



Document	Information analysis report Call 1				
Milestone	M3.1	Deliverable	D06	Source	WP3 lead partner
Distribution	European Commission				
Document history					
Version	Remarks				Date
0.1	1 st draft				15/08/2004
0.2	2 nd draft				27/08/2004
0.9	3 rd draft				21/10/2004
1.0	Final version				31/10/2004

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1. Introduction

The Cooperation Platform for Research and Standards (COPRAS) is an FP6 Specific Support Action (SSA) project aiming at projects in calls 1, 2 and 3. It addresses Thematic Priority Area number 2: ‘Information Society Technologies’ and intends to serve as a platform for IST research projects seeking to upgrade their results through interfacing with standards bodies.

The project started 1st February 2004 and will run until 31st January 2007. It will bring together the research and standardization aspects of the eEurope activity and optimise the interface between FP6 IST projects and standardization. In doing so, it will speed up adoption of research results and generate feedback on their acceptance and usage.

For the purpose of identifying and selecting those projects that may benefit from cooperating through the COPRAS platform and from developing ‘Standardization Action Plans’, several methodological steps have been defined and bundled together in Work Packages (WPs). The first set of these methodological steps established WP2 and encompassed the information gathering process, or the surveying of projects for standards related output. The second set establishes WP3 and covers the analysis of the information gathered, the definition and application of project selection criteria and the organization of a kick off meeting between projects and standards bodies.

The present document establishes the report of this information analysis process addressing FP6 IST research projects in call 1. It describes the objectives of the information analysis as well as the methodological steps followed through the process and covers the following 10 Strategic Objectives:

2.3.1.3	Broadband for all
2.3.1.4	Mobile and wireless systems beyond 3G
2.3.1.5	Towards a global dependability and security framework
2.3.1.6	Multimodal interfaces
2.3.1.7	Semantic-based knowledge systems
2.3.1.8	Networked audio-visual systems and home platforms
2.3.1.9	Networked businesses and governments
2.3.1.10	eSafety of road and air transport
2.3.1.11	eHealth
2.3.1.12	Technology-enhanced learning and access to cultural heritage

It should be noted that although the data provided in this report primarily reflect the results of the Information gathering process, the report also addresses some additional contributions received after the formal conclusion of the Information gathering report.

The information analysis report addresses the actual contents of the information gathered, in order to establish the basis for implementing the next methodological steps in WP3 (i.e. the selection of projects for the COPRAS Programme and subsequently the work in WP4: development of appropriate standardization paths. It does this by analysing results, both in a qualitative and quantitative way and – to the extent possible – reviews the procedures implemented to obtain the results. In doing so it embraces lessons learned from the call 1 information gathering process and likewise produces recommendations for the improvement of the quality of similar processes in subsequent calls addressed by COPRAS.

2. Objectives

As previous experiences have shown, the interface between standardization and research can be crucial to the success of both activities. Moreover, specifically where ICT development is concerned it is important to ensure standardization and research proceeding in parallel, enabling cross-fertilization and allowing standards bodies to receive contributions from the research community rapidly while at the same time updating research projects on those developments in standardization that could be relevant to their projects.

In view of the hundreds of organizations and industry groups active in ICT standardization world-wide, COPRAS' objective is to act as a platform for FP6 IST projects that wish to upgrade their deliverables or otherwise touch upon standardization issues during the course of their research by providing a catalytic focal point for standardization activities. Consequently, it intends to provide research projects with a cost-effective way of meeting their contractual obligation of setting up an interface with the standards world while giving them a high control over the output of these processes as well as a means to validate their work with a wider audience.

For this purpose, the project will build a 'COPRAS' Community (encompassing those FP6 IST projects in calls 1, 2 & 3 with whom COPRAS is expecting to build up an informal network enabling a flow of information and communication between research projects, relevant standardization working groups other stakeholders that have an interested in interfacing between research projects and standardization), as well as a 'COPRAS' Programme (encompassing those projects within the COPRAS Community that seek to cooperate with standards bodies and will benefit from a 'Standardization Action Plan' tailored to the needs of their project).

The objective of the present report is to present the results of the analysis of information gathered during the execution of the information gathering process. The report aims to describe the methods applied and to provide a summary of the results achieved during the process, ultimately focusing to organize a kick off meeting, aiming to jump-start cooperation between (groups of) research projects and standardization working groups. The report, together with the actual information gathered during the process, aims to serve as a basis for further activity in COPRAS and establishes the starting point for the development of appropriate standardization paths for projects in call 1, starting end of October 2004.

3. Process description

The information analysis processes targeting FP6 IST projects in call 1 took place between 24th June and 13th August, 2004. The process followed the methodological steps as described in section 4.1.2 of the COPRAS Quality Plan. Taking the information gathering reports as a basis, the tasks in WP3 encompass the definition of the COPRAS Programme, i.e. the selection of FP6 IST research projects with whom Standardization Action Plans will be developed and COPRAS Community, i.e. the selection of FP6 IST research projects that will produce standards related output or would benefit from getting access to information on ongoing – or newly initiated – standardization processes relevant to their specific Strategic Objective. In this respect section 4.1.2 of the COPRAS Quality Plan describes the following steps:

- 1) Following its approval by the COPRAS Steering Group (CSG) the information gathering report will be analyzed by the team responsible for WP3, in order to identify communalities, trends, key issues and inter-project relationships from a standardization perspective. Projects' expected output will be logically grouped taking into account the elements relevant to standardization. This may lead to combining projects addressing different Strategic Objective areas. In addition, it will be determined which ongoing or planned standardization activities (either undertaken by the consortium partners, ICTSB members or other relevant standards bodies or industry groups) match projects' requirements in terms of information input emerging from the information gathering report. The results of this analysis, which will encompass a period of 6 weeks for each of the first two calls, will be contained in a report that will be submitted to the CSG.
- 2) As a second step, a set of criteria will be developed to short list those projects that will be invited to contribute standardization related output to COPRAS and develop Standardization Action Plans. These criteria cannot be predefined as they may vary from call to call, or even between Strategic Objective areas (i.e. criteria applied to select projects in the 'Broadband for all'- area may differ from criteria applied to select projects in the 'Mobile and wireless systems beyond 3G'- area). However, they can be grouped into 3 categories:
 - i) Criteria that are related to (ongoing) standardization activity (e.g. is there a clear relationship between the expected output of a research project and standardization work already in process in one of the standardization bodies?)

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- ii) Criteria that are related to the processes adopted by research projects (e.g. will output be available on time for it to be considered by the COPRAS project; is the output in the public domain; are resources available to work on standardization issues, do projects actually 'need' COPRAS' support or are they capable to arrange interfacing with standardization by themselves, etc.);
 - iii) Criteria that are related to the substance of research projects' output (e.g. how essential are certain expected results likely to be to standardization and/or how essential can standardization be to the project's results or even beyond). During the process of selecting projects for participation in the COPRAS Programme, the Project Manager and the project team will specifically involve and consult the relevant Commission Project Officers.
- 3) Based on the selection criteria, the team responsible for WP3 will propose a short list of projects to the CSG, thus establishing the 'COPRAS Programme'. Target will be to include at least 8% of the number of projects originally contacted in the information gathering process.
 - 4) Upon approval of the short list by the CSG, for each call, selected projects as well as relevant representatives from the standards community will be invited to take part in a kick off meeting, aiming to jump-start cooperation between (groups of) research projects and standardization working groups. The kick off meeting will focus on the following issues:
 - i) To present the results of the analysis of the information gathering report and the rationale behind the selection of projects for participation in the COPRAS Programme;
 - ii) To present the actual ongoing standardization work selected projects can benefit from by receiving input as well as the work they could contribute to;
 - iii) To demonstrate the concrete benefits per individual project or group of projects resulting from participation in the COPRAS Programme;
 - iv) To agree with selected projects on concrete follow-up steps aiming to start the process of defining in detail contributions from research projects to standardization as well as vice versa.

During the information analysis process, the information gathering report has been analyzed in order to identify communalities, trends, key issues and inter-project relationships from a standardization perspective. In this process the following categories of data have been analyzed to establish a basis for selecting projects benefiting from interfacing with standardization:

- 1) A list of generic data (e.g. contact details, projects' budgets, number of partners, etc.);
- 2) Public information describing projects' objectives & goals (individual projects' web sites and project descriptions provided via www.cordis.lu/ist);
- 3) Generic information on research projects involvement with standardization (e.g. work packages or resources for standardization work, existing cooperation with standards bodies, etc.); this information was gathered from research projects' responses to the first – and generic – part of a questionnaire send to all projects in call 1;
- 4) Information related to areas of ongoing or planned standardization work in specific Strategic Objectives; this information was gathered from responses to the second – and tailored – part of the questionnaire.

The following sections will describe in more detail the methodology and steps followed during the information analysis process (in section 3.1), as well as the results achieved (in sections 3.2, 3.3 and 3.4). Also, in sections 3.5, 3.6 and 4, assessments of the results achieved as well as of the processes applied are contained.

3.1 Methodology and process steps

During the information analysis process the methodological steps described in the COPRAS Quality Plan were followed, although at some points these had to be adjusted according to circumstances (e.g. holiday periods). A chronological-methodological description of the process is provided below.

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- i) During the 1st COPRAS Project Team Meeting, held 24th June 2004, the Project Team recognized it could only include those projects that responded to the questionnaire in its analysis. In his or her Strategic Objectives, each of the members of the project team:
 - a) Analyzed the information and defined groups or clusters of projects having a similar focus with respect to standardization issues;
 - b) Took a first shot at defining a set of ‘tier 1’ projects and a set of ‘tier 2’ projects for the COPRAS Programme (taking into account there has to be an interest among standardization bodies concerned, to work on the topics addressed by the research projects).
- ii) The results of the first analysis were discussed during a conference call held 12th July 2004. When discussing these results it was decided to review the initial analysis taking into account that consortium partners may have an interest also in projects in other Strategic Objectives than the ones they’re covering. The project team agreed more discussion and consultation among project team members was needed to come up with a more thorough initial analysis and consequently reviewed the initial analysis results taking into account additional considerations on the clustering of projects.
- iii) During week 30 (18 through 24 July) project team members consulted each other on a bilateral basis and discussed the submitted proposals in order to define other consortium members’ interest in projects in their specific Strategic Objective.

3.2 Results information gathering process

As documented in the project’s implementation plan, COPRAS focuses on 10 out of 12 Strategic Objectives in call 1. According to information obtained before the launch of the COPRAS project, a total of 178 projects were selected by the Commission in these Strategic Objectives. During the information gathering process, the project team was able to sufficiently identify 171 projects.

Some of these were however not concerned with standards and for some projects the necessary information for contacting them could not be obtained before the end of the information gathering process (e.g. due to the fact that these projects did not launched until the beginning of June 2004). This has resulted in 164 projects in call 1 establishing the ‘operational target’ for the information gathering process and receiving an information package and questionnaire from COPRAS.

By the end of the COPRAS information gathering process, a considerable amount of information in all of the 4 different categories (see section 3) was gathered. A set of generic data was obtained for the 164 targeted projects, close to 95% completeness; 127 individual project web sites were found to be launched and additional public information was available for 158 projects on the CORDIS pages. Moreover, more than 54% of the projects addressed had responded to the questionnaire.

By the end of the COPRAS information gathering process, 89 replies were received as a result of the questionnaire. 87 of these replies were filled-in questionnaires, while 2 e-mails were received from projects that either didn’t expect to touch upon standards related issues at all, or were not able to judge whether their project would generate standards related output.

As stated in the Information gathering report, in general, the response to the questionnaire has been good although considerable deviation shows when breaking up the overall result into the separate Strategic Objectives, as the table below shows.

Strategic Objective	Projects targeted	Re-sponses received	Re-sponse rate
Broadband for all	18	11	61,11%
Mobile and wireless systems beyond 3G	21	9	42,86%
Towards a global dependability and security framework	14	6	42,86%
Multimodal interfaces	12	6	50,00%
Semantic-based knowledge systems	14	3	21,43%
Networked audio-visual systems and home platforms	19	17	89,47%
Networked businesses and governments	20	16	80,00%
eSafety of road and air transport	14	7	50,00%
eHealth	16	8	50,00%

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Technology-enhanced learning and access to cultural heritage	16	6	37,50%
Total	164	89	54,27%

3.2.1 Responses to questionnaire & updated list of projects

After finalizing the Information gathering process, 2 additional responses were received from the PHOENIX project in the Strategic Objective 2.3.1.4 – Mobile and wireless systems beyond 3G and from the SECOQC project in the Strategic Objective 2.3.1.5 – Towards a global dependability and security network. This has slightly increased the response rate for the two mentioned strategic objectives as well as the overall response rate. The updated results are given in the table below:

Strategic Objective	Projects targeted	Re-sponses received	Re-sponse rate
Broadband for all	18	11	61,11%
Mobile and wireless systems beyond 3G	21	10	47,64%
Towards a global dependability and security framework	14	7	50,00%
Multimodal interfaces	12	6	50,00%
Semantic-based knowledge systems	14	3	21,43%
Networked audio-visual systems and home platforms	19	17	89,47%
Networked businesses and governments	20	16	80,00%
eSafety of road and air transport	14	7	50,00%
eHealth	16	8	50,00%
Technology-enhanced learning and access to cultural heritage	16	6	37,50%
Total	164	91	55,49%

3.2.2 Additional contributions received

Despite the fact both quantity and quality of data gathered were sufficient in view of COPRAS' targets for WP3, an effort was made to get additional responses, specifically from STREP and IP projects. This effort has led to one additional contribution from the REWERSE project in Strategic Objective 2.3.1.7 – Semantic-based knowledge systems. Considering the fact that an initial scan of responses received indicated there would most likely be sufficient candidates for the COPRAS Programme across all Strategic Objectives, it was decided to stop actively approaching additional projects in call 1 and work with the ones the project team has received up to now.

The final results of the Information gathering process including the late responses and the additional contributions received is given in the table below:

Strategic Objective	Projects targeted	Re-sponses received	Re-sponse rate
Broadband for all	18	11	61,11%
Mobile and wireless systems beyond 3G	21	10	47,64%
Towards a global dependability and security framework	14	7	50,00%
Multimodal interfaces	12	6	50,00%
Semantic-based knowledge systems	14	4	28,57%
Networked audio-visual systems and home platforms	19	17	89,47%
Networked businesses and governments	20	16	80,00%
eSafety of road and air transport	14	7	50,00%
eHealth	16	8	50,00%
Technology-enhanced learning and access to cultural heritage	16	6	37,50%
Total	164	92	56,09%

3.3 Project information analysis

The following sections provides the information analysis and project selection per Strategic Objective.

3.3.1 Broadband for all

In this Strategic Objective, 11 projects (61,11%) – as indicated in the table below – responded to the questionnaire.

BREAD	E-PHOTON-ONE	OPERA
BROADWAN	GANDALF	SATNEX
CAPANINA	LASAGNE	U-BROAD
DIADEM FIREWALL	MUSE	

Virtually all of these projects address standardization issues and several projects are already in the process of deploying activities together with standards bodies within as well as outside the COPRAS consortium.

The most commonly identified standardization areas that responding projects indicate as relevant with respect to the expected outcome of their research are the following:

- Next generation Internet (BREAD, BROADWAN, DIADEM FIREWALL, E-PHOTON-ONE, GANDALF, LASAGNE, MUSE and SATNEX);
- New optical network technologies (BREAD, CAPANINA, E-PHOTON-ONE, GANDALF, LASAGNE and MUSE);
- Broadband access via wireless and terrestrial infrastructures (BREAD, BROADWAN, CAPANINA, E-PHOTON-ONE, GANDALF and MUSE).

Further to these, lesser common areas for standardization activities among the projects are:

- Optical equipment (BREAD, E-PHOTON-ONE and GANDALF);
- Broadband access through advanced satellite communications (BREAD, BROADWAN, CAPANINA and SATNEX);
- Broadband access through fixed copper and CATV networks (BREAD, BROADWAN, GANDALF, LASAGNE and U-BROAD);
- Power Line Communications (BREAD and OPERA).

Of the projects responding, 7 indicated having a more or less concrete perspective on their contribution to standardization, notably the CAPANINA, GANDALF, LASAGNE, OPERA, BROADWAN, MUSE and U-BROAD projects. The remaining 4 projects either did not specifically aim at contributing to standardization themselves (e.g. because it concerns NoE or CA projects) or had not yet decided whether (parts of their) output will be submitted for standardization.

As the analysis in the table below shows, all areas where projects intend to contribute to (ongoing) standardization work, can be addressed one or several standards bodies, either working on a European or on a global level.

Project	Issues	May be addressed by
BROADWAN	Aspects for DVB and IP in connection with broadcast/multicast.	DVB-TM IPI; DVB-CM IP Datacast
	Next generation wireless access, at low and high frequencies such as 5.8 GHz and 42 GHz; hybrid networking including wireless and wire-line technologies; radio wave propagation information for wireless access network design guidance	IEEE 802.16 Working Group; ETSI BRAN

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	Broadband access through advanced satellite communications; experience from trials and future developments in the area of the (use of the) DVB satellite return channel	DVB-RC(S)
CAPANINA	Broadband communication standards such as WiMAX and ETSI BRAN in conjunction with broadband access using mm-wave bands from 'High Altitude Platforms'	IEEE 802.16 Working Group; ETSI BRAN; ETSI SES
GANDALF	Simultaneously feeding wireless and wire-line access networks with Gbit/s transmission capabilities; demonstration of a novel optical feeder configuration; demonstration of wireless transmission of DOCSIS and GbE signals in the 5 GHz band and DOCSIS and Wi-Fi signals in the 40 GHz band (WiMAX)	IEEE 802.16 Working Group; ETSI OCG ad-hoc group on Broadband Cable Communications
LASAGNE	Study of migration scenarios from current networks to All-Optical Label Swapping (AOLS); definition of Next Generation Networks (NGN) using GMPLS (Generalized Multi Protocol Label Switching) in GMPLS architecture and GMPLS signaling	ITU-T SG15; possibly also ETSI TISPAN, OIF and/or IETF
MUSE	Definition of a set of standards allowing for interoperability between access network elements and Consumer premises Equipment (CPE) across different network layers	DSL-Forum; MEF; IETF; IEEE; ITU-T; MPLS Forum; ETSI and/or OSGi
OPERA	Specification of Power Line Communication (PLC) equipment & system requirements; PLC Elector Magnetic Compatibility aspects: measurements, disturbance voltage, radiation, immunity, approval testing	CENELEC SC 205A; ETSI PLT
U-BROAD	Some aspects of the project, such as 100Mbit/s broadband connectivity over legacy copper infrastructures may contribute to ongoing work in several standards bodies	ETSI TM6; ETSI TISPAN ; ETSI AT; ITU-T SG15

Further to the above, it should be noted that:

- the LASAGNE project has already defined its standardization activities, mainly in the optical packet switching domain, which will be pursued by its consortium partner Telecom Italia;
- the MUSE project plans to address its standardization related activities through the regular contacts its consortium partners already have with a variety of standards bodies.

These projects, similar to the BREAD, DIADEM FIREWALL, E-PHOTON-ONE and SATNEX projects, may be served best when included in the COPRAS Community rather than in the COPRAS Programme.

As far as the availability of resources is concerned, the BROADWAN, GANDALF, LASAGNE, MUSE and OPERA projects have made resources available for standardization activities, while this is not the case for the CAPANINA and U-BROAD projects (although for the latter this may be arranged through individual consortium partners).

Although some of the projects (e.g. OPERA) have already started (part of) their standardization related activities, the timeframes for the projects (most of them last 24 months, with the exception of the LASAGNE and CAPANINA projects that will run for 36 months) match the timing of COPRAS, intending to deliver concrete standardization action plans for individual projects by the end of Q1 2005.

3.3.2 Mobile and wireless systems beyond 3G

In this Strategic Objective, 10 projects (47,62%) – as indicated in the table below – responded to the questionnaire. One additional response was received (PHOENIX), after the Information gathering report was published.

4MORE	ACE	B-BONE	MAESTRO
OBAN	PHOENIX	PULSERS	SIMPLICITY
UBISEC	WINNER		

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All of these projects identified technologies, specifications or other output that are intended to be European or global standards or otherwise may contribute to standardization work. Moreover several projects are already in the process of deploying activities together with standards bodies within as well as outside the COPRAS consortium.

The most relevant areas of standardization as identified by the projects are:

- Transmission & reception equipment & components (key or important issues for: 4MORE, ACE, B-BONE, MAESTRO, OBAN, PULSERS, WINNER);
- Interconnection and inter-working of wireless infrastructures (key or important issues for: ACE, B-BONE, MAESTRO, OBAN, PHOENIX, SIMPLICITY);
- Security, access control and content protection (key or important issues for: ACE, MAESTRO, OBAN, UBISEC).

Further to these, lesser common areas for standardization among the projects are:

- Broadband radio access networks (ACE, B-BONE);
- Broadcasting and multicasting over 3G systems (ACE, B-BONE, MAESTRO);
- Advanced satellite communication systems (ACE, MAESTRO);
- Broadband wireless IP networking (ACE, PULSERS, SIMPLICITY)
- Network & system management (SIMPLICITY)

Of the projects responding, 6 indicate having a more or less concrete perspective on their contribution to standardization, notably the projects ACE, MAESTRO, PHOENIX, PULSERS, UBISEC and WINNER. The remaining 4 projects (4MORE, B-BONE, OBAN, SIMPLICITY) either did not indicate a specific standardization organization they would like to contribute to, or have not yet initiated the process of deploying standardization related activities in coordination with standards bodies or industry consortia. Nevertheless, based on the standardization related issues the four projects indicated, for three of them (4MORE, B-BONE, SIMPLICITY), the possible standards bodies for co-operation have been proposed by COPRAS.

Further, 6 projects (4MORE, B-BONE, MAESTRO, PULSERS, SIMPLICITY, WINNER) address issues that are (or may become) relevant to the activities of one of the consortium partners or one of the ICTSB members while 7 projects address issues that are (or may become) relevant to the activities of standards bodies outside the ICTSB.

Apart from the SIMPLICITY project, all have resources available for standardization activities. Despite the fact the questionnaire did not include a question related to project timing, based on the information gathered either from project's web sites, or from other public sources, it seems the timing of all projects is in line with COPRAS' timing (in terms of its capability to defining Standardization Action Plans with these projects).

As the analysis in the table below shows, all areas where projects intend to contribute to (ongoing) standardization work, can be addressed by one or several standards bodies, either working on a European or on a global level.

Project	Specific Issues	May be addressed by
4MORE	Transmission & reception equipment & components: Multi-antenna MC-CDMA technology including: Channel coding and modulation; MC-CDMA concept; Data detection, channel estimation and synchronization; RF front-end design; Multiple transmit and multiple receive antennas; Cellular aspects; System on chip design; The main focus is on layer 1 (PHY) and layer 2 (MAC), and its joint optimization and adaptation to IP traffic.	3GPP, ETSI MSG, ETSI TM
	Interconnection and inter-working of wireless infrastructures: Validation of the multi-standard concept with new architectures for base stations and mobile terminals	3GPP, ETSI MSG

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	Concept for a new flexible B3G (or also called 4G) air inter-face and its scope can be split in two parts: 1. design of advanced algorithms for the B3G air interface 2. validation of the algorithms by system on chip design of the proposed scheme, having 1 base station and 2-3 mobile stations each with MIMO capabilities. The project is interested in standardization activities towards a B3G (or 4G) system which includes a new broadband air interface. The new air interface can also complement a multi standard solution.	3GPP, ETSI MSG
B-BONE	Transmission & reception equipment & components: MC-CDMA, MIMO	3GPP, ETSI TM
	Interconnection and inter-working of wireless infrastructures All IP, Multicast and Broadcast Security, access control & content protection	3GPP, ETSI BRAN, IETF
	Broadband radio access networks: New modulation and coding techniques	3GPP, ETSI BRAN, ETSI TM
	Broadcasting and multicasting over 3G systems: This is the focus of the B-BONE project	3GPP, IETF
MAESTRO	Transmission & reception equipment & components: Specifications of the system investigated are direct inputs to the S-UMTS work group activity related to SDMB system	3GPP, ETSI MSG
	Interconnection and inter-working of wireless infrastructures: Specifications of the system investigated are direct inputs to the ETSI S-UMTS work group activity related to SDMB system	3GPP, ETSI MSG
	Security, access control & content protection	3GPP, ETSI MSG, OMA BCAST
	Broadcasting and multicasting over 3G systems: Specifications of the system investigated are used to influence the work carried on Multimedia Broadcast Multicast Service in 3GPP	3GPP, ETSI MSG
	Advanced satellite communication systems: Specifications of the system investigated are direct inputs to the ETSI S-UMTS work group activity related to SDMB system	3GPP, ETSI MSG, ETSI SES
	Broadband wireless IP networking: Minor issue addressed in ETSI S-UMTS work group activity related to SDMB system	3GPP, ETSI MSG
	Network & system management: It is addressed in ETSI S-UMTS work group activity related to SDMB system	3GPP, ETSI MSG
PHOENIX	Interconnection and inter-working of wireless infrastructures: Not addressed within the project, networking technologies: RTP, UDP Lite, IPv6, RoHC (RFC 3095 and following)	IETF
	Security, access control & content protection: security topics: IPSEC	IETF, 3GPP, ETSI MSG
	Broadcasting and multicasting over 3G systems: Multimedia Broadcast Multicast Service	3GPP, ETSI MSG
	MPEG SVC, JPEG 2000	MPEG, JPEG
SIMPLICITY	Interconnection and inter-working of wireless infrastructures: GSM and UMTS SIM; Bluetooth; high-layer re-configurability; adaptation of user devices	3GPP, ETSI MSG
	Broadband wireless IP networking: Orchestration/self-configuration of heterogeneous networks operated by a single operator; network dimensioning and reconfiguration using user preference/profile data; user/terminal profile definition and handling; distributed storage; distributed service provisioning	3GPP, ETSI MSG

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	Network & system management: Middleware re-configurability: application and content reconfiguration using user/terminal profiles; user/terminal profile definition and handling; broker architectures to support application reconfiguration and profile handling	3GPP, ETSI MSG
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Further to the above, it should be noted that:

- ACE is an NoE project; it has a clear idea on standardization activities and relations with IEEE have been already established. Help from COPRAS may not be required here.
- OBAN has no clear ideas on standardization related activities and the response was too brief in order to be able to understand the project focus and objectives.
- PULSERS intends to contribute to IEEE; contacts with IEEE are conducted through the membership of the project partners in IEEE. Although ETSI is mentioned as an example of a standard body the project may contribute to, the issue(s) is (are) not clear enough to involve the project in the COPRAS Programme.
- WINNER may be able to contribute to ongoing standardization processes in several bodies. Standardization activities are coordinated with related projects in a "Wireless World Initiative".

3.3.3 Towards a global dependability and security framework

In this Strategic Objective, 7 projects (50%) – as indicated in the table below – responded to the questionnaire. One more response was received (SECOQC), after the Information gathering report was published.

BioSEC	SECOQC	POSITIF
SecurE-JUSTICE	FIDIS	
Digital Passport	SEINIT	

All of these projects identified technologies, specifications or other output that are intended to be European or global standards or otherwise may contribute to standardization work. Several projects are already in the process of deploying activities together with standards bodies within as well as outside the COPRAS consortium.

The most relevant areas of standardization as identified by the projects are:

- Security architectures (key or important issues for: BioSec, Digital Passport, FIDIS, POSITIF, SecurE-Justice, SECOQC, SEINIT);
- Algorithms & encryption (key or important issues for: BioSec, FIDIS, SecureE-Justice, SECOQC, SEINIT);
- Network security (key or important issues for: BioSec, Digital Passport, FIDIS, POSITIF, SecurE-Justice, SECOQC, SEINIT).

Further to these, lesser common areas for standardization among the projects are:

- Cards and personal identification (Biosec, FIDIS, SecurE-Justice);
- Standards & guidelines for a security framework (Biosec, Digital Passport, FIDIS, POSITIF, SEINIT);
- Secure transactions & payments (Biosec, FIDIS, SEINIT);
- Algorithms & encryption (Biosec, FIDIS, SecurE-Justice, SEINIT)
- Electronic signatures (Digital Passport, BIOSEC, FIDIS, SecurE-Justice)
- Privacy (Biosec, Digital Passport, FIDIS, SecurE-Justice, SEINIT)
- V2V (Virtual to Virtual) virtualization paradigm (SEINIT)

All of the projects responding indicate having a more or less concrete perspective on their contribution to standardization. However, 4 projects (BioSec, Digital Passport, SecureE-Justice, SECOQC) either did not indicate a specific standardization organization they would like to contribute to, or

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have not yet initiated the process of deploying standardization related activities in coordination with standards bodies or industry consortia. Nevertheless, based on the standardization related issues the four projects indicated, for all of them, a possible standards body for co-operation has been proposed by COPRAS.

Further, 5 projects (Biosec, Digital Passport, SecurE-Justice, SECOQC, SEINIT) address issues that are or may become relevant to the activities of one of the consortium partners or one of the ICTSB members. Similar, 5 projects (BioSec, Digital Passport, FIDIS, POSITIF, SEINIT) are also addressing issues that are or may become relevant to the activities of standards bodies outside the ICTSB.

Of the projects responding FIDIS (NoE), POSITIF, SecurE-Justice and SECOQC indicate not to have resources available for standardization activities. Biosec has some resources for monitoring standards only. Despite of the fact the projects the questionnaires did not include the question related to project timing, based on the information gathered either from project web sites, or from CORDIS, it seems the timing of all the projects is in line with COPRAS' timing (in terms of its capabilities for defining Standardization Action Plans with these projects).

As the analysis in the table below shows, all areas where projects intend to contribute to (ongoing) standardization work, can be addressed by one or several standards bodies, either working on a European or on a global level.

Project	Specific Issues	May be addressed by
BioSec	Interoperability in security procedures and best practices; interaction between biometrics and PKI	ETSI SCP, ETSI ESI
	Biometric sensors and technologies; identification devices; biometric-enable authentication protocols; biometrics in network protocols: IPSec, SSL	ETSI SCP, CEN/ISSS Focus Group on biometrics, CEN/ISSS Workshop on eAuthentication
	Security of biometric template transmission and storage; security on handling biometric samples; potential use of biometrics in e-commerce and e-government	ETSI SCP, CEN/TC224
	Algorithms for iris, fingerprint, face, speaker recognition, 3D geometry and biometrics multi-modality	ETSI SCP, ETSI SAGE, CEN/ISSS Focus Group on biometrics, CEN/ISSS Workshop on eAuthentication
	Integration of biometrics in eSignK, PKCS #11 and #15	ETSI ESI
	Biometric user template; integration of privacy in technology solutions; user personal data	ETSI SCP, ETSI ESI, CEN/ISSS Focus Group on biometrics, CEN/ISSS/WS/DPP
	Definition of architectures for (biometric) match-on-token smart cards; definition of a token API for biometric verification; development of biometric identification tokens: SmartCards and USB tokens	ETSI SCP, CEN/TC224
Digital Passport	Security concept for the EU electronic passport (and related documents); system architecture for the EU electronic passport	ETSI SCP, ETSI ESI, ICAO, ISO, CEN/ISSS Focus Group on biometrics, CEN/ISSS Workshop on eAuthentication, CEN TC224

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	Minimum requirements on security measures for electronic ID documents; standards & guidelines for a security framework: mechanical reliability; Common Criteria Protection Profile: machine readable travel documents	ETSI SCP, ICAO, ISO, CEN/ISSS Focus Group on biometrics, CEN/ISSS Workshop on eAuthentication, CEN TC224
	Interfacing with data-banks concerning confidential information; security guidelines for person data interchange between national organizations located inside or outside the nation (from security concept / protection profile)	ETSI SCP, ISO, CEN/ISSS Focus Group on biometrics, CEN/ISSS Workshop on eAuthentication,
	Use of electronic signatures in the EU electronic passport (from security concept / protection profile)	ETSI ESI, ICAO, ISO, CEN/ISSS Focus Group on biometrics, CEN/ISSS Workshop on eAuthentication, CEN TC224
	Ethical issues; protection of data privacy and control over personal data, especially for biometric data (from security concept / protection profile)	ETSI SCP, ETSI ESI, ICAO, CEN/ISSS/WS/DPP
SecurE-Justice	Integration between SIP infrastructure and PKI	ETSI SCP, ETSI ESI
	Smart cards; Standards & guidelines for a security framework: video watermarking; real time non repudiation	ETSI SCP
	Real time video encryption	ETSI SCP, ETSI SAGE
	Digital signature; digital certificate distribution	ETSI ESI
SECOQC	Design of security architectures for communication systems.	ETSI TISPAN (WG 7)
	Cards and personal identification: authentication and biometry.	ETSI SCP
	Design of new network architectures for networks using Quantum Cryptography	ETSI SAGE, ETSI TISPAN (WG 7)
	Algorithms, protocols, and encryption methods for the use within the QKD network	ETSI SCP, ETSI SAGE
	Privacy: privacy amplification of citizens and related services	ETSI SCP

Further to the above, it should be noted that:

- FIDIS is an NoE project; it has identified several domains it can contribute to standardization organizations. It is proposed to include the project in the COPRAS Community.
- POSITIF seems to be able to make some interesting contributions to ongoing standardization processes focusing on system, policy and capability languages related to security. The project wishes to be kept informed about the progress of COPRAS. It is a good candidate for the COPRAS Community.
- SEINIT intends to contribute to IETF in particular. It is interested in cooperation with other related projects in the security area as well as in receiving regular feedback from standardization through COPRAS. It is a good candidate to be included in the COPRAS Community.

3.3.4 Multimodal interfaces

In Strategic Objective 2.3.1.6, six out of twelve projects addressed responded to the COPRAS questionnaire, as indicated in the table below.

AMI	MWEB	TALK
CHIL	SIMILAR	T'nD

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Some of the more relevant topics for standardization that were mentioned in the answers to the COPRAS questionnaire are:

- Cooperation with respect to W3C's EMMA format for multimodal interaction management and other areas;
- W3C's VoiceXML;
- Ontologies for DAML/OIL as a possibility for the sub-area of content abstraction and definition (possibly as an alternative to EMMA).

Based on the responses to the questionnaire and the analysis of other available information, two of the projects (SIMILAR and TALK) were identified as candidates for the COPRAS Programme. Standardization issues addressed and bodies or working groups that would be able to address the issues are indicated in the table below:

Project	Specific Issues	May be addressed by
SIMILAR	"Open Interface," including usability and testing guidelines	W3C
TALK	MMI and Voice Browsing activities of W3C	W3C

In addition to this, the following should be noted with respect to these as well as to other projects responding to the questionnaire:

- SIMILAR, even though being an NoE project, explicitly mentions W3C as a body they need to cooperate with and they have planned this cooperation through their "Open Interface" work;
- T'nD seems to aim at technologies that are probably not ready for standardization for several years to come.
- TALK is very interested in view of their potential contribution to standards for Multimodal Interaction and Voice Browsing, as they are currently being developed by W3C, although they didn't allocate any resources for this work in their planning.
- AMI may not really benefit from cooperation through COPRAS, as the goals of the project are primarily to build software; there are no concrete plans for standardization activities.
- CHIL is also interested in building software as well as in scientific research; similar to AMI; there are no concrete plans for standardization activities.
- MWeb is of interest to COPRAS, specifically where the activities of W3C and ETSI are concerned, and they do have plans for standardization-related activities; as one of the COPRAS consortium partners (W3C) is also a partner to the MWeb project, cooperation is already in place and there is no direct need to involve MWeb in the COPRAS Programme.

Of the projects responding to the questionnaire, only MWeb allocated specific resources to standardization activities. SIMILAR has planned contributing to standardization, but has not yet determined the amount of resources it intends to allocate to it. The other projects have made no provisions.

The projects that didn't respond to the questionnaire most likely would not benefit from participating in the COPRAS Community or Programme. DIVINES deals with developing models of human speech, rather than technology. ENACTIVE talks about measuring and could thus be interesting, but their subject (haptic devices) does not seem to match any area covered by the COPRAS partners. MATRIS works in an area (cameras and augmented reality) that doesn't match any area covered by COPRAS either. TAI-CHI might produce something that could be standardized, but available information is still insufficient to determine this more precisely. TC-STAR works on translation, which could be interesting, but doesn't match any current working area of the COPRAS partners.

HUMAINE and PASCAL are Networks of Excellence and don't to aim for specific technical deliverables, while sufficient information on the HIWIRE project was not available by the time the information gathering process for call 1 had to be concluded.

3.3.5 Semantic-based knowledge systems

The following projects in Strategic Objective 2.3.1.7 answered the COPRAS questionnaire:

AIM@SHAPE	REWERSE	SIMAC
DIRCET-INFO	aceMedia	

Unfortunately, none of these seem very useful for COPRAS. After further research, of the eleven projects that didn't answer, REWERSE appeared interesting and, after contacting them, interested as well. Likewise, aceMedia, when contacted directly, expressed their interest. REWERSE and aceMedia are thus the two projects selected for the 1st tier. Although no contact has been established yet with ALVIS and DIP, they might be candidates for the COPRAS Community.

The most commonly mentioned topics for standardization by the responding projects were ontologies, i.e. for describing shapes (which was mentioned by AIM@SHAPE), and for annotating music (which was mentioned by SIMAC).

Project	Specific Issues	May be addressed by
REWERSE aceMedia	Query language for the Semantic Web Annotations for multimedia content	W3C W3C

Further to this, it should be noticed that:

- REWERSE (Reasoning on the Web with Rules and Semantics) is developing a query language for the Semantic Web, a topic that W3C is very interested in; contacts have already been established with the project.
- ALVIS is mostly aiming at developing a specific piece of software, but might produce a query language as well, which could be of interest to W3C.
- DIP mentions that it wants to develop standards for telecommunications, but so far no contact with the project was established.
- aceMedia looks interesting on paper: aceMedia's "ACE" format could be standardized, either by a COPRAS partner or by MPEG. Annotations on multimedia content especially are a topic that interests W3C.
- AIM@SHAPE mentioned they are interested in cooperating, but their aim seems to be to develop models rather than technology that could be standardized; moreover, they specifically focus on MPEG.
- AgentLink III is a well-established and well-organized membership organization that has resources to coordinate standards activities among its 100 or so members. However, the project itself doesn't produce any technology, only its members do. For COPRAS, AgentLink might act as a distribution channel for information.
- SIMAC might produce ontologies, but these are typically not standardized; apart from this, the project will develop prototypes of annotation software.
- ASPIC appears to develop software and an abstract model, which currently doesn't seem to match ongoing activities in either one of the COPRAS consortium partners.
- DIRECT-INFO, SEKT and METEOKIS are developing software while KB20 intends to function as a bulletin board for the research community rather than being involved in standardization processes. MUSCLE is a Network of Excellence.

Of the three projects that answered the questionnaire, two have set aside resources in one or more work packages for standardization activities.

3.3.6 Networked audio-visual systems and home platforms

Response was extremely high in this Strategic Objective, with 17 out of 19 projects (89,48%) returning the questionnaire. All of these (indicated below) envisage interfacing with standards bodies or standardization processes at some point during the course of their projects and some (e.g. the DANAE project) have already made contributions.

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COHERENT	MCDN	TEAHA
DANAE	MEDIANET	TIRAMISU
E-NEXT	META CAMERA	UNI-VERSE
ENTHRONE	MHP-CONFIDENCE	VISNET
EPERSPACE	MHP-KDB	WCAM
INSTINCT	OLGA	

Of the specific standardization areas identified by the projects, the most commonly mentioned as being relevant with respect to the expected outcome of the projects are:

- Intelligent home architectures, systems & applications (E-NEXT, EPERSPACE, MEDIANET, MHP-CONFIDENCE, MHP-KDB, TEAHA, VISNET and WCAM);
- Quality management & convergence of multimedia content (DANAE, E-NEXT, ENTHRONE, EPERSPACE, INSTINCT, MEDIANET, META CAMERA, MHP-CONFIDENCE, MHP-KDB and VISNET);
- Storage, security & access management of content & networks (DANAE, E-NEXT, ENTHRONE, EPERSPACE, MCDN, MEDIANET, MHP-KDB, TIRAMISU and VISNET);
- Infrastructures, transport & protocols (E-NEXT, ENTHRONE, INSTINCT, MEDIANET, META CAMERA, MHP-KDB, TEAHA, VISNET and UNI-VERSE);
- Interfaces between systems, terminals & networked devices (COHERENT, E-NEXT, ENTHRONE, INSTINCT, MEDIANET, META CAMERA, MHP-KDB, OLGA, UNI-VERSE, VISNET and WCAM).

In addition, some lesser common areas for standardization activities should be noted as well:

- Tools & applications for home platform management (ENTHRONE, EPERSPACE, MEDIANET, VISNET and WCAM);
- User interfaces and displays (COHERENT, MHP-KDB and WCAM);
- Network & privacy management (E-NEXT, ENTHRONE, INSTINCT, MEDIANET and VISNET).

Of the projects listed above, 11 indicate having a sufficiently well defined perspective on concrete contributions to standardization, notably the DANAE, ENTHRONE, EPERSPACE, INSTINCT, MCDN, MEDIANET, META CAMERA, MHP-CONFIDENCE, TEAHA, UNI-VERSE and WCAM projects. 6 projects indicate not to be specifically aiming at contributing to standardization directly (e.g. because it concerns NoE projects such as E-NEXT or VISNET), or indicate not (yet) to be in a position to determine the nature of their contribution to standardization.

As the analysis in the table below shows, all areas where the 11 projects intend to contribute to (ongoing) standardization work, can be addressed through one or several standards bodies, either working on a European or on a global level.

Project	Issues	May be addressed by
DANAE	MPEG-21 architecture; video & audio coding; dynamic and distributed adaptation of scalable multimedia content technologies; error-resiliency; context-awareness; digital item processing and session mobility	ISO/IEC JTC1/SC29 WG11 (MPEG)
ENTHRONE	Development of an integrated solution capable of managing the digital information distribution chain, enabling end-to-end Quality of Service (QoS) signaling and stimulating harmonization of technologies	ISO/IEC JTC1/SC29 WG11 (MPEG); DVB-TM IPI; ETSI TISPAN
EPERSPACE	Integration of home personal devices into a device community; home platform service and gateway development	CENELEC (Smart-House); OSGi
	Definition of a personalized service architecture including secure access, single login, personal preferences, etc.	Possibly OSA, OMA, 3GPP, W3C and/or Parlay

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	Content adaptation and management	ISO/IEC JTC1/SC29 WG11 (MPEG)
INSTINCT	Convergence of services using DVB-H & DVB-T transmission standards combined with GPRS & UMTS standards in digital terrestrial television networks	Various DVB-CM & DVB-TM ad-hoc groups; possibly ITU-R & ITU-T, 3GPP and OMA
MCDN	Standardization of the Internet Media Guide (IMG) protocol; development of an open source reference implementations of the IMG Unidirectional Point-to-Multipoint Transport protocol (MUP-PET); Possible new extensions to the Real-time Protocol and accompanying Control Protocol (RTP/RTCP)	IETF MMUSIC Working Group IETF AVT Working Group
MEDIANET	In home networking architecture; development of end-to-end in-home management systems and in-home & networked multimedia applications	CENELEC (Smart-House); possibly DVB-CM MHP
	Architecture & standards addressing the use of streaming technology in content distribution	DVB-TM IPI; DVB-CM IPTV
	Architectures & standards addressing distributed storage, content protection & use of Digital Rights Management (DRM) systems	DVB-TM CPT
META CAMERA	Specification and implementation of a high-speed interface between the electronic camera and the storage device; possible submission of extensions to the proposed MXF format	AAF Consortium; ISO/IEC JTC1/SC29 WG11 (MPEG)
MHP-CONFIDENCE	Contributions (conformance tests) to the Multimedia Home Platform (DVB-MHP) 1.0.3 Test Suite	DVB-TM MEG
TEAHA	The delivery of middleware platforms for controlling and inter-working of home appliances	CENELEC (Smart-House); OSGi
UNI-VERSE	Delivery of an open source Internet platform for multi-user, interactive, distributed high quality 3D graphics and audio for home, public and personal use based on the 'Verse' protocol	W3C
WCAM	Contributions relating to convergence between, and security of the MPEG-4, MPEG-21 and MotionJPEG standards	ISO/IEC JTC1/SC29 WG1 (JPEG); ISO/IEC JTC1/SC29 WG11 (MPEG)

In addition to the aspects contained in the table above, the following should be noted:

- the DANAE project is already in the process of contributing to standardization, and has arranged cooperation with the WCAM project; the latter has already defined the specific (ISO/IEC) standards to which the outcome of its project will contribute;
- the INSTINCT and MHP-CONFIDENCE projects that intend contributing mainly to the work in DVB have already specified in detail their plans for interfacing with specific standards bodies and working groups; this also applies to the MCDN project that has already arranged its interfacing with 2 IETF working groups;
- the META CAMERA project may contribute to standardization although certainty cannot be given at the moment, as it will depend on the outcome of the project.

These 6 projects, similar to the COHERENT, E-NEXT, MHP-KDB, OLGA and VISNET projects, may be served best when included into the COPRAS Community rather than into the COPRAS Programme.

Projects most likely benefiting from participating in the COPRAS Programme therefore would be the IP projects ENTHRONE, EPERSPACE, MEDIANET and the STREP projects TEAHA and UNI-VERSE. Of these projects, 4 have made resources available for standardization activities, either directly (e.g. as part of their dissemination activities) or through regular standardization related

activity of their consortium members. The UNI-VERSE project indicates not having specific resources available for standards related activities.

In terms of timing, 2 out of 5 projects (ENTHRONE, EPERSPACE and MEDIANET) will last for 24 months, while the TEAHA and UNI-VERSE projects will run for 36 months. All projects therefore match the timing of COPRAS, intending the delivery of concrete standardization action plans for individual projects in call 1 by the end of Q1 2005.

3.3.7 Networked businesses and governments

The COPRAS questionnaire was sent to all 20 successful projects in this strategic objective. Full or partial responses were received from 16 (80%) of them. 13 were identified as having standards-related activities and were analyzed in detail:

ATHENA	FLOSSPOLs	SPIDER-WIN
COSPA	GUIDE	TERREGOV
CROSSWORK	NO-REST	USE-ME.GOV
DBE	ONTOGOV	
EMAYOR	SATINE	

The most relevant areas of standardization as identified by the projects were as follows:

- Open source software for e-government (COSPA, EMAYOR, eUSER, FLOSSPOLs, ONTOGOV, USE-ME.GOV);
- Geographic Information Systems (COSPA, USE-ME.GOV);
- Personal identification (eUSER);
- Knowledge ontologies (CROSSWORK, DBE, HOPS, ONTOGOV, SATINE, USE-ME.GOV);
- Web services (CROSSWORK, DBE, EMAYOR, eUSER, HOPS, SATINE, USE-ME.GOV);
- Virtual enterprises (CROSSWORK, SATINE);
- Interoperability in eBusiness systems & applications (COSPA, CROSSWORK, DBE, EMAYOR, GUIDE, NO-REST, SATINE, SPIDER-WIN);
- Business modelling (CROSSWORK, GUIDE, HOPS, NO-REST, SATINE, USE-ME.GOV).

Only 3 projects identify links with ICTSB standards bodies (EMAYOR (OASIS, W3C and CEN), GUIDE (OASIS) and NO-REST (ETSI) while several projects mention a number of non-ICTSB organizations as possible recipients of their standards-related output – FIPA, SAGA, Liberty Alliance and even ATHENA and INTEROP). Nevertheless, CEN, having established an eBusiness Interoperability Forum (eBIF), may wish to cluster the activities of many of the projects under this strategic objective, regardless whether they are taken further by the COPRAS project. These include COSPA, CROSSWORK, DBE, EMAYOR, FLOSSPOLs, ONTOGOV, SATINE, and USE-ME.GOV.

In the case of EMAYOR, contact has been established between the proposers and the eInvoice Workshop and there is a potential to interface with CEN/TC224 WG15 on the Citizen Card. Also the chair of the CEN Workshop on eAuthentication has contacted the GUIDE Project. ETSI on the other hand, is already involved in the NO-REST Project. Where there is an interest by the Projects in Geographic Information (COSPA and USE-ME.GOV.) CEN has a relevant Technical Committee (CEN/TC287).

The table below shows the areas where projects intend to contribute to (ongoing) standardization work and the standards bodies that would be capable of addressing these areas.

Project	Issues	May be addressed by
DBE	Standards for e-business and ontologies, ebXML and languages within the OMG group (such as MOF, UML etc.)	CEN, OMG
	DBE will be deploying and extending (where necessary) WSDL within the core of its runtime	

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	Business software interoperability within a run-time environment (so end-users as well as software can configure different components, possibly produced by different software vendors)	
	Environment for modeling services and businesses, but with a focus on eBusiness, not process engineering	
SATINE	SATINE will be one of the first efforts to develop OTA based Web services; furthermore SATINE will propose OTA-based ontologies to semantically mark up travel Web services; with these efforts we expect to be able to contribute to OTA; 2. One of the aims of the SATINE project is to enrich Web service registries with semantics	OASIS, CEN/ISSS/eBIF, CEN/ISSS/eBES, CE
	Work by METU within the SATINE project entitled "Enriching ebXML Registries with OWL"; METU-SRDC and ebXML Registry Semantic Content SC will collaborate to specify the best possible way of storing OWL ontologies into the registry by perhaps proposing some modifications to the registry	
	SATINE will contribute to the virtual enterprises in the travel domain through semantically enriched Web services	
	The SATINE project will demonstrate the feasibility of new business models in the travel domain	
EMAYOR	The eMayor platform will host services that will have wired and wireless access interfaces and it will comprise of reliable and interoperable software modules; the design of the overall platform will also facilitate the addition and management of new Web Services and their "plug-ins" existing security modules and services; to that end, enhancement of existing open source software solutions will be sought as well as coherence with standards or recommendations for ongoing standardization efforts	OASIS, ETSI, W3C, CEN/ISSS/eBIF, CEN/ISSS/WS/eIN V
	Digital signatures based on the W3C XML Signature Recommendation (XML-DSIG); W3C XML Encryption allows the selective encryption of arbitrary portions of XML documents; W3C XKMS (XML Key Management Protocol) is a building block for secure web services and a means of using web services to simplify a number of PKI (public key infrastructure) protocols; OASIS SAML (Security Assertion Markup Language) is an initiative that defines a standard way to securely exchange authentication and authorization information for Web Services; OASIS XACML (XML Access Control Markup Language) is a technology complementary to SAML that allows access control policies to be expressed in XML; OASIS WSS (WS Security) adds encryption, digital signatures and authorization token support to SOAP messages for web services	
	W3C XForms is a specification of Web forms that can be used with a wide variety of platforms including desktop computers, hand-helds, information appliances, and even paper supporting richer user interfaces, decoupled data, logic and presentation, support for structured form of data and advanced forms logic	
	The Business Process Execution Language for Web Services (BPEL4WS) defines a notation for specifying business process behavior based on Web Services; together with two further complimentary specifications WS-Coordination and WS-Transaction it presents efforts to standardize business process workflow and execution to increase transaction reliability and synchronization	
GUIDE	GUIDE will create a European conceptual framework for	CEN/ISSS/eBIF, OA-

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	identity management (IDM) for eGovernment and IDM-based solutions in the A2A (Administration to Administration), A2B (Admin. to Business) and A2C(Admin. to Citizens) area; these solutions cover aspects like secure data transmission and user authentication	SIS
ONTOGOV	ONTOGOV will develop a model for change management of eGovernment services. WP 1 E-Gov service lifecycle ontology, task 1.1 state-of-the-art analysis, will review existing standards in e-government modeling languages and ontologies, web service applications in eGovernment and semantic web services approaches	CEN/ISSS/eBIF
SPIDER-WIN	The project will deliver results related to supply chains, which might be used to influence the development of standards	CEN/ISSS/eBIF
USE-ME.GOV	Geographic information plays an important role in the project, which targets OGC standards such as GML, SVG and Web Mapping (WMS, WFS)	CEN/ISSS/eBIF, CEN/TC287, ETSI
	Ontologies will be explored in the process of semantic discovery research; any identified shortcomings of current standards (RDF/XML based OWL and OWL-S) will be addressed	
	The Project's state-of-the-art review has identified potential standards and technologies in several areas; with regard to the key issues related to platform design and distributed computing, there are alternatives still under evaluation, such as CORBA; one area that is of highest priority to the project is interaction with mobile operators' frameworks.	

The following projects had clearly identified resources devoted to standardization activities: DBE (8 m/m to identify relevant standards), SATINE (3.5 m/m), GUIDE (12.5 m/m) and ONTOGOV (15 m/m). EMAYOR and ATHENA indicated that they would be devoting resources to standardization activities, without quantifying them. NO-REST states that ETSI is the sub-contractor for this activity.

With respect to the timing, most of the projects with standards-related activities have schedules which coincide well with the timing of the COPRAS Project: NO-REST (18 months), DBE (3 years), SATINE (30 months), EMAYOR (26 months), GUIDE (18 months), ONTOGOV (30 months) and SPIDER-WIN (32 months). It should be noted that NO-REST is already covered by ETSI. A special liaison with ATHENA and INTEROP (e.g. through including these projects in the COPRAS Community) may be beneficial for both COPRAS and the research projects.

3.3.8 eSafety of road and air transport

Half of the 14 research projects that were selected for Strategic Objective 2.3.1.10 responded to the COPRAS questionnaire, as indicated in the table below.

AIRNET	HIGHWAY	SAFETEL
EURAMP	ISMAEL	
GST	SAFE AIRPORT	

Of the projects responding, not all have clearly stated intentions to produce technology meant for standardization or to contribute directly to ongoing standardization processes, although most of them indicate their projects may eventually generate these contributions.

Although 'real time traffic information' and 'air traffic security and control' are the most obvious areas where projects in this strategic objective plan to contribute, the relatively low level of detail provided in the responses makes it difficult to cluster projects around specific areas of standardization. For this reason the standardization issues addressed are described hereunder per project rather than per area:

- AIRNET addresses air traffic security and control and utilizes standardized platforms both for mobile devices and networking as part of the development of the ground control systems

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being researched. The project notes that certain aspects of the project research such as integrity functions, the operational concept, and the experimentation of WIFI communication links in an airport movement area may all be of interest for potential standardization actions;

- EURAMP indicates ‘accident causation data’ as an important area of standardization for its project but mainly intends to produce as a deliverable a “Handbook of Ramp Metering” for best use of ramp metering as a control measure, which may have an impact on possible future standards for ramp metering;
- GST noted that it was researching OSGi related technologies. In particular, the project indicated they have established a collaboration agreement with OSGi which seem to show they intend to do work that would extend or enhance current OSGi specifications, but the project did not specify what aspects of the OSGi standard were being considered;
- HIGHWAY has identified several areas of standardization including specifications for interoperable geography/spatial data handling and positioning systems standards;
- The system being developed by ISMAEL is based on magnetic field sensor that will be used to detect the ground moving/parking situation of aircrafts; the project intends to provide a generic solution that could be targeted for all European airports;
- The development objective of SAFEAIRPORT that also addresses the area of air traffic security and control is to accomplish a prototype of an Acoustic System for the Improvement of Co-operative Air Traffic Management at ATZ level; the project intends to submit specifications related to Acoustic Track Data Format and Acoustic Monitoring System Database;
- SAFETEL has the objective to propose standards related to Electromagnetism and Electromagnetic Compatibility standards within the context of automotive design; in particular, the project would address standards for the EM environment definition on vehicles, and EMC testing methods.

Of the 7 projects listed above, the HIGHWAY, SAFE-AIRPORT and SAFETEL projects indicate having a clear perspective on contribution they intend bringing to standardization. The GST and ISMAEL projects do indicate planning to contribute to the further development of standards but on the other hand do not (yet) provide a clear perspective which standards would be concerned. The AIRNET and EURAMP projects finally do not seem to be primarily concerned with standardization, although during the course of these projects, they may touch upon issues that could be addressed by standards bodies.

For all 7 responding projects, the table below shows the areas where projects intend to contribute to (ongoing) standardization work and the standards bodies that would (in time) be capable of addressing these areas.

Project	Issues	May be addressed by
AIRNET	Operational concept, integrity functions and experimentation of wireless technologies for the communication between airport vehicles and the ground control center <i>Note: a standards mandate concerning air traffic management is about to be issued, which will involve collaboration between the European standards bodies, EUROCAE and EUROCONTROL.</i>	EUROCONTROL Possibly ETSI
EURAMP	Handbook of Ramp Metering for best use of ramp metering as a control measure	Possibly CEN
GST	Contributions to technologies related to standards for open systems, security, and service payment	OSGi
HIGHWAY	Interoperable geography/spatial data handling and positioning systems	ISO TC 211; CEN TC 278; OpenGIS (GML Working Group); OMA Location Working Group; possibly others

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	XML-based spatial visualization languages	ISO/IEC JTC1/SC29 WG11 (MPEG); W3C (SVG); W3D (X3D, VRML); possibly others
	<i>Note: considering the variety of standards (bodies) addressed it may be preferable to discuss the project's interfacing with the standards world at the ICTSB level</i>	ITSSG
ISMAEL	Specifications related to magnetic sensors; recognizing standards for magnetic sensors as an alternative or addition to existing sensors for radar and multilateration	Possibly CENELEC
SAFE-AIRPORT	Development of a prototype acoustic system for the improvement of cooperative air traffic management at ATZ level, that can be integrated with ATZ control procedures in conformity with standards and procedures recommended in the Annex 14 of the ICAO, and with requirements of the CAP 168 <i>Note: a standards mandate concerning air traffic management is about to be issued, which will involve collaboration between the European standards bodies, EUROCAE and EUROCONTROL.</i>	ENAV; EUROCONTROL; ENAC
SAFETEL	Standards related to Electromagnetism and Electromagnetic Compatibility standards within the context of automotive design	CENELEC TC 210 ; possibly also UN/ECE

Although all projects touch upon standardization issues, the AIRNET, EURAMP, GST and ISMAEL projects are probably best served by including them in the COPRAS Community, as it is not clear at this point in time whether they will actually be able to make contributions to standardization and – if so – what the exact nature of these contributions will be. Also, with the exception of the ISMAEL project, neither of these has resources allocated to standardization activities other than indirectly (e.g. through consortium partners).

Of the 3 relatively small STREP projects (HIGHWAY, SAFE-AIRPORT and SAFETEL) that do have a clear perspective on their contributions to standardization, both SAFE-AIRPORT and SAFETEL have 6 person/months allocated to standardization while HIGHWAY expects to be using its consortium partners' resources and regular contacts with standards bodies.

In terms of timing, all three above mentioned projects that have a duration of 30 (HIGHWAY), 18 (SAFE-AIRPORT) and 28 months (SAFETEL) would seem to fit well into the scope of COPRAS and therefore could be selected as candidates for the COPRAS Programme.

3.3.9 eHealth

In this Strategic Objective, 8 projects (50%) – as indicated in the table below – responded to the questionnaire:

ALLADIN	AUBADE	INFOBIOMED
AMICA	CLINICIP	INTREPID
ARTEMIS	DICOEMS	

All of these Projects except AUBADE and INTREPID identified technologies, specifications or other outputs that are intended to be European or global standards or otherwise may contribute to standardization work address standardization issues and several projects are already in the process of deploying activities together with standards bodies inside as well as outside the COPRAS consortium.

The most relevant areas of standardization as identified by the projects are:

- Privacy & data security (key or important issues for: AMICA , ARTEMIS, CLINICIP, DICOEMS)
- System architecture & interoperability (key or important issues for: AMICA, ARTEMIS, CLINICIP, DICOEMS)

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- Area specific concepts, tools & systems (key or important issues for: AMICA, ARTEMIS, CLINICIP)
- Data & information storage & mining systems & technologies (key or important issues for: AMICA, ARTEMIS, CLINICIP)
- Security, safety management (key or important issues for: CLINICIP)
- Knowledge management systems (key or important issues for: ARTEMIS, CLINICIP)
- Representation of data & imaging systems (key or important issues for: ARTEMIS, CLINICIP)
- Medical device communication (key or important issues for: CLINICIP)

Only ARTEMIS identifies links with a technical body of an ICTSB standards member (CEN/TC251), although two other projects (AMICA and Semantic Mining) appear to have links with the (essentially short-term) CEN/ISSS Focus Group on eHealth.

CEN/ISSS has established an eHealth Focus Group, with the objective to provide an up-to-date view of standards requirements in this domain. The Focus Group has the participation of a large number of key stakeholders, including other standards organizations. The recommendations of the Focus Group are currently being prepared; after the report is published, the Group is expected to be dissolved, although the creation of a more permanent strategic standards group may well be a key recommendation. In any event, CEN/ISSS would expect an appropriate interface with many of the projects, regardless of whether they are taken further by the COPRAS project. These include AMICA, DICOEMS, ARTEMIS, INFOBIOMED, CLINICIP.

The following table indicates specific issues indicated by the projects and the standards bodies that may be addressed.

Project	Specific Issues	May be addressed by
ARTEMIS	Semantics to annotate Web services (based on the existing standards such as HL7 and CEN ENV 13606) and will be specified in OWL; “Integrating Healthcare Enterprise” (IHE) work on extending clinical document sharing across enterprises. Principles already well visible in a draft are: exchange of documents in a variety of formats, without any kind of format translation; communication protocol based on Web services, ebXML, HTTP; distinction of document repositories and document registries; Patient Identification Process (or protocol) that allows issuing a distributed query for health records of a patient, even if only partial information on the patient is available and there is no unique Patient Identifier; related Web service enhancement standards like WS-Security, WS-Privacy, WS- Policy standards will be used for this purpose; Tools for creating Web Services from existing Medical applications, for semantically annotating Web services, for storing medical ontologies specified in OWL into Registries, for Publishing Web Services together their semantics to the Registries, for Semantic Advertising/Discovery Mechanisms for P2P Semantic Routing, for semantic query formulation to the P2P network and for Web Service Composition in P2P Network	CEN/TC251, CEN/ISSS eHealth Focus Group and CEN/ISSS WS on Data Protection.
AMICA	Medical data encoding, storage, retrieval, integration, security, evidence based medicine and medicinal products (drugs)	CEN/TC251, CEN/ISSS eHealth Focus Group and CEN/ISSS WS on Data Protection
DICOEMS	Privacy issues: https; data integrity; DB encryption;	CEN/TC251,

	WLAN security issues and GRID certificates integration; System architecture: Web services; Web semantic and ontology; medical protocols and ontologies; Data fusion techniques based on Bayesian algorithms; Robustness of connection; Patterns recognition.	CEN/ISSS eHealth Focus Group and CEN/ISSS WS on Data Protection.
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Further to the above, it should be noted that:

- In the case of AMICA, COPRAS could be particularly useful in keeping the Project in touch with the state of the art in standardization;
- DICOEMS has a connection with the Call 2 Strategic Objective on GRID-based systems and might therefore be postponed until that call.

AMICA and ARTEMIS have made explicit resources available for standardization activities (3m/m and 1-5 m/m respectively).

Most of the Projects with standards-related activities have schedules which coincide well with the timing of the COPRAS Project. In particular we note that the ARTEMIS dissemination plan is due mid 2005, which should allow input from cooperation through COPRAS.

3.3.10 Technology-enhanced learning and access to cultural heritage

In this Strategic Objective, 6 projects (37,50%) – as indicated in the table below – responded to the questionnaire.

AGAMEMNON	BRICKS	E-LEGI
TELCERT	UNFOLD	ICLASS

Three of these projects identified technologies, specifications or other output that is intended to be or contribute to a European or global standards or otherwise addresses standardization issues while several projects are already in the process of deploying activities together with standards bodies inside as well as outside the COPRAS consortium.

The most relevant areas of standardization as identified by the projects are:

- Learning content management systems and interoperability (key or important issues for: AGAMEMNON, E-LEGI, ICLASS, TELCERT, UNFOLD);
- Learning design (key or important issues for: AGAMEMNON, E-LEGI, ICLASS, TELCERT, UNFOLD);
- Taxonomies, vocabularies & ontologies (key or important issues for: AGAMEMNON, E-LEGI, ICLASS, UNFOLD);
- Multimedia access to digital content (key or important issues for: AGAMEMNON, E-LEGI, ICLASS, UNFOLD);

Further to these, lesser common areas for standardization among the projects are:

- Open architecture & systems (AGAMEMNON, E-LEGI, ICLASS, UNFOLD);
- User interfaces & accessibility (AGAMEMNON, UNFOLD);
- Digital libraries (ICLASS);
- Digitization and preservation of cultural heritage (AGAMEMNON, UNFOLD);
- Image analysis (AGAMEMNON)

Of the projects responding, 3 indicate having a more or less concrete perspective on their contribution to standardization, notably the projects E-LEGI, ICLASS and UNFOLD. The remaining 3 projects (AGAMAMNON, BRICKS and TELCERT) either did not indicate a specific standardization organization they would like to contribute to, or have not yet initiated the process of deploying standardization related activities in coordination with standards bodies or industry consortia. How-

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ever, the issues addressed by TELCERT may be quite relevant to the activities of one or more COPRAS consortium partners.

The table below shows the areas where these projects intend to contribute to (ongoing) standardization work as well as the standards bodies that would be capable of addressing these areas.

Project	Specific Issues	Is or may be addressed by
E-LEGI	GRID services - the service oriented architecture for the GRID and in their relation with Web Services technologies	Open Group
	eLearning Specifications, especially learner modeling and group activity modeling (i.e. IMS-LD)	W3C, OASIS, IMS , CEN/ISSS WS-LT
ICLASS	Development of a technical framework where educational or related services will be delivered; The OMG's Model Driven Architecture standards will be followed by the project; in addition use and enhancement of several IMS specifications is expected.	mainly IMS and CEN/ISSS WS-LT, partially OMG, DVB
TELCERT	Certification of and conformance to standards; the project intends to enhance the uptake and value realized from eLearning standards such as LOM, LD, SCORM, QTI, and EDS by providing for the first time a testing based conformance regime and supporting tools based on open architectures and technologies to assure interoperability.	Open Group; IMS, OKI; BSI IST/43; UK eLearning Implementers Group.
UNFOLD	IMS Learning Design, including IMS Meta Data; taxonomies of pedagogies, and Units of Learning using cultural heritage as a learning resource.	IMS

Further to the above, it should be noted that:

- The topics being addressed by the E-LEGI project are of important topics for several ICTSB members and are areas where standardization work is underway creating an opportunity for the project to influence or establish emerging standards. In particular, The Open Group is active in quality of service standards and architectural standards related to GRID based systems, and W3C are actively addressing semantic web topics which is closely aligned with the Semantic Grid concept promoted by the project. In addition, COPRAS can provide assistance in addressing standards being established by IMS, which is an important organization for e-Learning standards outside of the ICTSB community, but which liaises closely with the CEN/ISSS Workshop on Learning Technologies (WS/LT).
- The ICLASS project has resources identified at the requirements stage to evaluate and identify the appropriate standards for incorporation in the project results. In addition, a specific work package has been established for activities related to dissemination, exploitation and standardization with approximately 20 person months anticipated actions to disseminate project results with the objective to establish new or enhanced standards. The project is an IP with a long duration of 54 months, which makes it likely that project results that would lead to standardization may be delivered beyond the timeframes of the COPRAS project. However, further contact with the project should be taken to confirm this is the case. Overall, the project has specific objectives to influence e-Learning related standards. Resources are allocated for participation in standards bodies to track standards, as well as for disseminating results to standardization bodies to influence the evolution of existing standards. The project is quite long so the timing may be beyond the scope of COPRAS. If the timing is appropriate, they would appear to be a good candidate. It is to be noted that in addition to IMS, CEN/ISSS WS-LT has also a number of activities (building on the IMS work) that are of likely relevance.
- TELCERT is in a key focus area for COPRAS partners, some of which provide certification capabilities for standards. Applicable eLearning specifications include LOM, LD, SCORM, QTI, EDS, where projects intending to influence one or more of these standards could partner with the TELCERT project through a cluster organized by COPRAS, and linked to

CEN/ISSS/WS-LT who liaises with all existing eLearning standards bodies. The underlying technology for conformance is potentially applicable to many other domains where local requirements and variations from a specification can be expressed through an application profile. While the project is not developing standards, they would be an interesting part of a cluster with one or more other projects as this project provides a vehicle for establishing and reinforcing standards. Interactions with ICLASS should be organized by COPRAS as ICLASS is intending to influence standards that TELCERT is addressing for certification and interoperability.

- UNFOLD is a Coordination Action within the eLearning priority that in some ways undertakes activities similar to COPRAS but focused in a specific area. The project has as one of its activities coordination of standardization actions amongst the other research projects. One of the results expected from the project is close collaboration with IMS.

Three projects (E-LEGI, ICLASS, UNFOLD) have resources available for standardization activities. Apart from E-LEGI and ICLASS, it seems the timing of all the other projects is in line with COPRAS' timing (in terms of its capabilities of defining a Standardization Action Plan). TELCERT has no resources allocated towards standardization, though much of project work is specifically in support of standardization

In terms of timing, the ICLASS and E-LEGI projects have a lifespan of 54 and 42 months. It is therefore possible the timeframe for undertaking tasks in support of new or extended standards may be beyond the timing where COPRAS can substantially contribute and the project results that would lead to standardization may be delivered beyond the timeframes of the COPRAS project. The timing for the UNFOLD and TELCERT projects however is well within the COPRAS timeframe. Despite some issues with respect to timing and resources that would have to be addressed however, all 4 projects would be good candidates for the COPRAS Programme in view of the specific topics they address and should be characterized tier 1 projects.

3.3.11 CA, SSA and PLAM projects

As it has shown from the previous sections, COPRAS expects STREP and IP projects to be the most obvious ones benefiting from cooperating through the COPRAS Programme, as these projects are most likely to deliver concrete contributions to (ongoing) standardization activity, while NoEs, due to the nature of their projects would be best served participating in the COPRAS Community.

Although the latter is valid as well for most of the SSA, CA and PLAM projects responding to the questionnaire, some additional attention should be given to these, as several of them have objectives similar to COPRAS, although within the boundaries of their specific Strategic Objectives. Consequently, there may be mutual benefits for COPRAS and these projects in closer cooperation. In order to determine this, the following projects have been reviewed:

BREAD (2.3.1.3)	AgentLink III (2.3.1.7)	XBRL in Europe (2.3.1.9)
SIDEMIRROR (2.3.1.4)	BIP (2.3.1.8)	VE-FORUM (2.3.1.9)
SPECTRUM (2.3.1.4)	AVISTA (2.3.1.8)	eSCOPE (2.3.1.10)
MWEB (2.3.1.6)	eUSER (2.3.1.9)	CALIMERA (2.3.1.12)
KB20 (2.3.1.7)	FLOSSPOLs (2.3.1.9)	UNFOLD (2.3.1.12)

Not all of projects listed above responded to the questionnaire (or even have been approached) and therefore information that could be gathered by COPRAS on their involvement in standardization processes is not at an equally detailed level across the entire spectrum. Nevertheless, the following generic conclusions can be drawn:

- the BREAD project has objectives similar to COPRAS as it intends to coordinate contributions to standardization processes in its specific Strategic Objective, while the MWEB project focuses on the development and adoption of industry standards;
- the AVISTA project has the dissemination of results achieved by projects as one of its focal points and the eSCOPE project among others aims at increasing the deployment of newly developed technologies in the eSafety area;

- the SPECTRUM and BIP projects focus on the organization of specific events supportive to the further dissemination of projects' output.

Together with AgentLink III and UNFOLD that were already addressed in sections 3.3.5 and 3.3.10, the 6 projects mentioned above may benefit from closer cooperation with COPRAS, as they concentrate on standardization, dissemination or exploitation aspects of project's output. The remaining CA, SSA and PLAM projects largely deal with the exchange of knowledge or focus on detailed thematic areas inside their Strategic Objective.

3.4 Project clustering

The clustering of projects into 'logical' groups is part of establishing the 'COPRAS Programme'. Based on the selection criteria, the team responsible for WP3 will propose a short list of projects to the CSG. Part of the objective of this process is to define groups or 'clusters' of projects that have a similar focus with respect to standardization. In view of efficiency of the whole process it was decided to aim for 4 to 5 larger clusters in this respect, rather than for a multitude of smaller ones, taking into account the following considerations:

- 1) Clusters can be defined in a vertical way, i.e. based on existing Strategic Objective. This approach does not seem to be the right one, since there are 10 Strategic Objectives with quite a different number of projects that seem to benefit from participating in the COPRAS Programme. For example in Strategic Objectives 2.3.1.10 and 2.3.1.11 there are only few projects actually addressing standards related issues COPRAS consortium partners are able dealing with. For some of the other areas these numbers are considerably higher, also when looking at the projects that actually have resources available for standardization activities projects: Strategic Objective 2.3.1.12 has 4 projects and Strategic Objective 2.3.1.9 even 7.
- 2) Clusters can also be defined by grouping projects around a similar standardization focus in the same group or cluster. This may lead to combining projects addressing different Strategic Objective areas horizontally, which may lead to reduction of the number of project clusters and increase the number of projects per cluster. This approach seems to be the most natural. This may cause some difficulties, because projects in the different Strategic Objectives cover different research areas and the questionnaires they responded to contain different questions for defining detailed standardization issues in these areas. However, there are clear communalities between several Strategic Objectives as far as standardization issues are concerned (for example Strategic Objective 2.3.1.3 and 2.3.1.4 both address broadband access issues).
- 3) Finally, clusters may be defined as groups of projects interfacing with the same standardization body. This approach may however cause confusion since technical bodies or working groups within the same standards body may not always have the same approach or focus with respect to specific standardization issues. While doing the clustering, this approach however should be considered as well.

Although the clustering process will be decided upon in conjunction with the selection of projects, a combination between the horizontal and vertical approaches seems the most suitable method for clustering projects for the COPRAS kick-off meeting and Programme.

3.5 Quality review project analysis process

Tasks in Work Package 3 cover the analysis of the information gathering report, the definition and application of project selection criteria and the organization of the kick off meeting. The work is largely based on the achievements in WP2 and is aimed at selecting at least 8% of the projects that were addressed in the previous Work Package. As far as concerns the quality of work it is necessary to state that during this phase of the project the input from all consortium partners as well as from other relevant industry groups into the process of analyzing the information and defining the selection criteria was sufficient and balanced and – with respect to the actual information analysis process, there was no need to put contingency measures into place. The potentially relevant standards bodies and industry groups have been identified, and the responsibilities for contacting these to the different members of the project team have been allocated. However, there was some delay

in a process of verifying the interest of the concerning standardization bodies in the project outputs identified. This is caused mainly due to the holiday's period.

3.6 Lessons learned from Call 1 projects analysis

The information analysis and project selection processes for call 1 have been fairly successful. Nevertheless, in order to improve the quality of the processes for call 2, several observations have been made. Since WP3 is largely based on the WP2 output, the following recommendations are more or less related to the methodological steps of the both work packages:

- i. More time is needed for contacting individual projects that have not responded to the first invitation or the reminder to fill out the questionnaire;
- ii. Some kind of additional guidance should be given to the project team members in the matter of "Focus Groups", their relation to the standardization bodies and the mechanism of their involvement to call 2;
- iii. When sending out the questionnaire, more importance should be given to an accompany information, e.g., insist on the answers using the "wording phrases" instead of indicated only a level of importance of a given issue for the project;
- iv. The questionnaire should include a question related to the project timing, e.g., when an output related to standardization is expected; this is important in order to understand the linking between the COPRAS and project timing;
- v. Substantial parts of WP3 work should be done till the middle of July to avoid of the "holidays problems".

4. Conclusions & recommendations

In total, the information analysis process for call 1 can be considered as fairly successful. When reviewing the steps in the process, the methods applied, appear to have been adequate to achieve the intended results however, there may be room for improvement. In this respect, better communication and marketing of COPRAS' benefits for research projects prior to or during the information gathering process (e.g. at concertation meetings) may increase response to the questionnaire.

As far as concerns the quantity of the information gathered, it can be considered as sufficient from the WP 3 tasks point of view. However, the recommendations based on the observations during the WP3 running and indicated in the previous section could improve the quality of the information gathered and make the process of the information analysis and project selection easier.

Additionally, the information analysis process for call 1 show a majority of work will have to be done before the middle of July in order to prevent the difficulties with contacting the projects and other relevant bodies during the holiday period. Even the process of additional contacts with those projects that did not respond in a defined period should start substantially earlier, since the process of re-contacting the projects at the beginning of July did not bring expected results.

Nevertheless the facts mentioned above the results from the project information analysis can be considered as a good basis for subsequent methodological steps building the COPRAS Programme and COPRAS Community.