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# Contents

# 1. Executive summary

In order to discuss its findings and deliverables with its main groups of stakeholders, towards the end of its lifespan, the Cooperation Platform for Research and Standards organized a conference on research and standardization towards FP7. The conference, for which more than 200 participants registered and featured speakers as well as delegates from all constituencies (e.g. the research and standards communities, larger companies and SMEs, and the European Commission), was held 17 January 2007 at the Bedford Hotel in Brussels.

The 12 invited speakers addressed a variety of issues that have to be taken into account in considering the relationship between research and standards.. These include the importance of standardization in bringing research results to the market, the barriers research projects encounter when trying to interface with standards bodies, the importance of timing in research/standards interfacing processes, the marking challenge ahead of standards organizations, and the need for continued support in the FP7 programme to further improve the cooperation between projects and standards bodies.

At the end of the conference, COPRAS presented a brief overview of one of its main deliverables, the Standardization Guidelines, that are available in document format as well as in interactive format. These were developed as a first step to support and improve research/ICT standards interfacing in FP7. In addition, a discussion between the conference audience and a panel of representatives from all stakeholders to the research/standards interfacing process, revealed a number of additional issues that should be addressed, either by research projects, by the standards community, or by the European Commission. The main conclusions from the conference are:

- Standards establish a bridge between research results and the implementation of innovative products. Standardization is therefore an essential component for boosting innovation;

- Timing is essential for standardization; an early start provides better chances for being successful; moreover, the current pace of technological development forces standardization and research to proceed in parallel;

- There are still many barriers for projects participating in standardization such as membership fees or confidentiality rules; also more tools are needed to find the right standards organization and to determine the differences between various bodies;

- Competition between standards organizations forces the latter to put more effort into marketing, specifically towards the SME community;

- Interfacing with standardization remains an important aspect in FP7. Additional measures are needed and continuation of COPRAS' efforts to bring European research and standardization closer together is a necessity to reinforce Europe's position as a leading provider of technologies for the global information society.

Taking into account these conclusions, and translating them into concrete recommendations against the background of COPRAS' experiences and achievements in FP6, the following 5 points emerge:

1. Results achieved so far are not a panacea for all issues that lie ahead. Additional (horizontal) support actions in FP7 should build upon the COPRAS achievements in FP6;

2. Standards organizations should put more effort into marketing the benefits of standards and standardization, and will specifically have to emphasize their communication to SMEs;

3. To encourage the global uptake of European standards an active policy is needed and specific arrangements need to be made to encourage relevant projects to pass their output through European standards organizations;

4. European research programmes should acknowledge the fact that research and standardization cannot always proceed in parallel, and therefore should provide mechanisms that enable projects to acquire additional resources in situations where standards work exceeds a project's lifespan;

5. Specific tools will be necessary to help projects finding those standards and standards organizations most relevant to their activities, and to provide clarity on the background to and processes adopted by individual standards organizations.

## 2.  Introduction

The Cooperation Platform for Research and Standards (COPRAS) started early February 2004 as a 3-year Specific Support Action (SSA) project initiated by the 3 European Standards Organizations CEN, CENELEC and ETSI, together with W3C and the Open Group. Its objective was to support projects in FP6 in their interfacing with standards organizations, and to provide tools and recommendations for improving research/standards interfacing in subsequent Framework Programmes.

As a result of its mission, dissemination of COPRAS' results throughout the project's lifespan was regarded as one of the key objectives, as was the gathering of feedback from its main target constituencies, i.e. the European ICT research and standardization communities, and the European Commission. In addition to presenting and discussing its results with these groups of stakeholders on numerous occasions, COPRAS also planned a conference towards the end of its lifespan, aiming to bring together representatives from all groups of stakeholders to the research/standards interfacing process. Objective of this conference was to discuss COPRAS' achievements and deliverables, and to define recommendations for FP7.

This document constitutes the report of this 'Open Meeting', organised on 17 January 2007 at the Bedford Hotel in Brussels. It provides an overview of the targets and objectives underlying the conference, and briefly summarizes the presentations provided by the speakers. Following this, a number of conclusions based on the speakers' presentations and the discussions with – and feedback from – the audience are formulated and, in the last chapter of this report, are translated into some concrete recommendations for further improvement of research/standards interfacing in FP7.

## 3.  Targets and objectives of the conference

As described in the Dissemination and exploitation plan (COPRAS deliverable D21), towards the end of its lifetime, COPRAS intended to organize an 'Open Meeting' for the ICT research and standards constituencies, as well as for Commission Project Officers, research project evaluators, and other relevant stakeholders concerning the research/standards interfacing process.  The focus of the meeting was to demonstrate COPRAS' achievements and to create an environment for an open debate on improving research/standards interfacing in FP7.

The main objectives of the Open Meeting were to discuss the benefits that can be achieved from embedding standardization targets and objectives into projects' initial work plans, and to address the broad spectrum of issues the research and standards communities are encountering when trying to cooperate with each other. In this perspective it was also COPRAS' goal to demonstrate (and promote the usage of) a first set of tools and mechanisms (the COPRAS interactive Standardization Guidelines platform), that have the potential to improve this interfacing process in future.

The Open Meeting also completed the process of gathering information and feedback from stakeholders on the organization and optimization of the interface between research and standardization in FP6. An additional objective of the conference therefore was to aggregate input from representatives from different constituencies (standards bodies, research projects, Commission Project Officers, etc.), and to determine how – based on their experiences as well as on the COPRAS deliverables and discussions during the conference – this interfacing process should best be organized, improved, and maintained beyond COPRAS' own lifespan, e.g. in FP7.

Targeted output of the Open Meeting therefore was to generate a clear set of recommendations for FP7 and subsequent Framework Programmes, in the perspective of the results and deliverables generated by COPRAS so far. In addition, target was also to formulate a number of additional recommendations, pointing out necessary actions beyond COPRAS, as well as steps to be taken by individual groups of stakeholders such as standards organizations, research project or the European Commission, to improve the process of research/standards interfacing.

## 4.  Organization

The COPRAS conference on research and standardization towards FP7 was organized  only a few weeks before the project was scheduled to complete its activities. Therefore most of its key deliver-

ables, such as the Standardization Guidelines, the FAQ platform on research/standards interfacing on the COPRAS web site, and several case-study brochures on successful cooperation between FP6 research projects and standards organizations initiated by COPRAS, could be shared with the conference audience.

## 4.1 Conference programme & speakers

In view of the recently launched first Call for FP7, it was decided that the findings and achievements of COPRAS in FP6 could best be discussed in the context of organizing and optimizing research/standards interfacing in FP7, as this is clearly the main focus area at the moment for all constituencies involved in the process. Also it was decided that the conference should take a broad focus, and define a programme and speaker line-up sufficiently interesting to all groups of stakeholders as well as to the different categories of organizations participating in European research programmes (e.g. SMEs, academia, national or regional governments, larger industry, etc.). Therefore, the following programme elements were defined for the conference:

| 1 | The importance of research/standards interfacing in furthering Europe's competitive position in ICT; expectations for FP7 |
|---|---|
| 2 | Using ICT research to further standardization; future trends and developments in standardization that could be driven by research |
| 3 | ETPs and standards development; the role of European technology Platforms in RTD/standards interfacing |
| 4 | Benefiting from standardization as an SME company; using research projects as a tool for accessing European standardization processes |
| 5 | eGovernment, standardization and public procurement; standards and research for interoperable eGovernment applications |
| 6 | Standardization and innovation; how ICT standardization can help projects bringing their results to the market |
| 7 | The standardization challenge; addressing the challenges in research/standards interfacing as a research project |
| 8 | Bridging the standardization gap; optimizing the interface to standardization in a research project's work plan |
| 9 | Boosting the exploitation of research project's results; maximizing the benefits that standardization can bring to research projects |

These programme elements were grouped into 3 different blocks, focusing on: i) RTD/standards interfacing in the FP7 Programme; ii) Research/standards interfacing as a tool for industrial and societal progress, and; iii) Seizing the opportunities in standardization as a research project. Concluding this, the last block of the conference, addressing on the perspective for the near future, aimed to bring all elements together and focused on what could be done to improve research standards interfacing in FP7, on presenting the COPRAS Standardization Guidelines, and on combining viewpoints from the audience and speakers into a panel discussion.

In order for the conference to present a balanced view reflecting opinions and experiences from all stakeholders, COPRAS invited speakers from various constituencies, able to reflect the perspectives from the European Commission, the European Technology Platforms, the standards community, the research community, SME companies and public authorities. This, together with the focus areas identified for the conference, created a good starting position for achieving the overall conference targets as identified in chapter 3. A complete conference programme can be found in Annex 1 to this report, as well as on: http://www.w3.org/2004/copras/meetings/open07/agenda.html, where some background information on the speakers can be found as well.

## 4.2 Promotional process

In order to market the conference to the main groups of stakeholders involved in the research/standards interfacing process (e.g. the ICT research community, the standards world, and the European Commission) it was decided to start the communication process several months in advance, and to use a broad mix of channels. Therefore, from September 2006 onwards, the following activities were deployed:

- Promotion of the conference via distribution of flyers and brochures at major events targeting the research and standards communities (e.g. IST2006 and conferences organised by COPRAS consortium partners);

- Conference announcement and publication of the programme on the COPRAS web site;

- Direct and regular email communications with FP6 projects and European Commission representatives;

- Announcements of the conference via the mailing lists of the COPRAS consortium partners, addressing the standards community;

- Announcements via partner newsletters as well as via European Commission newsletters, addressing both the research and standards communities.

As the list of registered delegates in Annex B, as well as the analysis of the feedback questionnaire in chapter 6 show, this marketing strategy has been successful, not only in achieving a balanced mix between constituencies in the attendance to the conference, but also in raising interest among a relatively high number of stakeholders.

## 4.3  Delegate pack

Although prior to the conference, a considerable amount of information was already made available through the COPRAS web site to delegates that pre-registered, it was decided to provide participants with a delegate pack that several of the more tangible deliverables of the project, demonstrating how research/standards interfacing can be implemented successfully. Upon registration on the morning of the conference, delegates therefore received an information package containing:

- The conference brochure;

- A printed version of the COPRAS Standardization Guidelines;

- A set of case study brochures documenting the results COPRAS had achieved with individual projects in FP6 improving their interfacing with standards organizations;

- A list op participants;

- A feedback questionnaire.

Presentations were not provided in the delegate pack for practical reasons. All presentations were however made downloadable from the COPRAS web site on 19 January. A complete list of presentations, including the information where these can be downloaded, can be found in Annex C.

# 5.  ICT research and standardization: towards FP7

The conference was opened by the Chairman, Prof. Keith Jeffery, who introduced the Gartner 'Hypecycle' and the importance of the question when to initiate standards activity during this cycle, so that it is most effective. In this perspective he underlined that standardization should not start too early, but neither too late.

Another aspect pointed out by the speaker was the fact that, in standardization, the best is often the enemy of the good, as standardization processes often take too long and standards consequently arrive on the scene too late. Research projects should focus on what is sufficiently good, but at the same time should plan standards activity into their work plans from the beginning, so it can happen alongside their research activities.

The Chairman reiterated the benefits standards bring to those using them as well as to those producing them, and pointed out that COPRAS, through its work and deliverables, put projects in a better position to secure these benefits, as well as helping Europe to get the edge in standardization. Finally, Prof. Jeffery stressed the importance of standardization being on the agenda of the European Commission, and expressed his hope that research/standards interfacing will be a prominent issue in FP7.

After his introduction, the Chairman introduced the conference speakers. The following sections present short summaries of their presentations and the response from the audience. A complete list of presentations, together with the URLs where these can be downloaded can be found in Annex C.

## 5.1 RTD/standards interfacing in the FP7 programme

The first block of the conference, featuring speakers from the DG Information Society and Media of the European Commission, ETSI, and the Artemis European Technology Platform for Embedded Systems, took a generic approach towards research/standards interfacing issues in FP7. Speakers were:

- Ms. Susan Binns, Director Lisbon Strategy and Policies for the Information Society at DG Information Society and Media of the European Commission (kindly replacing Mr. Peter Zangl);

- Dr. Walter Weigel, Director General of ETSI;

- Dr. Alexander Roth, Siemens Corporate Technology and chair of the Artemis sub-group on standards and regulation.

### 5.1.1 The importance of research/standards interfacing in furthering Europe's competitive position in ICT: expectations for FP7

After the Chairman's introduction, Ms. Susan Binns confirmed the importance of standardization for bringing IST project's results to society. The speaker underlined several policy developments on the side of the European Commission, showing the relevance of the COPRAS conference. Innovation is now a cornerstone in the Commission's strategy, and the emphasis to invest in ICT is stronger than ever. One of the constant sub-themes in the overall policy is the strengthening of the link between ICT research and standardization, also because in this domain, there is a persistent threat of de facto standards becoming market barriers. In the same context Ms. Binns also mentioned the establishment of a series of European Technology Platforms, 9 of which are covering several areas in ICT. The purpose of these ETPs is to bring together stakeholders and to define a strategic research agenda, addressing technological as well as non technological issues. As a consequence, ETPs will also play a role in defining new areas for standards activity and therefore should liaise with the standards organizations.



Following the introduction on the importance of research/standards interfacing for innovation, the speaker introduced the FP7 work programme and underlined the importance of ICT as the largest segment. In addition to the 7 identified Challenges, there could also be possibilities for 'horizontal' COPRAS related follow-up activity. Also, there are several areas in the programme where additional standards activity is specifically needed, such as RFID, intelligent content & semantics, or eHealth, and where there is a particular challenge to have interoperable solutions.

All in all, standardization should be regarded as a relevant issue throughout the entire work programme, and as a consequence it should be a structural element in projects' work plans. However, although creating awareness and arranging funding establish important components in the research/standards interfacing process, there is also a need to get the right constituencies together and ensure there is a continuous exchange between these groups. In this respect, the work and deliverables generated by COPRAS and INTEREST are highly appreciated and will be exploited in FP7.

Ms. Binns' presentation triggered a number of questions and remarks from the audience, underlining for example that:

- Standardization is seen by the European Commission as one of the important ways to exploit results, and consequently projects (specifically IPs) are stimulated to contribute as much as

possible to standards work. However, the rules in Framework Programmes are currently not ideal to get financing for standards work, for example because it is complicated to have additional source of funding next to funding coming from the Commission.

- Many projects would like to continue their standards work after their completion but are not able to get additional funding for this from the Commission; renegotiating the amount of funding allocated to a project however is very complicated according to the Commission. The question therefore is what can be done so that long term standardization activity can take place in future projects, and what can be done to address the requirements from current projects in this respect (e.g. reserving a certain amount of funding for 'emergency' standards issues).

- Taking into account that cooperation between standards organizations will more and more be necessary, pulling together standards work cutting across different projects (e.g. in FP7) should be addressed as well.

### 5.1.2    Using ICT research to further standardization

Following the keynote address, Dr. Walter Weigel, ETSI Director General, underlined that COPRAS established a good start for bring research and standardization closer together, but also stressed that more work is necessary. The speaker presented several trends in standardization and pointed out the competition between different regions (e.g. the US, Europe and China) that each have their own research programmes, and their own efforts to funnel research results into standardization. Moreover, while the US is still leading, efforts in China have increased tremendously over the last years.



Dr. Weigel outlined that, as a result of convergence on the network, application, and business model levels, standards activity will increasingly have to be organized as a cross-cutting activity. In this context it is important for research projects to start their interfacing with standardization as early as possible, even when tangible results are not yet available for submission. Following this, the speaker presented several success stories in standardization (e.g. GSM, SMS, DECT), and mentioned areas where standardization so far failed (e.g. Smart Cards, DRM, IPTV).

All in all, to turn cooperation with standardization into a success, projects should take into account that there should be a market demand underlying standards activity; moreover, partners across the whole value chain are needed (e.g. researchers, developers, implementers, service providers, etc.), as well as a reasonable IPR policy. Finally, the speaker underlined that standardization is an essential component of innovation and necessary to reduce barriers to trade.

As a response to Dr. Weigel's presentation, the following issues were raised and discussed with the audience:

- It was underlined that several global standards organizations (such as IEEE) have feasible systems for cooperation, for example with other industry consortia. While ETSI has many cooperation agreements in place, it does not cover the whole spectrum of standards developing organizations. Although progress is being made, and cooperation is widening, competition between standards organizations is a reality as well, and certain parts of the industry (which are also the participants in research projects) may support one standards organization but not the other.

- Cooperation between standards organizations and universities has always been complicated but possibilities are currently being discussed (e.g. in ETSI).

- The membership of standards organizations is often quite diverse, encompassing larger industry as well as SME companies. The question whether, when and where technologies can be brought into standardization remains an issue though because companies still tend to feed

their research results into organizations that are closest to them, either geographically or otherwise. Also, new organizations are easily set up in case some companies are not happy with the rules and procedures (e.g. with respect to IPR) in traditional organizations.

- In terms of standardization, networks (where Europe is leading) and the Internet (where the US is leading) have to be separated. Although network technology will remain a continuing (but regulated) component, if the aim is to move the European industry upward in the value chain, the standards work will have to follow this step upward. A leading position higher up in the value chain therefore does not only require additional effort, but also requires a political decision making process: a leading role in global standardization does have a cost that hopefully can be (partially) addressed through funding schemes.

### 5.1.3    ETPs and standards development

The last presentation in the conference's first block focused on the role of the European Technology Platforms and was given by Dr. Alexander Roth from Siemens Corporate Technology, also chairing the Artemis (the Embedded Systems ETP) sub-group on standards and regulation. Dr. Roth also used the Gartner Hypecycle introduced by Prof. Jeffery in his presentation, to demonstrate the dramatic increase in the number of technologies emerging between 1995, when the cycle was first introduced, and 2005. This means that the technology options available for running a business are increasing rapidly while the technological lifecycle is shortening, and large numbers of new business models are consequently emerging, also in their turn, challenging the development of even more technologies, thus combining push and pull.



In an environment where the range of technologies is broadening, where lifecycles are decreasing and where business is diversifying, ETPs intend to help shaping the future European technology landscape: as more and more products come with a certain business risk, better strategies are needed for partnerships and standardization efforts, which may help to reduce these risks.

The speaker underlined that over the last 10 years, standards organizations also developed and increased business focus. Consequently, research/standards interfacing also requires a more market-oriented approach nowadays. For ETPs this market orientation is of specific importance, as they are in a position to bring the essential technologies and market players together at an early point in time. This may give these platforms the ability to build a framework for standardization of emerging technology and to recommend certain standardization approaches, thus avoiding competing standardization efforts and market fragmentation. In this respect, timing remains an important issue as standardization efforts should not be initiated too early, and not too late.

Dr. Roth's presentation triggered the remark from the audience that, apart from business aspects, standards play a role with respect to legislative and regulatory issues as well, as they may be used in realising national and European policies. However, although companies remain in contact with the regulator, it was underlined that addressing legislative or regulatory aspects in standardization before they occur would be extremely complicated.

## 5.2  Research/standards interfacing as a tool for industrial & societal progress

The second block in the morning aimed to focus on a number of specific issues relevant to the research/standards interfacing process: the issues SME companies encounter with respect to standardization processes, the specific importance of standardization for innovation, and the role standardization is playing with respect to public procurement processes. Speakers were:

- Drs. Manon van Leeuwen, Director or Information Society, for Fundecyt;

- Mr. Peter Brown, chair of the CEN eGovernment Focus Group;

- Mr. Antonio Conte, Principal Administrator, DG Enterprise and Industry, European Commission (kindly replacing Mr. David White).

### 5.2.1    Benefiting from standardization as an SME company

The presentation of Ms. van Leeuwen focused on the difficulties SME companies are facing in standardization. Despite obvious benefits they may gain from participating, many of them are clearly not doing this, hence the specific challenge to get a larger part of the 19 million micro enterprises in Europe to engage in standardization.

Prime question here is whether SME companies and standardization are 'friends' or 'foes', as an initial observation leads to the conclusion that standards are mostly ignored by SMEs, unless authorities enforce their usage, or applying them is a necessity to get things rubberstamped. Generally speaking, SME companies already regard the adoption of standards as a nuisance, among others because it is perceived as costly, and because it can be quite difficult for SME companies to find the standards that are relevant for them, specifically when innovative standards are concerned. The main issue here is clearly that the majority of SME companies are not receiving the proper information on standards (and standardization processes) that are relevant to them.



On the other hand, standards can also been seen as friends to SME companies: they can increase economies of scale, lower transaction cost, or they can help to create new market opportunities or create environments of trust. In order to turn their foes in the SME community into friends, the standards world will however have to put more effort into marketing standards to this group, and information has to be provided on how to participate in standards processes. Most important however is to communicate in 'SME language'.

In this process, research projects – although not the panacea to solve all issues involved – may play the role of peacemakers. As there is often a standardization requirement upon the members in a project consortium, a technology transfer could take place between the larger companies and SMEs in a consortium, by taking the SME companies by the hand when going through standards processes. Moreover, using SME's to provide implementation guidelines for standards in 'SME language' may in fact help to turn a larger part of the constituency into 'friends' as well.

The presentation on SME company issues with standardization raised some remarks among the audience on the high cost involved with standardization processes; the suggestion was to see whether some reorganizations could be made to make participation affordable. However, whilst cost was recognized as an important issue, it was also underlined that this could be addressed through the characteristics of a research project structure.

### 5.2.2    eGovernment, standardization and public procurement

In his presentation, Mr. Peter Brown provided an overview of current issues with respect to public procurement, also addressing the move to electronic procurement (eProcurement). The latter should not been seen as simply digitising the process, but rather a change in mindset.



Typically, eProcurement systems should be technologically agnostic and open to multiple technologies. Possibilities therefore lie in semantic web developments, although many issues still need to be addressed here: a common language, common EU specifications, and interoperability between national infrastructures are important aspects to consider. Standards, as well as demonstrators, pilot projects and best practices play an important in this context. However, many issue, such as interoperability between different eProcurement platforms, combining

digital and paper submissions, or getting SME companies on board in the migration process, will have to be addressed as well.

In his concluding remarks Mr. Brown underlined a need for more cooperation between the actors in this area such as policy makers, research projects, standards bodies, business groups, and solution providers. Also he pointed to competition between standards and underlined that standards work should not be undertaken unless it is clear that the pursued solution does not already exist, that there is a constituency wiling to work on the issue, and that there are actually things that can be shared in standardization processes.

In response to Mr. Brown's presentation, some discussion developed with respect to the work on semantic web standards in organizations such as OASIS and W3C. It was recognized that the existing best practices group is a good step forward although there are still many missing pieces. Standards organizations do care for the issue, but it should not be taken lightly. However, participating in standards processes may still be perceived too expensive by many participants too the process, even in light of the benefits standardization and interoperability bring to eProcurement processes.

### 5.2.3    Standardization and innovation

Mr. Conte explained where Europe stands with respect to innovation, and elaborated on the aspects that sometimes slowdown innovation processes such as the slow growth rate of innovative start-ups and the fact that only few inventions are eventually turned into products. However, although a number of EU Member States have valuable innovation assets, emerging economies such as India and China are clearly ahead of Europe.



Following his introduction, the speaker underlined the role standardization plays in this process, specifically with respect to accelerating the dissemination of knowledge, and providing the link between research and market implementation. However, standardization faces at least 3 challenges here: i) facilitating specifically SME companies access to standardization processes ii) ensuring the continuous update of standards, and; iii) improving their coordination with respect to addressing innovation-related domains.

Finally, Mr. Conte pointed out several policy aspects with respect to innovation and introduced a number of communications from the Commission and the Council, specifically emphasising that the latter invited the Commission: *"in consultation with all relevant stakeholders, to propose action for the improvement of the working methods and overall resources of European standardisation bodies. Standards must be developed quickly enough to meet the needs of fast-moving markets, whilst ensuring interoperability."*

## 5.3  Seizing the opportunities in standardization as a research project

The first block in the afternoon focused on specific experiences research projects encountered with respect to standardization. Based on their experience with ICT research as well as standards work, COPRAS had invited the following speakers:

- Prof. David De Roure from the University of Southampton, the Open GRID Forum (OGF) and the UK Open Middleware Infrastructure Institute (OMII);

- Prof. Josep Blat from the Universitat Pompeu Fabra of Barcelona, and project coordinator of the FP6 UNFOLD and IP-RACINE projects;

- Prof. Michael Lawo from the University of Bremen and project coordination for the FP6 wearIT@work project.

### 5.3.1    The standardization Challenge

Prof. De Roure focused first on the GRID challenge, which specifically aims at joining things together, hence the importance of interoperability and standards. In conjunction with this he presented

the GRID ecosystem comprising all groups of stakeholders, including also several standards organizations such as W3C, the IEFT and OASIS, and underlined the main challenge for the OGF, which is to bring diverse communities together, align technical directions and requirements and to mature GRID standards and best practices.



Following the introduction to the GRID challenges, the speaker presented the OMII, an end-user driven organisation focusing on delivering tools, based on the philosophy that people use software rather than standards. Experience in the UK, where projects bidding for funding have to consult with the OMII first, teaches that this mandatory prior consultation is beneficial for everyone involved in the process.

According to Prof. De Roure, there are clear benefits for research projects cooperating with standards organizations. Apart from sitting in the front row and the ability to influence future developments, standardization also enables the transfer of knowledge. However, there are also downsides as there are costs involved while there is no certainty on the return on this investment. The main message to standards organizations therefore is that entry cost for participating in standardization processes should be decreased.

Following the presentation there was some discussion with the audience on the issue whether software based standardization processes would not benefit from a model for defining interfaces rather than defining software. It was agreed that this was an important point, and it was also acknowledged that when the GRID world would succeed in defining the interfaces, things would work better.

### 5.3.2    Boosting the exploitation of research project's results

Prof. Blat introduced the UNFOLD project (focusing on eLearning and open source software for education) and the IP-RACINE project (focusing on media content and IP-Cinema). As the use of Open Source software does not mean that everything is interoperable, standards become important and while the first project aimed to support an emerging standard, the second one focused on the adoption of standards.

The UNFOLD project aimed to contribute to Learning Design specification developed by IMS, specifically through initiating activities promoting its use. Another area of support focused on the development and promotion of tools that usually lack with a newly defined standard. The project's activities eventually led to an active community sharing resources, and generated awareness for the standard as well as the interoperability aspects. However, despite tangible successes, wide adoption of the standard was not yet achieved.



The IP-RACINE project focused on the complete workflow process underlying the production of film, from capturing through postproduction, up to the exhibition in theatres, and consequently encountered a variety of standards and interoperability issues, such as the definition of metadata, or colour preservation. However, the media standards environment is very fragmented, sometimes complicating the uptake of standards by projects.

Concluding his presentation, Prof. Blat indicated that promoting standards is a complex and difficult process in terms of the amounts of time, effort and budget needed. Moreover, as universal adoption is never guaranteed, certainly in a fragmented standards environment, migration strategies could support the portability of standards and make them more future proof. In any case, standards work is always beneficial for projects as it stimulates additional research.

Prof. Blat's presentation was followed by a short discussion whether projects should be focusing on European standardization, rather than on standards work in other regions (e.g. the USA). As it showed here, the different participants in the process do not always have the same perception as to what is the best route towards worldwide uptake of a particular standard, despite the fact that the adoption of global standards is a common goal.

### 5.3.3    Bridging the Standardization gap

As the last speaker from the side of the research projects, Prof. Michael Lawo introduced the wearIT@work IP project. The project consortium includes larger as well as smaller partners, and aims to develop 4 application pilot scenarios for wearable computing hardware and software. In this process many things are expected to be created that could be feasible as a standard, as a broad variety of technologies is being covered.

The project also created the Open Wearable Computing Group, aiming to take an interdisciplinary approach (e.g. between product developers, system integrators and policy makers) and functioning as a paradigm centred standardization and awareness body interfacing with initiatives in other bodies such as IEEE or ISO. The group aims to motivate cooperation between stakeholders, to focus on interoperability issues, and to further demand driven standardization. As such, it defined a specification programme, an interoperability programme, and an outreach and community adoption initiative.

As influencing of standards was defined as one of the important deliverables for the project, cooperation with COPRAS was started at an early point in time, resulting in a action plan, defining in more detail the areas where wearIT@work's standardization activity would focus. Although in most of these areas work is not yet sufficiently advanced, activities are underway in the IETF, which may also lead to some new ISO standards. In addition it was also found that many useful standards already exist, and in fact that much of the project's work is in line with existing standards.

Concluding his presentation, Prof. Lawo underlined that the project created a platform among its consortium partners that allows it to interface with standards processes when considered necessary. In this respect he reiterated that timing is very important in standards work, as starting work too early may mean a loss of resources, while starting too late leads to complications when trying to create the right constituency.

## 5.4  The COPRAS Standardization Guidelines interactive platform

Opening the last block of the conference, focusing on the question what can be done in the near future to help research projects benefiting from interfacing with standardization in FP7, Kiritkumar Lathia, the chairman of the ICT Standards Board, reiterated the challenge of research/standards interfacing and introduced the COPRAS  interactive Standardization Guidelines platform.

The speaker underlined that Europe should ask itself which tools it has to ensure standards work is actually taking place in Europe, and how it can ensure that products originating from Europe, based on these standards, will become globally accepted. In this perspective Europe should realise that it has a good track record in research, but not in exploiting it. As standardization plays a key role in this process, we will have to start thinking how interfacing with research can be improved.

Mr. Lathia's slides indicated that although many projects plan to deliver material to standardization, not many projects allocate sufficient resources to standards related activity. On the other hand, many standards organizations found that most of the areas they are covering, are also addressed by

one or more research projects. Proper interfacing between the two therefore has to be arranged, but many times finding the right standards organization and understanding the differences between standards organizations can be a problem for projects.

Following this analysis, the speaker outlined some of the activities COPRAS had been deploying to address the research/standards interfacing issues in FP6, and introduced the Standardization Guidelines the project had produced, both in a document version and as an interactive platform. the guidelines underline the importance of an early start of the research/standards interfacing process and emphasise allocating dedicated resources to standards work in projects' work plans. Moreover, they provide a better perspective on the benefits of working with standards organization for research projects, and assist projects finding the right standards organization to interface with.

Despite the good feedback COPRAS received with respect to its deliverables, Mr. Lathia underlined that additional work would be necessary in FP7. Here, projects indicated, additional resource facilities (e.g. in the FP7 Work Programme) would be necessary to continue standards work after the termination of a project, and additional facilities provided by the standards world are necessary to encourage the interfacing process. These issues still provide the European Commission, the standards world, as well as the research community wit a considerable number of challenges in FP7.

During a short discussion following the presentation, it was underlined that the standardization gap (occurring when a project's activities have finished, but not the standardization work it initiated) should be addressed. Moreover, standardization and research cannot be done via a sequential process anymore, but have to be addressed in parallel. Also it was argued that – as global standards are necessary – it is important for the European industry to better coordination its standards activity so it can speak through a single voice in international standards organizations.

## 5.5  Panel discussion

After the presentation of the COPRAS Standardization Guidelines, Prof. Keith Jeffery introduced three groups of statements on research/standards interfacing in FP7, aiming to trigger feedback from the audience, and responses from a panel that featured Prof. Michael Lawo from the University of Bremen; John Ketchell, Director of Pre-Standards, CEN and Chair of the COPRAS Steering Group; Dr. Andrew Houghton from DG Information Society and Media, European Commission; Drs. Manon van Leeuwen, Fundecyt; and Dr. Alexander Roth, Siemens Corporate Technology.

During the panel session, the following statements & issues were presented by the chairman and addressed by audience and panellists:

- Tools should be available to ease research/standards interfacing

- What can standards bodies do to improve interfacing with projects?

- How should standardization be an integral part of EU research programmes?

### 5.5.1  Tools to ease research/standards interfacing in FP7

It was pointed out that the COPRAS Standardization Guidelines could support project evaluators as well as Commission Project Offices to encourage projects to include standards aspects in their work plans. However, it was raised as well that standards organizations compete, hence more and better tools should be made available to support projects finding the standards organization that would be most suitable to them. Moreover, as research as well as standards work is increasingly cutting across different sectors, support actions should be defined pulling standards activities in projects together, in order to coordinate standards activity and jointly approach the relevant organizations.

John Ketchell agreed to the comments made by the audience and underlined efforts should be made by the standards community to make it easier for projects to find the right organization, however, several standards organization may have an interest in the same issues. In addition Dr. Houghton underlined that

although still many projects in FP6 had made contributions to (global) standardization, measuring the actual impact of standardization as a tool for disseminating knowledge was still complicated. Nevertheless, Standardization will remain an important component in the overall impact of projects' activities. Also, as Dr. Roth indicated, standardization will also remain an important route to get products resulting from EU funded research into the market.

### 5.5.2 Standards bodies' contributions to improved research/standards interfacing

As stressed by the audience, standards bodies' interfacing with research projects could improve considerably by introducing a more generic methodology and logic into the current actions and processes. Projects often have requirements for standards but may not yet be in apposition to do the drafting work; moreover, once projects manage to participate in standards processes, they still face the question how to be effective. In this respect it is not entirely clear what drives the standards organization and processes, and as a consequence projects often fail in their objectives because they do not get further that influencing the members of the standards organizations.

Another aspect put forward is the confidentiality of drafts in standards organizations, making it difficult for projects that are not yet members of the organization, to decide whether or not they should participate in the work. Standards organizations should therefore reconsider the confidentiality of drafts in certain situations. In addition, it was underlined by the audience that it is very difficult for a project to participate in standards processes if it does not have those people participating in these targeted standards processes on board in the project as well. Getting into standardization processes for a research project is otherwise virtually impossible. Standards bodies will have to become more pro-active here.

The panel acknowledged the need for standards organizations to spend more effort on marketing, e.g. explaining that standards are a tool for market access. Projects need a certain knowledge on standards organizations, to decide what they should do in this respect, and specifically the project coordinator should be aware of the possibilities and requirements. Moreover, there needs to be a motivation among the project consortium partners that standardization is a good tool to get access to the market. In this respect support from COPRAS – or COPRAS-type actions – getting projects into contact with the right organizations can be essential. However, an issue to address in this respect may be the fact that standards organizations are not used to working with end-users; consequently this, and other issues like fragmentation between standards organizations should be addressed.

### 5.5.3 Integrating standardization into research programmes

Several aspects were put forward by the audience. One of these focused on the fact that implementations are often necessary as part of standardization processes (i.e. to test interoperability), but European research programmes do not include an incentive for projects to work on this. Project evaluators however could be triggered to pay more attention to this. Also it was underlined that COPRAS already achieved a number of things, but extension into FP7 (and possibly also into other areas than ICT) will still be required as there are clearly many issues still to be addressed as the conference has shown. Finally, installing a standardized mechanism for providing information on



what is being done in standardization processes would already be helpful. However, it should also be recognized that standards bodies are living in a real world where there is competition; if there is an economical interest in doing things differently this will be done. Coordination between research and standardization will therefore remain necessary, also as an insurance that public funds spend on research will generate tangible results in the form of standards. This may best be achieved by continuing COPRAS in FP7.

The panel recognized that – although there are possibilities for developing implementations in projects – there are several problems to be addressed because projects don't know where to go with

reference implementations, among others because of a fragmented standards environment. Nevertheless, COPRAS, through its deliverables as well as through organizing the conference, may have already managed to clarify a number of misunderstandings in the research/standards interfacing process, although there is still a lot to be done in order to reach the broader research community.

Wrapping up the discussion, the Chairman finally concluded that, although the majority of the audience probably already had recognized the importance of research/standards interfacing, the discussion generated several clear recommendations for improvement of the process. With respect to the latter, the COPRAS Standardization Guidelines had already proved that several, essentially quite different standards organizations are capable to work towards a common goal, despite different backgrounds and methodologies. Although people will eventually find resources to educate them about things, marketing remains an important aspect of standards activity and end users need to be made more aware of the benefits of standards. In any case, activity in FP7 following up on the results COPRAS achieved, would be very beneficial to ensure the continuous and necessary improvement of research/standards interfacing in Europe.

## 5.6 Conclusions

Although the conference addressed a large variety of themes and sub themes related to research/standards interfacing, a number of general conclusions can be drawn from the presentations and the audience' feedback. The following paragraphs group these conclusions into 5 categories, focusing on the improvements that could be made to processes, as well as on challenges different groups of stakeholders are facing.

**Benefits of standardization:** Standards and standardization provide clear benefits to users as well as producers of standards; with respect to the latter, technology transfer, and cross-fertilization are important, but probably most relevant is the fact that standardization provides the bridge between research results and their implementation in innovative, marketable products. Standardization therefore establishes an essential component for boosting innovation, and prevents de facto standards generating barriers to trade.

**Timing & process speed:** Standards processes are often initiated too late, and starting research/standards interfacing at an early point in time during a project's lifespan is strongly recommended. The right timing is therefore important, and projects that create a framework preparing their participating in standardization clearly have a better chance to be successful. However starting too early, without a clear market demand underlying a proposed standard, may lead to a loss of resources. Also, the current pace of technological development requires accelerating the development of standards, which at the moment is taking too much time. Therefore, standardization and research should proceed in parallel.

**Barriers for projects participating in standards work:** Participating in standards processes can be quite expensive, and for a project, it is not always clear whether there will be a tangible return on their investment into standardization. Membership fees often establish a barrier for projects, and specifically for the SMEs and universities among their consortium partners. There is cross fertilization between standardization and research, but time, effort and resources are often underestimated. Moreover, finding the right standards organization can be complicated, and there is not much clarity on the different backgrounds and working methods of the organizations; more coordination and tools are clearly required here. Also, experience teaches that it is difficult for a project to participate in standards processes if it does not already have representatives working in the targeted standards organizations among its project partners.

**Challenges for (European) standards organizations:** Competition between standards organizations, in Europe as well as between different regions (China, US) is a reality, also were input from research projects is concerned. Standards organizations therefore have to put more effort into marketing, specifically towards the SME community, to increase participation in their processes and usage of their products. In addition, issues like IPR rules, confidentiality of drafts, and membership rules and fees could be evaluated to make them more friendly to the ICT research community.

**Challenges for FP7:** Interfacing with standardization remains an important aspect in FP7. However, additional measures are needed to address the resource issues projects run into when organising their cooperation with standards organizations. Also, supporting actions are necessary to address cross-cutting standards work involving multiple projects and multiple standards organizations. Continuation of COPRAS' efforts to bring European research and standardization closer together is a necessity to turn more research results into global standards and reinforce Europe's position as a leading provider of technologies for the global information society, and thus capitalize on the good track record Europe has in ICT research.

# 6. Conference attendance and feedback

With an estimated 2/3 of registered participants from a large variety of constituencies taking part, the COPRAS conference on research and standardization towards FP7 was well attended. In addition, the considerable amount of feedback generated by the audience demonstrated not only that the themes addressed were of interest to the participants, but also showed the importance of the issues addressed in the presentations and the panel discussion.

In order to complete the feedback from the audience, the delegate pack the conference participants received upon registration, contained a questionnaire, consisting of the following 7 questions:

1. What type of organization/company are you representing;
2. How did you hear about the COPRAS conference;
3. Please rate the quality of the pre-event information in the conference brochure and on the COPRAS web site;
4. Please rate the conference facilities at the Bedford hotel in Brussels;
5. Please indicate whether the conference sessions lived up to your expectations;
6. Are you taking something away from this meeting for your business, and if so, please specify;
7. Do you have any further comments or suggestions regarding the conference.

With 46 questionnaires returned, the feedback rate is almost as high as 1/3, underlining the relevance of the issues addressed for many of the stakeholders to the research/standards interfacing process. The following sections will briefly analyse and discuss the feedback received.

## 6.1 Distribution of attendance

The list of participants in Annex 2 to this report already indicates that the conference attendance was spread out across all of the stakeholders to the research/standards interfacing process. As the diagram below shows, this is reiterated by the feedback to question 1. Moreover, it shows that feedback as well as attendance were not skewed towards a particular constituency, and that COPRAS was able to attract the constituencies it had focused on for the conference.
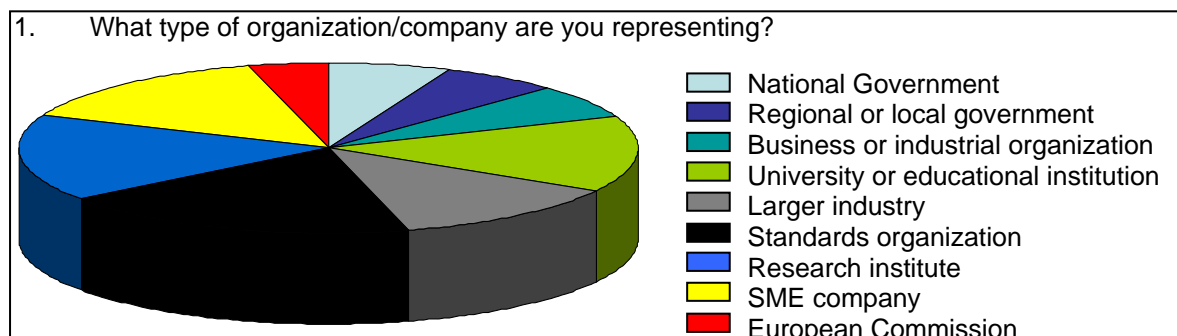


Looking at the way the conference participants received their information, the results from the questionnaire show that more than half of the participants were informed on the conference either through newsletters or via the COPRAS web site, making these two the most successful marketing tools.

2.    How did you hear about the COPRAS conference?

- ☐ Via the conference brochure
- ☐ Via the COPRAS web site
- ☐ Via newsletters or information bulletins
- ☐ Via workshops & conferences (e.g. IST2006)
- ☐ Via (direct) email
- ☐ Through a colleague
- ☐ Other
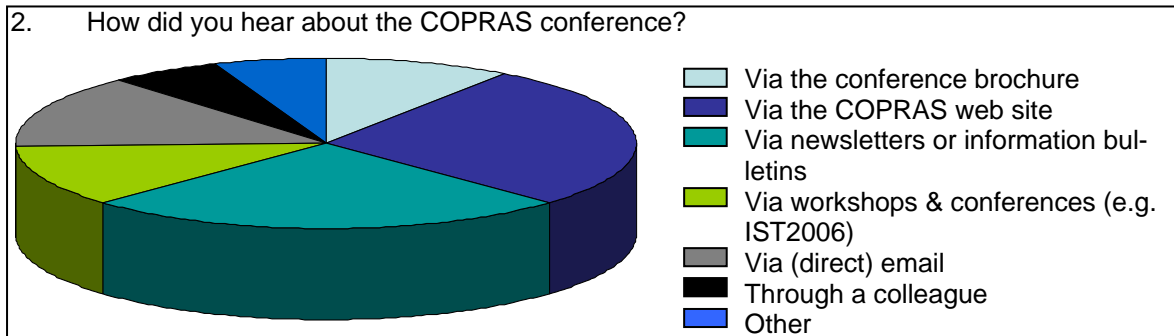
However, the graph above also shows that the overall marketing mix COPRAS used (i.e. the combination of a brochure, web site, newsletters, conferences and direct emails), accounts for more than 88% of the channels participants were informed, underlining the need for a broad communication approach to market this type of event.

## 6.2  Feedback on the process & quality of the conference

When looking at the quality assessment from the attendees, the conference received an overall good rating of 3,5 on a scale from 1 to 4. An evaluation of some of the more detailed aspects of the organization of the conference shows that although there are no significant negative deviations from this overall figure, the quality of the pre-event information was rated slightly below average. This may however have been cause by the fact that (e.g. for privacy reasons) certain information, such as a list of delegates, was not made accessible electronically beforehand.

| 1 = not satisfied; 4 = fully satisfied | score |
|---|---|
| Overall conference assessment | 3,5 |
|  |  |
| Helpfulness of conference staff | 3,5 |
| Quality of the audio – visual facilities | 3,5 |
| Quality of the coffee & tea and the lunch arrangements | 3,8 |
| Quality of the pre-event information | 3,3 |

Overall, feedback with respect to the quality aspects of the organization of the conference show that COPRAS succeeded to create a good environment for representatives from all targeted constituencies to exchange views on the improvement of research/standards interfacing in FP7.

## 6.3  Feedback on the content of conference

At the end of the conference, participants were finally invited to indicate whether the individual conference sessions actually lived up to their expectations. Presentations could be rated between 1 and 4, the latter corresponding with 'fully satisfied' in terms of expectations.

Analysis of the feedback showed that overall, the contents of the presentations was well appreciated and achieved an average rating of almost 3. Also, as indicated in the graph below, deviation from this average figure was relatively small, as across the board all presentations received good evaluations.
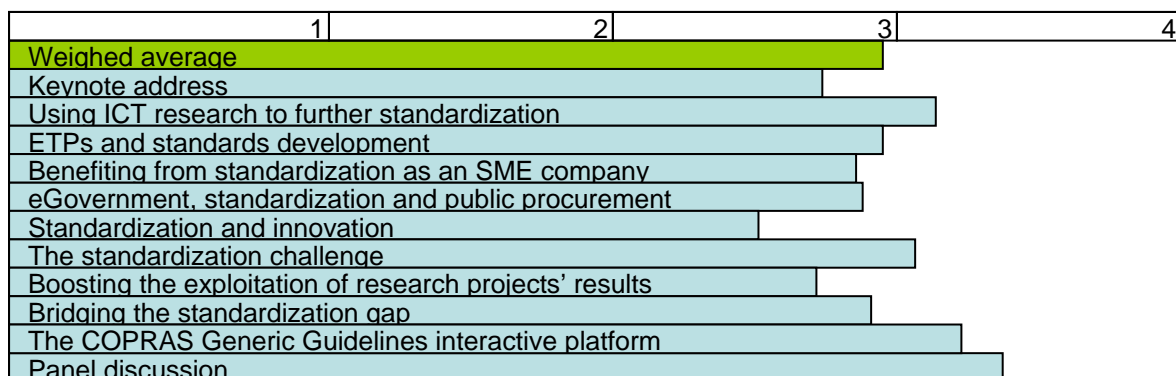
An encouraging aspect of the participants evaluation also are the relatively high ratings received by the presentation of the COPRAS standardization Guidelines and the panel discussion at the end of the conference. This again indicates that research standards interfacing – and in particular the question what can be done to improve this in FP7 – is high on the agenda of many stakeholders to the process, and in fact a matter of concern to a lot of them.

# 7.  Main recommendations

As already summarized by the conference chair in his concluding remarks, despite the fact that COPRAS' results and deliverables are a first step in educating research projects and other stakeholders to the research/standards interfacing process how improvements can be made, further actions are necessary. Therefore, additional activity in FP7 following up on the results COPRAS achieved, will be a crucial element in the further improvement of research/standards interfacing in Europe, and in addressing the conclusion of the Open Meeting as formulated in section 5.6. The following recommendations can therefore be made:

1.  COPRAS' activities have generated knowledge, results and guidelines that, when implemented, can support the improvement of research standards interfacing in FP7. However, results achieved so far are not a panacea for addressing the many open issues that still lie ahead. Moreover, feedback, specifically from the research community, indicates that more information and higher levels of support are needed from the standards community in order to pass more research output through standardization and – ultimately – encourage Europe's leading role in furthering the information society. This can best be achieved through additional support activity in FP7 from the side of the standards community, hence the recommendation to the European Commission to enable (horizontal) support actions building upon the COPRAS achievements.

2.  The benefits of standardization are not clear to a large group of potential contributors to, and end-users of standards. Standards organizations will have to put more effort into marketing the benefits of making as well as applying standards to the research and industrial communities in Europe, and will specifically have to emphasize their communication to SMEs.

3.  In the same context, the European standards world should realize there is competition between regions (Europe, China, US, etc.) as well as between standards organizations. To encourage the global uptake of European standards it is important that standards organizations implement an active policy to encourage and facilitate projects passing their output through European standards organizations. This may also imply that specific arrangements addressing the barriers projects currently encounter in their interfacing with standards organizations (membership fees, IPR rules, confidentiality issues, etc) may have to be implemented.

4.  Although research and standardization ideally should proceed in parallel, in most situations this is simply not possible because standardization processes generally take more time than projects have. European research programmes should acknowledge this and provide mechanisms that would enable research projects to acquire additional resources in situations where standards work exceeds a project's lifespan.

5.  Additional mechanisms will have to be put in place to facilitate and encourage research projects getting in contact with standards organizations. Specific tools will be necessary to help projects finding the standards and standards organizations that are most relevant to a project's activities and results, and to provide better perspectives on background and processes adopted by individual standards organizations.

# Annex 1: Conference programme

9:00    Registration and coffee

10:00   Welcome and introduction by <u>Prof. Keith Jeffery</u>, Director IT & International Strategy, CCLRC; President, ERCIM

**1.      RTD/standards interfacing in the FP7 Programme**

10:15   *Keynote address;* The importance of research/standards interfacing in furthering Europe's competitive position in ICT: expectations for FP7; speaker: <u>Ms. Susan Binns</u>, Director Lisbon Strategy and Policies for the Information Society, DG Information Society & and Media, European Commission

10:40   *Using ICT research to further standardization;* Future trends and developments in standardization that could be driven by research; speaker: <u>Dr. Walter Weigel</u>, Director-General, ETSI

11:05   *ETPs and standards development;* The role of European technology Platforms in RTD/standards interfacing; speaker: <u>Dr. Alexander Roth</u>, Siemens Corporate Technology; Chairman, Artemis subgroup on standards and regulation

11:30   Coffee & tea

**2.      Research/standards interfacing as a tool for industrial & societal progress**

12:00   *Benefiting from standardization as an SME company;* Using research projects as a tool for accessing European standardization processes; speaker: <u>Drs. Manon van Leeuwen</u>, Director Information Society, Fundecyt

12:20   *eGovernment, standardization and public procurement;* Standards and research for interoperable eGovernment applications; speaker: <u>Mr. Peter F. Brown</u>, Chairman, CEN eGovernement Focus Group

12:40   *Standardization and innovation;* How ICT standardization can help projects bringing their results to the market; speaker: <u>Mr. Antonio Conte</u>, Principal Administrator, DG Enterprise and Industry, European Commission

13:00   Lunch

**3.      Seizing the opportunities in standardization as a research project**

14:15   *The standardization challenge;* Addressing the challenges in research/standards interfacing as a research project; speaker: <u>Prof. David De Roure</u>, University of Southampton

14:40   *Boosting the exploitation of research project's results;* Maximizing the benefits that standardization can bring to research projects; speaker: <u>Prof. Josep Blat</u>, Universitat Pompeu Fabra, Barcelona

15:05   *Bridging the standardization gap;* Optimizing the interface to standardization in a research project's work plan; speaker: <u>Prof. Michael Lawo</u>, Universität Bremen

15:30   Coffee & tea

**4.      The perspective for the near future: what can be done to help research projects benefiting from interfacing with standardization in FP7**

16:00   *The COPRAS Generic Guidelines interactive platform*
        How the standards community will facilitate its interfacing with research in FP7
        Speaker: Kiritkumar Lathia, Chairman ICT Standards Board

16:20   *Panel discussion;* What are the challenges to be addressed in RTD/standards interfacing in FP7; Chairman: <u>Prof. Keith Jeffery</u>; Panellists: <u>Drs. Manon van Leeuwen</u>, Director Information Society, Fundecyt; <u>Prof. Michael Lawo</u>, Universität Bremen; <u>Mr. John Ketchell</u>, Chairman COPRAS Steering Group; <u>Dr. Alexander Roth</u>, Siemens Corporate Technology; Chairman, Artemis subgroup on standards and regulation; <u>Dr. Andrew Houghton</u>, Principal Scientific Officer, DG Information Society & and Media, European Commission

17:00   Conference close

# Annex 2: List of registered delegates

The following people registered for the COPRAS conference on ICT research and standardization towards FP7:

| | Name | First name | Organization or project |
|---|---|---|---|
| 1 | Allard | Jean-Luc | ISO/IEC |
| 2 | Andersson | Espen | European Commission |
| 3 | Androutsopoulos | Dimitris | Net Technologies |
| 4 | Arregui | Javier | European Commission |
| 5 | Arsenjeva | Janina | European Disability Forum |
| 6 | Astic | Antoine | Ineum Consulting |
| 7 | Biciu | Daniela | EquipEuropa |
| 8 | Bilalis | Zacharias | European Commission |
| 9 | Binns | Susan | European Commission |
| 10 | Björkander | Susanne | Swedish Standards Institute |
| 11 | Blat | Josep | Universitat Pompeu Fabra |
| 12 | Blind | Knut | Fraunhofer Institut / TU Berlin |
| 13 | Boissière | Franck | European Commission |
| 14 | Bonanni | Ugo | University of Geneva |
| 15 | Biosca | Teresa | Catalan Government Delegation to the EU |
| 16 | Brail | Alain | Airbus |
| 17 | Brown | Peter | CEN eGovernment Focus Group |
| 18 | Brunerie | Philippe | European Commission |
| 19 | Brusse | Bart | COPRAS |
| 20 | Bugajski | Mark | CODMUCA |
| 21 | Buhalis | Dimitrios | Uiversity of Surrey |
| 22 | Burget | Dieter | Statistics-Austria |
| 23 | Burr | Alister | University of York |
| 24 | Buysse | Andre | Escrow Europe |
| 25 | Campana | Teresa | BXL Puglia |
| 26 | Caruso | Salvatore | EquipEuropa |
| 27 | Cassidy | Steve | MRCMcLeanHazel |
| 28 | Cassidy | Vicent | British Standards Institution |
| 29 | Castro | Felipe | UPCBroadband |
| 30 | Chauvel | Yves | ETSI |
| 31 | Clausen | Tom Bo | European Commission |
| 32 | Conte | Antonio | European Commission |
| 33 | Cools | Hans | Arteveldehogeschool |
| 34 | Costea | Mihai | BROMOTION/MIXCOACHNETWORX |
| 35 | Crump | Ian | Bombardier Transportation |
| 36 | Crumps | Marc | Agoria |
| 37 | Curci | Natalino | UNINFO & Autostrada per l'Italia |
| 38 | Damblin | Armelle | CETICE |
| 39 | Darius | Elizabeth | Swedish Standards Institute |
| 40 | Davies | Robert | DIP |
| 41 | de Brito | Georges | France Télécom |
| 42 | de Ghellinck | Cynthia | EWI |
| 43 | Denoo | Amaury | Orange |
| 44 | de Polo | Andrea | Fratelli Alinari Photo Archive |
| 45 | De Roure | David | University of Southampton |
| 46 | De Sabbata | Piero | ENEA |
| 47 | de Sousa | Paulo | European Commission |
| 48 | di Cugno Felicia | L. | BXL Puglia |
| 49 | Di Francesco | Renaud | Sony |
| 50 | Didaoui | Katia | Confrontations Europe |
| 51 | Dijkstra | Jelte | NEN |
| 52 | Dikbas | Attila | ITU-PMC |
| 53 | Dols | Roger | Morpheus Software |
| 54 | Emmanouilidou | Katerina | Team for the World |

| 55 | Emmanouilidou | Maria | Club Unesco Serron |
|-----|---------------|-------|--------------------|
| 56 | Egyedi | Tineke | TU Delft |
| 57 | Esu | Francesca | ENAIP-Sardegna |
| 58 | Ezhkova | Irina | IIAT |
| 59 | Fahringer | Thomas | Universität Innsbruck |
| 60 | Feyt | Geneviève | CENELEC |
| 61 | Fiedler | Arno | TeleTrusT Deutschland |
| 62 | Fomin | Vladislav | TU Delft |
| 63 | Fond | Michel | Orange |
| 64 | Fredricx | François | Alcatel-Lucent |
| 65 | Freericks | Carla | Universität Bremen |
| 66 | Freriks | G. | Q-Rec / Eurorec |
| 67 | Fresa | Antonella | MICHAEL |
| 68 | Gallop | Julian | CCLRC / AKOGRIMO |
| 69 | Gatti | Barbara | CEN |
| 70 | Gen | Michiel | ARMA International |
| 71 | Gentili | Fabrizio | Lombardy region |
| 72 | Ghardi | Roger | Advanced Databases and Strategies |
| 73 | Giannadrea | Massimiliano | CERU |
| 74 | Girardi | Alexandre | OpenInterface |
| 75 | Giraud | D. | Prestospace |
| 76 | Goderniaux | Eric | PRIME |
| 77 | Goffart | Bernard | STMicroelectronics |
| 78 | Gokmen | Haluk | Vestel Elektronik |
| 79 | Goldberg | Michel | CENELEC SC205A |
| 80 | González Verdesoto | Elena | IDEPA |
| 81 | Guarneri | Elena | Blueprint Partners |
| 82 | Hällström | Mikael | Saab FP7 IMSK |
| 83 | Haltrich | Ulrike | Sony Deutschland GmbH |
| 84 | Hansen | Scott | The Open Group / COPRAS |
| 85 | Harand | Sigurd | DIP |
| 86 | Heinzel | Herbert | H2O GmbH Business process Training Center |
| 87 | Henninot | Jean-Pierre | MINEFI-France |
| 88 | Herve | Emmanuel | British Standards Institution |
| 89 | Higgins | Sarah | Digital Curation Centre |
| 90 | Hossain | M. K. | National Physical Laboratory |
| 91 | Houghton | Andrew | European Commission |
| 92 | Istance | Howell | De Montfort University |
| 93 | Istasse | Bernard | SSMART |
| 94 | Jakobs | Kai | RWRH Aachen |
| 95 | Jappinen | Hilkka | Net technologies |
| 96 | Jeffery | Keith | CCLRC Rutherford Appleton Laboratory |
| 97 | Kapusciarek | Ewa | NEMO |
| 98 | Ketchell | John | CEN / COPRAS |
| 99 | Kaiser | Siglinde | DIN / MYCAREVENT |
| 100 | Kang | Simon | UPC |
| 101 | Kortbæk | Frederik | Danish Biometrics Research Project Consortium |
| 102 | Kossek | Tomasz | NEMO |
| 103 | Kovacikova | Tatiana | ETSI / COPRAS |
| 104 | Kudorfer | Franz | Siemens / NESSI |
| 105 | Kulawik | Justyna | Euro Info Centre |
| 106 | Kusak | Martin | Erisa |
| 107 | Lahuerta | Pascual | Universitat de Valencia |
| 108 | Lam | David | TATRC |
| 109 | Lange | Pia Elleby | Danish Standards |
| 110 | Lathia | Kiritkumar | Siemens |
| 111 | Lavorel | Coline | Eurosmart |
| 112 | Lawo | Michael | Universität Bremen |
| 113 | Legrand | Walter | EADS |
| 114 | Lacort-Peña | Benigno | Agencia de Innovacion y Desarrollo de Andalucia |

| 115 | Lim | Andriew S. | Universiteit van Tilburg |
|---|---|---|---|
| 116 | Lorusso | Leonardo | Lombardy Region |
| 117 | Magny | Jean-Pierre | REPOSIT |
| 118 | Manal | Krishan | Jordan Ministry of Planning |
| 119 | Marechal | G. | MEMORIES |
| 120 | Martinez | Cristina | European Commission |
| 121 | Matkovskaia | Viktoria | Investitionsbank Schleswig-Holstein |
| 122 | McGibbon | Stephen | Microsoft |
| 123 | Meloni | Antonello | ENIAP-Sardegna |
| 124 | Meucci | Luigi | ISAE |
| 125 | Meyer | Gerben | TraSer |
| 126 | Michel | Benoit | EDCINE |
| 127 | Müller | Benoit | BSA |
| 128 | Navarro | Mariano | CAR |
| 129 | Neudel | Ralf | Institut für Rundfunktechnik |
| 130 | Norager | Sofie | European Commission |
| 131 | Nystrom | Sven Åke | University of Uppsala |
| 132 | Oomen | Johan | Netherlands Institute for Sound and Vision |
| 133 | Opacic | Aleksandar | ETSI AT / CENELEC 86A |
| 134 | Ottevaere | Heidi | Vrije Universiteit Brussel |
| 135 | Owen | Gabrielle | Radio Communications Agency NL |
| 136 | Packianather | Michael | MEC, Cardiff University |
| 137 | Palma | Stefan | Alpeuregio Office Bolzano |
| 138 | Palmer | Emily | South West UK Brussels Office |
| 139 | Patranjan | Paula-Lavinia | REWERSE |
| 140 | Pattenden | Stephen | Telemetry Associates / TAHI |
| 141 | Paulissen | Maurice | EUROCITIES |
| 142 | Perez | Quiliano | e-Sense |
| 143 | Peris-Fajarnés | Guillermo | Universidad Politécnica de Valencia |
| 144 | Pezzarossa | Eleonora | Subsicom |
| 145 | Pirlet | André | CEN STAR |
| 146 | Pobel | Marine | |
| 147 | Point | Jean-Charles | JCP Consult / BREAD |
| 148 | Potgieser | Peter | Equens Nederland B.V. |
| 149 | Pype | Patrick | NXP Semiconductors |
| 150 | Qaceme | Said | INEUM |
| 151 | Randall | Gary | BMT |
| 152 | Ranneberg | Kai | Goethe Universität Frankfurt / FIDIS / PRIME |
| 153 | Redana | Simone | Siemens |
| 154 | Reed | Roy | Sun Microsystems |
| 155 | Ricco | Xavier | OpenInterface |
| 156 | Rivière | Gérard | CEN STAR |
| 157 | Rodríguez | Fernando | Xunta deGalicia |
| 158 | Rogier | Jan | CENELEC TC11 |
| 159 | Roosen | Deborah | EURATEX |
| 160 | Roth | Alexander | Siemens |
| 161 | Royer-Toupitsyna | Marina | European Commission |
| 162 | Rudolf | Kathrin | European Commission |
| 163 | Ruyssinckx | Evi | FPS economy |
| 164 | Salgado | Monica | madri+d |
| 165 | Schoitsch | Edwin | DECOS |
| 166 | Schubert | Thomas | Robert Bosch GmbH |
| 167 | Schug | Stephan H. | ETHEL & i2-Health project |
| 168 | Serassio | Laura | Regione Piemonte |
| 169 | Simón Moral | Rafael | Regional Government of Castillia y León |
| 170 | Shishmanian | Dana | Capgemini France |
| 171 | Söderström | Eva | INTEROP |
| 172 | Sola | Lionel | Erisa - IANIS |
| 173 | Stanciulescu | Adrian | Katholieke Universiteit Leuven / SIMILAR |
| 174 | Stankovski | Vlado | DataMiningGrid |

| 175 | Stareva | Mina | BXL Consulting |
|-----|---------|------|----------------|
| 176 | Sterk | Werner | German Ministry of Economics and Technology |
| 177 | Stühler | Leo | Infineon |
| 178 | Telesca | Luigi | CREATE-NET –ONE Project |
| 179 | Terranova | Liliana | SOGEI |
| 180 | Terstriep | Judith | Institute forWork and Technology |
| 181 | Toth | Andras | Ericsson / RUNES |
| 182 | Trèves | Nicolas | CNAM |
| 183 | Tsampa | Iliana | Nursing University of Eipirus |
| 184 | Upstill | Colin | IT Innovation |
| 185 | Valtchev | Dimitar | GST |
| 186 | Vanderdonckt | Jean | SIMILAR |
| 187 | Van Eecke | Patrick | DLA Piper |
| 188 | Van Godtsenhoven | Karin | DRIVER |
| 189 | van Leeuwen | Manon | Fundecyt |
| 190 | van Nijhuis | Eric | Philips |
| 191 | Van Vaerenbergh | Jo | CMAT |
| 192 | van Vlierden | Christine | CEN |
| 193 | Vasell | Jesper | SICS |
| 194 | Vellianiti | Christiana | S.H.A.P.E. / NATO |
| 195 | Vigneron | Cathérine | CENELEC |
| 196 | Villasante | Jesus | European Commission |
| 197 | Vlaming | Marcel | HEARCOM |
| 198 | von Groote | Anna | CEN |
| 199 | von Lingen | Alexander | EquipEuropa |
| 200 | von Wüllerstorff | Andreas | Siemens |
| 201 | Wagner | Claudia | National Institute for Transport and Logistics |
| 202 | Walsh | Paul | Segala |
| 203 | Wansbeek | Cornelis J. | Ministry of Economic Affairs, Netherlands |
| 204 | Weets | Guy | European Commission |
| 205 | Weigel | Walter | ETSI |
| 206 | Wenning | Rigo | W3C / COPRAS |
| 207 | Wheaton | Oliver | DTI |
| 208 | Whitney | Gill | Middlesex University |
| 209 | Williams | Fiona | eMobillity |
| 210 | Winckler | Marco | SIMILAR |
| 211 | Zahariadis | Theodore | ASTRALS |
| 212 | Zandbergen | Peter | Philips |
| 213 | Zwegers | Arian | European Commission |

# Annex C: List of presentations

All presentations given at the COPRAS conference on ICT research and standardization towards FP7 can be downloaded in pdf-format from the COPRAS web site. The list below provides the link to the proper location for each of the presentations.

1. Prof. Keith Jeffery, President, ERCIM, and Director IT & International Strategy CCLRC
   IST Research & standardization – towards FP7, introductory remarks:
   http://www.w3.org/2004/copras/meetings/open07/070117_Jeffery.pdf

2. Susan Binns, Director Lisbon Strategy and policies for the Information Society, DG Information Society and Media, European Commission
   The importance of research/standards interfacing in furthering Europe's competitive position in ICT; expectations for FP7 (keynote address): http://www.w3.org/2004/copras/meetings/open07/070117_Binns.pdf

3. Dr. Walter Weigel, Director General, ETSI
   Using ICT research to further standardization; future trends and developments in standardization that could be driven by research: http://www.w3.org/2004/copras/meetings/open07/070117_Weigel.pdf

4. Dr. Alexander Roth, Siemens
   ETPs and standards development; the role of European technology Platforms in RTD/standards interfacing: http://www.w3.org/2004/copras/meetings/open07/070117_Roth.pdf

5. Drs. Manon van Leeuwen, Director of Information Society, Fundecyt
   Benefiting from standardization as an SME company; using research projects as a tool for accessing European standardization processes: http://www.w3.org/2004/copras/meetings/open07/070117_van_Leeuwen.pdf

6. Peter F. Brown, Chair, CEN eGovernment Focus Group
   eGovernment, standardization and public procurement; standards and research for interoperable eGovernment applications: http://www.w3.org/2004/copras/meetings/open07/070117_Brown.pdf

7. Antonio Conte, Principal Administrator, DG Enterprise and Industry, European Commission
   Standardization and innovation; how ICT standardization can help projects bringing their results to the market: http://www.w3.org/2004/copras/meetings/open07/070117_Conte.pdf

8. Prof. David De Roure, University of Southampton
   The standardization challenge; addressing the challenges in research/standards interfacing as a research project: http://www.w3.org/2004/copras/meetings/open07/070117_De_Roure.pdf

9. Prof. Josep Blat, Universitat Pompeu Fabra, Barcelona
   Boosting the exploitation of research project's results; maximizing the benefits that standardization can bring to research projects: http://www.w3.org/2004/copras/meetings/open07/070107_Blat.pdf

10. Prof. Michael Lawo, University of Bremen
    Bridging the standardization gap; optimizing the interface to standardization in a research project's work plan: http://www.w3.org/2004/copras/meetings/open07/070117_Lawo.pdf

11. Kiritkumar Lathia, Vice President Standards & Fora, Siemens Networks SpA
    The COPRAS Generic Guidelines interactive platform; how the standards community will facilitate its interfacing with research in FP7: http://www.w3.org/2004/copras/meetings/open07/070117_Lathia.pdf

12. COPRAS partners
    ICT research and standardization – Towards FP7, themes for the panel discussion:
    http://www.w3.org/2004/copras/meetings/open07/070117_Paneldiscussion.pdf