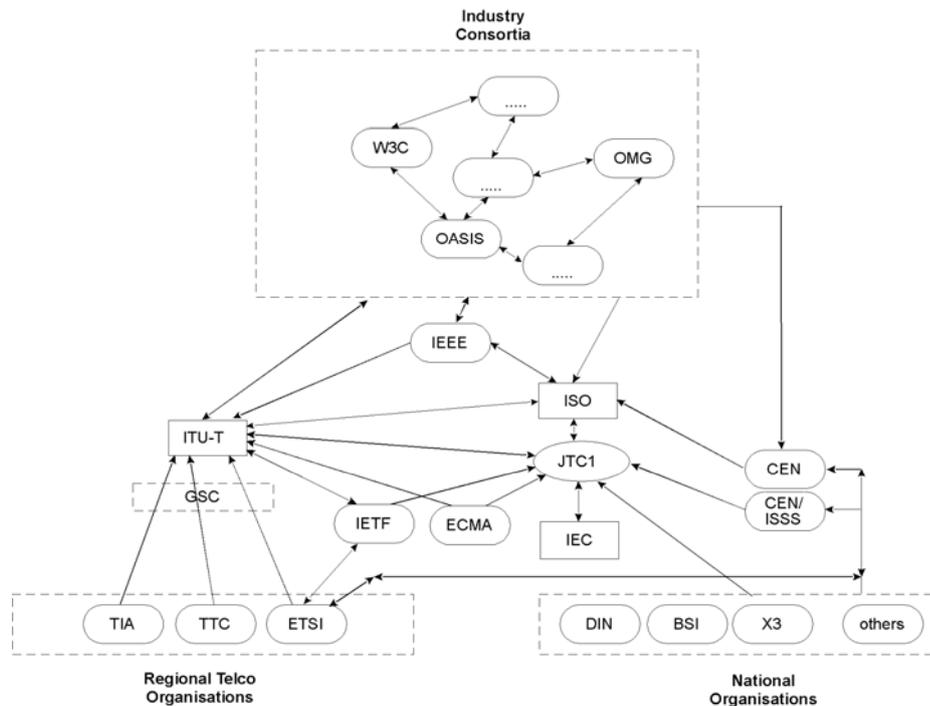


Fig. 2. The ICT standardisation universe today (excerpt; taken from [Jakobs, 2008])

As a result, for a number of years consortia emerged at an amazing rate. This was largely in response to the enormous speed of technical development in ICT and e-business systems. ‘Traditional’ SDOs were widely considered as not being capable of coping with this speed (which was primarily due to their processes that were more geared towards coping with rather slow-moving developments in mechanical engineering than with technology life cycles that were measured in

months rather than years; Moore’s Law is still valid (see also, e.g., [3]). To further increase complexity, a proliferation of sector-specific standards may be observed in Europe, especially in the e-business domain. The most prominent representatives here include CEN/ISSS Workshop Agreements (CWAs), many of which have been tailored towards the needs of a dedicated industry sector.

The Internet’s standards body, the IETF, should also be mentioned. This body plays a somewhat

special role thanks to the unprecedented importance of the Internet in today’s economy. For many years the output of the IETF, the Internet Standards, had not been accepted as ‘standards’, and were not recognised by government procurement regulations. This has changed by now, though.

One effect, which was a direct result of the trends outlined above, is that many companies, especially large manufacturers, vendors, and service providers, are forced to participate in a much higher number of Standards Setting Bodies (SSBs<sup>1</sup>) than they used to, to make sure that they do not miss a potentially relevant development.

## 2. The European Standardisation Landscape

The European Standardisation System (ESS) comprises

- The National Standards Organisations (NSOs)
  - Currently (August 2009) there are thirty NSOs, from Austria to the UK (in alphabetical order<sup>2</sup>). One key characteristic of the present ESS is the mandatory transposition of European standards to national ones. This implies the withdrawal of any conflicting national standards.
- The European Standards Organisations (ESOs).
  - Of these, ETSI is in charge of telecommunication standardisation, CENELEC is working in the field of electrotechnical standardisation, and CEN basically covers all other topics. The system is very much based upon the international system, and close links exist between both systems (see Fig. 3).

Against the background of the proliferation and increasing importance of standards consortia, concerns were growing about the (future) relevance of the European ICT standardisation system. Similar earlier concerns – and the wish to get rid of the (perceived) reputation of being slow moving and not really up to the job – had already led to the introduction of ‘lightweight’ deliverables by the

<sup>1</sup> This term is used to denote both the ‘formal’ SDOs as well as standards consortia.

<sup>2</sup> See <http://www.cen.eu/cenorm/members/national+members/index.asp>.

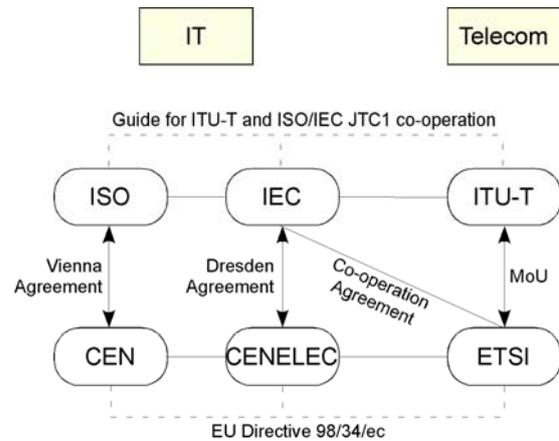


Fig. 3. Co-ordination between European and international SDOs (taken from [Jakobs, 2008])

ESO<sup>3</sup>. This time, however, the whole EU ICT standardisation policy was questioned.

A report was commissioned in 2006 by the European Commission with the mandate to analyse the state-of-the-art in European ICT standardisation policy, and to provide recommendations on how to adapt it in the future [4].

## 3. Identified Issues

The various developments discussed above have changed the standardisation environment in the ICT sector. This has several ramifications for both the ESOs and the European ICT standardisation policy. Particularly the increasing importance of standards consortia is presenting a problem here. On the one hand, this has led to a reduced importance of SDOs in general, and of the ESOs in particular. On the other hand, it has contributed to a diminishing importance of European innovations and technology. This is not least due to the long-lasting ignorance of consortia in ICT by the EU’s policy makers. Now, they need to find ways to

- increase the importance of the ESOs, and their standards, in the international arena
- SDOs have been marginalised by other SSBs in many areas (e.g., the Internet, wired and wireless Local Area Networks, the WWW). Measures need to be taken to reverse, or at least improve, this situation. See #s 2, 4, 5, 6 below.
- improve EU companies’ competitiveness

<sup>3</sup> CEN/CENELECS ‘Workshop Agreements’ and ETSI’s ‘Industry Specifications’.

To be in line with EU Directives, inferior (and possibly outdated) European standards need to be used by EU companies. This may lead to serious disadvantages compared to non-EU companies. The same holds in the field of public procurement. Again, this situation needs to be remedied. See #s 1, 2, 3 below.

According to [4] and [5], the issues to be addressed include, among others:

1. Internal legal issues

EU legislation (and, to a lesser degree, public procurement) can only reference standards produced by the ESOs. In particular, standards developed by standards consortia or fora (like, for example, the W3C, OASIS, or OMG), as well as those developed by the IETF, IEEE and the likes may not be referenced.

2. Lack of adequate European standards

EU regulation, legislation and public procurement cannot reference many state-of-the-art standards solely because they have been developed by the ‘wrong’ SSBs (i.e., not by one of the ESOs; see above).

3. Lack of integration of standards consortia

Here, the prevailing stance remains that “*It is considered doubtful whether, in the light of the speed of development and the limited participation of experts, the fundamental principles for accountability of standardisation such as openness, consensus and transparency are followed in a robust fashion [by industrial fora and consortia]*” [6].

4. Lagging European efforts

In the ICT standardisation area, EU work is lagging a long way behind market realities. This is not least due to the policies and cumbersome processes deployed by the ESOs (specifically CEN and CENELEC).

5. Lack of adequate links to the R&D community

The EC’s support of such links is largely limited to indirect support to pre-standardisation. In addition, some dedicated projects looking at the link between R&D and standardisation have been funded.

6. Increasing influence of Asian countries, most notably China

China has recognised the potential of actively pursuing ICT standardisation. This is done on two levels: through the development of national standards, and through strong participation in the international arena (primarily in formal bodies, though, as opposed to consortia).

The resulting preliminary problem tree is depicted in Fig. 4.

The problems identified in Figure 4 above fall into three categories (all of which are deemed to be at risk not least through the emergence of standards consortia:

- Economic

ICT standards are seen as a tool to improve innovativeness, and thus competitiveness, of the EU industry.

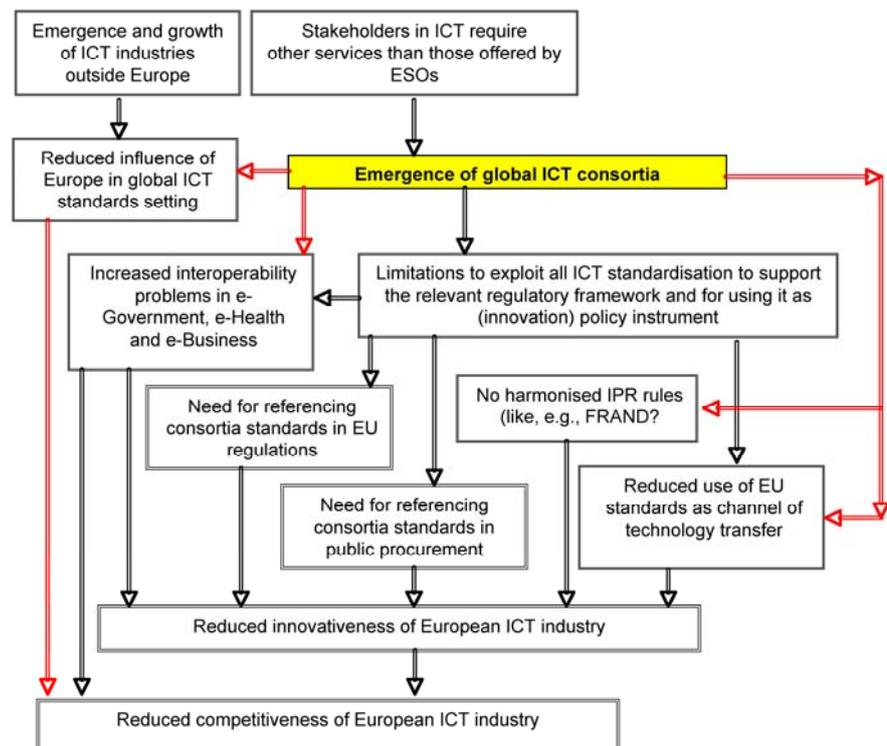


Fig. 4: Preliminary problem tree

- Policy

Standards may be used as a tool for technology transfer from (publicly funded) R&D projects to the market, and as a tool to support innovation policy.

- Technical

Without uniform standards (and implementations) interoperability in major current and future sectors (such as, for instance, e-health, e-government, the Internet of Things) is at risk.

#### 4. Envisaged Potential Remedies

To do something about especially the first four issues, the EU needs to re-consider their stance towards non-European SSBs. Specifically, four potential lines of action have been identified by the European Commission [7]:

1. “No action at all at EU level.

2. Modest changes to European ICT standardisation policy, e.g.

- create a permanent stakeholders’ platform,
- encourage deeper integration of the work of consortia / fora into the European standardisation system through agreements with the ESOs.

3. Significant changes to European ICT standardisation policy, e.g.

- create the financial and legal possibility to reference non-ESO ICT standards in EU policies and legislation,

- define ICT standards attributes based on WTO criteria (see [8]),

- use specific standards developed by particular consortia/ fora (‘case by case basis’),

- clarify the provisions applicable to the use of ICT standards in public procurement.

4. Comprehensive changes to European ICT standardisation policy, e.g.

- recognition / accreditation of fora and consortia as standardisation organisations under Directive 98/34,

- regulate the treatment of IPR related to ICT standards”.

Options 5 and 6 are not really alternatives to nos. 1 – 4, but rather complement them.

5. Increase the participation of EU stakeholders, especially EU companies in global consortia

- Provide technical and management support for interested companies

- Provide financial support to (some disadvantaged) stakeholders (e.g., primarily for SMEs, NGOs, consumers)

- Support participation of governmental organisations from both the EU and the Member States

6. Increase attractiveness of participation in ESO activities for all stakeholders, especially those from outside Europe

- Allow direct participation in all ESOs (not only ETSI), not via NSBs

- Provide incentives for stakeholders to participate, especially for those who are typically disadvantaged (SMEs, consumers, NGOs, etc.)

- Increase attractiveness and ‘credibility’ of the New Deliverables published by ESO

- Make IPR rules of ESOs more flexible

These options can initially be assessed on a rather rough and qualitative basis according to the following criteria:

- **Effectiveness**

The extent to which options can be expected to achieve the objectives of the proposal.

- **Efficiency**

The extent to which objectives can be achieved for a given level of re-sources/at least cost (cost-effectiveness).

- **Consistency**

The extent to which options are likely to limit trade-offs across the economic, social, and environmental domain (consistency with other policies).

- **Compatibility**

The extent to which the options are in line with the legal framework (i.e., how much/little it would need to be changed)

Given the issues listed above (and the numerous others), #1 is hardly an option.

The same holds for option 2. An entity that could easily assume the role of the suggested platform has already been established – the ICT Standards Board<sup>4</sup> (ICTSB). Whether or not consortia actually want to be integrated more deeply into the European standardisation system appears questionable – why should they?

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<sup>4</sup> The ICTSB is an initiative from the three ESOs with the participation of several standards consortia to co-ordinate specification activities in the field of ICT.

Table 1. Preliminary assessment of the options

	<b>Effectiveness</b>	<b>Efficiency</b>	<b>Consistency</b>	<b>Compatibility</b>
<b>Option 1</b>	Low	Low	High	High
<b>Option 2</b>	Medium	Medium	High	High
<b>Option 3</b>	High (short term)	High-medium	Medium	Medium-Low
<b>Option 4</b>	High (short term)	High-medium	Medium	Medium-Low
<b>Option 5</b>	High (long term)	High-medium	High	High
<b>Option 6</b>	High (long term)	High-medium	Medium	High

Option 4 would bring about a whole host of legal problems that would take considerable time and efforts to be fully resolved. Moreover, given the very diverse policies and bylaws of individual consortia, a ‘carte blanche’ approach here would not be feasible (see below). Moreover, it remains unclear if, and how, consortium deliverables could, and would, be transposed to national standards. Ultimately, this would put the current European Standardisation System at risk, as conflicts between European and national standards could no longer be avoided.

This leaves #3 as the only viable option. The WTO has identified a ‘Code of Good Practice for the Preparation, Adoption, and Application of Standards’ [8]. Compliance with this Code would thus be a minimum requirement for consortia to be accepted as potential sources of officially ‘referencable’ standards in the EU. It might, however, be advisable to identify additional criteria that should be met by consortia (e.g., about their openness, membership policies, IPR rules, etc). This option should also be implementable with an acceptable degree of legal/administrative overhead.

Independent of the above, options 5 and 6 should be pursued in any case. Except for the task of providing financial support to (some disadvantaged) stakeholders (which may be argued to bring unfair advantages to some) they are perfectly in line with EU policies, comparably straightforward to implement, would be beneficial to all (including especially the ‘Third Estate’ in ICT standardisation; i.e., SMEs, users, consumers, NGOs, etc; see [9]).

Table 1 shows a brief summary of the initial evaluation of the options.

## 5. Qualitative Analysis of the Impacts

The proposed policy options will primarily have economic impacts, and also some social im-

pacts. Yet, hardly any direct environmental impacts should be expected. However, such impact assessments need to follow the CEU’s ‘Impact Assessment Guidelines’ [10], that also require an analysis of potential environmental impacts.

### 5.1. Economic Impacts

The economic part of the assessment has, in particular, to provide answers to the following preliminary list of questions (according to [7]<sup>5</sup>):

- What would be the overall economic benefits or costs for the European Union of any proposed new policy?
  - What would be the impact on the competitiveness of the ICT industry in Europe?
  - What would be the impact on the competitiveness of the SMEs in Europe’s ICT industry?
  - Which sectors implementing ICT would be impacted by any new policy and what is the economic significance of those impacts?
  - What are likely to be the effects of any new policy on SMEs as users of standards?
  - What would be the impact of the policies on the research and innovation activities in Europe’s ICT industry?
  - What would be the impact of the policies on the diffusion and implementation of IPR protected ICT?
  - Will the prices of ICT products for consumer be affected by the proposed policies?
  - How will ESOs/NSBs and their standardisation processes influenced by the policy options?
- To what extent would any option influence the governance, organisational processes and efficiency of the standardisation process itself?

<sup>5</sup> These questions were identified by the European Commission in [CEU, 2008]. Not all of them are relevant in the context of interoperability standards. This holds particularly for any ‘social impacts’.

- Which parts of governments and which of their policies will be affected by changes in the ICT standardisation policy?
- What administrative and financial burden will be generated for which kind of affected parties, e.g. industry, ESOs, government (EC, Member States)?
- How would any proposed policy affect interoperability, and what is the likely economic and technological impact?
- What is the likely effect on the EU's role in and impact on the global ICT standardisation process?

**5.3. Social Impacts**

The social aspects of the assessment should, in particular, provide answers to the following questions:

- Do any of the options have implications on the labour market?
- Would consumers be impacted by any of these options?

- Would any of the options have impacts on the individual or public health, safety and security?
- Environmental Impacts

The assessment will also identify the environmental impacts of the various options. However, environmental impacts ('green IT') are likely to be initially limited.

**5.4. Preliminary Qualitative Impact Assessment**

In order to illustrate the possible impacts of the policy options on the various impact dimensions, we have listed the most important impacts and their possible developments for Option 1 of doing nothing and Option 4, which requires significant changes in the regulatory framework in the EU. The assessment of the impacts is a preliminary rough qualitative assessment, which can be the basis for a more extensive exercise covering all policy options and more in-depth, especially quantitative analysis of the various impact dimensions.

Table 2. Preliminary assessment of the impacts of two policy options

Economic impacts	Option 1: No Policy Action	Option 4: Recognition of consortia as SDOs under Dir 98/34
General benefits and costs	No direct costs, but losing further influence on ICT standardisation	Using consortia standards for EU policies on the cost for their accreditation and surveillance
ICT sector	Using more and more ICT standards influenced by Non-EU players and no influence by the European ICT sectors will reduce international competitiveness (especially trade)	Short-term: Increased relevance of consortia standards in regulatory framework and public procurement Long-term: Increased attractiveness to join these consortia for Europe's ICT industry
SMEs	Less influence of European ICT SMEs on ICT standardisation	Short term: Increased relevance of consortia standards in regulatory framework and public procurement Long term: little increase of SME participation in ICT consortia
Influenced ICT using sectors	Using more and more ICT standards influenced by Non-EU players and less influence by the European using sectors may lead to higher prices and unavailability of preferred solutions	Referencing consortia standards in EU regulations will improve the regulatory framework for ICT using sectors
SMEs using ICT	Using more and more ICT standards influenced by Non-EU players and no influence by the SMEs in European using sectors may lead to higher prices and unavailability of preferred solutions	See above
Research and innovation activities	Less transfer of ICT research results in ESOs standards, which may hinder follow-up innovation activities by European ICT industry	Research results transferred to recognised ICT consortia can be used as part of a regulatory framework improved related to the state of the art in science and technology which has more positive on innovation activities in the European ICT industry, e. g. by setting higher requirements both in regulation and public procurement
Intellectual Property Rights	Less diffusion of IPR protected ICT technologies via FRAND licensing	IPR integrated in the standards of recognised ICT consortia has to be licensed according to FRAND, which is a uniform and probably IPR-diffusion enhancing rule promoting consequential innovation activities
Consumer prices	No impact if sufficient competition between standardisation consortia; however threat of dominant ICT consortia exploiting their (IPR based) monopoly position	Due to the integration of standards of ICT consortia both anticompetitive exploitation of monopoly positions

<b>Economic impacts</b>	<b>Option 1: No Policy Action</b>	<b>Option 4: Recognition of consortia as SDOs under Dir 98/34</b>
ESOs/NSBs incl. process	Losing influence on ICT standardisation and increasing effort to coordinate ESOs standards with consortia standards	The division of labour between ESOs/NSBs and consortia might reduce the activities of the former further; in addition the consistency check becomes more important between the former and the latter; however, transfers of consortia standards to ESOs becomes less necessary
Governments	Less options of governments to rely on standards in their public policies, e.g. regulation, public procurement	Larger set of ICT standards to use for complementing regulations and to reference in public procurement
Administrative burden (government, industry)	Little further direct administrative burden	Reduction of administrative burden if the use of consortia standards facilitate the compliance with regulations and their surveillance, but additional cost for accreditation and surveillance of consortia
Interoperability	Increasing efforts to realise interoperability between ESOs ICT standards and consortia standards	Improved interoperability if coordination between ESOs' and consortia ICT standards
<b>Social impacts</b>		In general, only intermediate and in the long-run
Labour market	In the long run negative implications for number of employees in European ICT industries	In the long run possible positive development of Europe's ICT industry followed by increased employment; on the other hand, accreditation of ICT consortia may weaken the competitiveness of Europe's ICT industry, if these standards strengthen the ICT industry located outside Europe
Consumers	Less influence of European consumers on ICT standardisation	Positive influence on consumers in Europe, if additional ICT standards correspond to their preferences; negative influence if their specifications contradict their preferences
Health, Safety and Security	Less influence of European stakeholders on ICT related health, e.g. e-Health, safety and security issues	Positive influence on consumers health, safety and security in Europe, if additional ICT standards correspond to their health, safety and security preferences; negative influence if their specifications contradict their preferences
<b>Environmental impacts</b>	European environmental issues related to ICT standards are less taken into account	If environmental aspects are touched, then see argument above

The preliminary qualitative assessment of the Option 1 of “No Policy Actions” makes obvious that this passive behaviour will lead to reduced effectiveness of standardisation as an ICT policy tool. However, the rather radical changes to be associated with the implementation of Option 4 will lead to significant changes in the relationship between formal SSOs and consortia. Due to these rather extreme options, the other options summarised in Table 1 will have to be included in a comprehensive impact assessment.

## 6. The White Paper – The Way Forward!?

In their recent White Paper ‘Modernising ICT Standardisation in the EU – The Way Forward’ [11] the European Commission makes a number of suggestions on how the EU’s ICT standardisation policy should be adapted in order to better reflect the realities in the ICT sector. In this document, the

European Commission makes eleven suggestions regarding the future of the EU’s ICT standardisation policy. The most interesting ones will be briefly addressed below.

Four attributes have been identified that “should always be respected in standardisation processes”. That is, the process should be open (accessible to all interested parties), consensus-based, balanced (all interested groups of stakeholders should be involved), and transparent (relevant information should be available). In addition, the standard itself should be maintained, publicly available, relevant, technology-neutral and stable, of sufficiently high quality, and essential IPR should be licensed on a FRAND<sup>6</sup> or RF<sup>7</sup> basis. *The Commission suggests that these attributes be integrated in the future ICT standardisation policy.*

<sup>6</sup> Fair, Reasonable and Non-Discriminatory.

<sup>7</sup> Royalty Free.

These characteristics are pretty straightforward and largely based on those defined by the WTO [8]. The only minor surprise would be the apparent move away from the – much criticised – requirement that for open standards essential IPR should be made available on an RF basis [12].

*The Commission suggests that standardisers adapt their procedures where necessary to ensure that contributions from research organisations, consortia and projects facilitate the timely production of ICT standards.*

A couple of years ago two EU-funded research projects<sup>8</sup> addressed the issue of the links between research and standardisation (or rather, the lack thereof). It seems that their findings have been taken on board by the Commission. Especially publicly funded research has a very poor track record when it comes to feeding R&D findings into standards. Prominent problems include (among others; see also [13]):

- lack of funding,
- mutual lack of knowledge on both sides (researchers and standardisers),
- lack of incentives for researchers to use standards as an outlet for their findings,
- standards processes not exactly accommodating R&D project's needs and timelines.

According to a large survey (see [13]), lack of funding is the most relevant problem by far. Here, just requesting the standards bodies to adapt their procedures will not help overly much. Rather, the Commission needs to re-consider their funding principles for EU-funded R&D projects. For example, projects with promising findings and an interest to incorporate them into standards could be granted additional funding for standardisation activities, most of which would typically take place once the R&D work has more or less been completed.

*The Commission suggests that ICT standards developing organisations should, subject to competition law and respecting the owner's IPR:*

1. *implement clear, transparent and balanced IPR policies which do not discriminate and allow competition among different business models,*

2. *ensure the effectiveness of procedures for IPR disclosures,*

3. *consider a declaration of the most restrictive licensing terms, possibly including the (maximum) royalty rates before adoption of a standard as a potential route to providing more predictability and transparency.*

This is much easier said than done. In fact, most major SSBs attempt to implement # 1 and aim at implementing #2. Number 3 is a different issue altogether. Earlier attempts to cap royalties have failed, largely thanks to the opposition of R&D-intensive companies with extensive patent portfolios. The same group of stakeholders has also been opposing the idea of publicly available ex-ante licensing terms [14]. Intervention by the regulator could be an option. However, most major beneficiaries of royalties are based in the US, so any one-sided European regulatory action could lead to massive international problems.

*The Commission suggests enabling the referencing of specific fora and consortia standards in relevant EU legislation and policies subject to a positive evaluation of the standard and the forum or consortium processes with regard to the attributes list as described [above].*

This is the central 'suggestion'. It is closely related to alternative '3' discussed in sect. 5 above. In fact, it is highly unlikely that any of the major consortia and fora will not be positively evaluated (standards maintenance may become an issue, though, if interpreted narrowly). However, it is equally likely that the ESOs will not be overly enthusiastic about this idea, as their influence in (European) ICT standardisation will suffer. The entity in charge of the required evaluation would also have to be identified. If this evaluation extends to individual standards (as opposed to the underlying processes leading to these standards) this will become a critical, and time-consuming, exercise.

*The Commission suggests promoting better cooperation between fora and consortia and ESOs on the basis of a process which would lead to standards issued by the ESOs.*

This is a logical extension of the suggestion above, albeit overreaching a bit. A distribution of labour between ESOs and consortia will eventually become inevitable. Whether or not especially the larger, well-established consortia are prepared to

<sup>8</sup> These were COPRAS (Co-Operation Platform for Research And Standards; <http://www.w3.org/2004/copras/>) and INTEREST (INTEgrating REsearch and STandardisation; <http://www.interest-fp6.org>).

publish their standards under an ESO label appears a bit questionable. Such a process works at the international level, where JTC1's PAS process allows interested (and evaluated) entities to submit specifications for consideration as Draft Standard (i.e., at a rather advanced stage of the standards development process). It would remain to be seen if a similar mechanism (that would need to be established first) also worked at the European level. In this context, closer co-operation between the ESOs and their respective international counterparts should be considered, e.g., through a 'European JTC1'.

## 7. Some Brief Concluding Remarks

*“It is indeed imperative to modernise the EU ICT standardisation policy and to fully exploit the potential of standard setting. Otherwise the EU will fail to master the information society, will not realise a number of important European policy goals which require interoperability such as e-health, accessibility, security, e-business, e-government, transport, etc, ...”* [7].

Indeed – society increasingly relies on Information and Communication Technologies. And the various e-services, that are a major pillar of the Information Society, rely on standards. Without them, interoperability between, for example, individual e-government services cannot be achieved and the whole idea will collapse.

However, not even the EU is an island. ICT standards are global by their very nature. This implies that international co-operation needs to be sought. Such co-operation can take on several forms, with the most obvious link between the ESOs and their respective international counterparts, and with other international SSBs. Yet, bilateral consultation and co-operation should also be considered. This holds particularly for EU neighbour countries. Russia, for example, is an important trading partner for the EU. Here, common standards would be a clear benefit. But thus far, Russia has not been very active at the international ICT standardisation arena. It is only an (O)bserver member in JTC1 (in contrast to, for example, Algeria, Kenya, and Malta), only eight Russian organisations (most of which are research bodies) are members of ETSI, and hardly any Russian organisations are members of any of the major standards

consortia<sup>9</sup>. Closer co-operation between the EU and Russia would most likely be beneficial for both sides<sup>10</sup>. This could, for example, be achieved through joint R&D projects the outcome of which could then be fed into the standardisation process. Also, Russia would need to become more active in ICT standardisation, perhaps most notably in standards consortia.

The European Commission's suggestions on the EU's future ICT standardisation policy were overdue. Luckily, they are reasonable. Especially the proposed (albeit somewhat implicitly) suggestions re co-operation between ESOs and standards consortia make sense. The problem, however, will be the implementation of the suggestions. Here, the White Paper remains at an extremely general level, a fact that significantly reduces its potential impact.

Much of the necessary initiatives would have to be carried out by the ESOs, and may well turn out to be cumbersome and time-consuming. In other cases, the Commission will have to take action. The value of the White Paper will not least depend on the degree to which the Commission is prepared to seriously implement their suggestions, and to put money where it's mouth is.

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<sup>9</sup> For an overview of ICT standardisation activities in Russia see [15].

<sup>10</sup> The same may be said for China. The country has recognised the value of (formal) international standardisation, and is becoming increasingly active in this arena.

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