

First

*Implementing cooperation on Future Internet and ICT
Components between Europe and Latin America*

Objective ICT-2009.9.1: International cooperation

Project 248753

D6.7 Manual for Training courses

Date of preparation: 15/08/2010

Start of the project 01/01/2010

Project coordinator: Antonio Alfaro

Rose Vision

Version 1.0

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Document Properties:

Document Title:	D6.7 Manual for Training courses
Document responsible:	TESEO
Author(s)/editor(s):	TESEO
	ROSE VISION
Target Dissemination Level:	PU
Status of the Document:	Final
Version	1.0

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PART I – GENERAL INTRODUCTION

1.1 The European Union and the European Commission

Originally created in 1957 as the European Economic Community, the EEC evolved over the years into the European Union, formed at the time of writing by 27 member states. The European Union is a supranational organisation to which its member states have devolved part of their sovereignty on matters of common interest. The EU activities revolve around several institutions, three of which can be considered its pillars:

- F*- The Council of Ministers, where the national interests are represented, is an organ of intergovernmental governance at a political level
- F*- The European Parliament, where deputies from every Member State are elected, which has evolved into an increasingly important organ. Although the Parliament is not exactly the equivalent of national parliaments with full legislative power, it is strongly associated to the European legislative process and can substantially influence the content of European laws (regulations and directives)
- F*- The European Commission is the executive backbone of Europe. Like a state organisation, it is divided into directorates general, in charge of different policies (External Relations, Agriculture, Trade, Competition, etc.). It is usually the European Commission that initiates the legislative process. The European Commission is also in charge of managing several funding programmes to support political objectives of the EU.

For the areas of our interest, we will restrict our investigation to the Research policy and to two of the main directorates general in charge of implementing it, DG INFSO (Information Society) and DG RTD (Research and Technological Development)

1.2 The EU Research Policy

The overall research policy of the European Union is based on the so called Lisbon Strategy, adopted at the Council of Ministers held in 2000 in the Portuguese capital. The Lisbon Strategy is based on the idea that Europe should build a knowledge based society to make the EU the most competitive region in the world. Within this approach, a highly integrated European Research Area (ERA) plays a fundamental role. The Lisbon Strategy has gone in the last years through different phases of assessment and re-orientation, but it remains the main pillar of the EU strategy for research.

1.3 European research and national research

European research does not replace the research policies and programmes implemented at national level, although of course important efforts have been made and are still pursued to tune EU and national research in such a way that resources are used effectively. Though all EU Member States share the overall goal of devoting to R&D at least the 1,5% of their GDP (Gross Domestic Product), their investments in research are characterised by important differences in policies, infrastructures and spending.

Aside from running their own research programmes, all Member States participate in the common European programme for RTD, called Framework Programme for Research and Scientific Development (FP). They do so by contributing to the FP budget according to a quota calculation system that takes into account parameters like the population and the GDP. A number of other countries, not currently integrated into the EU take part in the Framework Programme with basically the same rights and obligations as the 27 Member States. These are called Associated Countries (AC), because they have concluded with the EU an association agreement to the FP. These countries are at the moment: Iceland, Norway, Liechtenstein, Switzerland, Israel, Turkey, Croatia, the Former Yugoslav Republic of Macedonia, Serbia, Albania, Montenegro, Bosnia & Herzegovina and the Faroe Islands.

1.4 The Framework Programme

Though not the only instrument to support transnational research, the FP is by far the most important integrated programme to fund research activities in Europe. Framework Programmes are usually run on a period of several years (the current one extends from 2007 to 2013). The first FP was launched in the '80s and we are currently half-way the implementation of the Seventh Framework Programme (FP7).

FPs have evolved through the years, covering more research and technological domains, increasing their budgets, associating more countries and opening to international cooperation with countries that do not belong to the EU and do not have a status of Associated Country. The most common modality through which the FP supports research is by co-financing projects of different size and duration with a minimum requirement of three different entities participating from three different Member States or Associated Countries. International Cooperation partners (or ICPC¹) can be added on top of the minimum requirements.

Though the FPs have evolved in time with a considerable degree of continuity, the FP6 (2001-2006) introduced some important novelties especially in the way the priorities of its sub-programmes are elaborated, through the so-called Technology Platforms.

¹ International Cooperation Partner Country

1.5 The Framework Programme Structure

FP7 devotes roughly 52 billion € to research over a 7 years period. A large part of the budget (about 31 billion) is spent on research projects addressing topics within 10 large thematic priorities (Information Society is one) under the so-called Cooperation component. The other three components are People (for the mobility of researchers), Ideas (for blue sky or visionary and high risk research projects) and Capacities (which covers different areas such as support to Small and Medium Enterprises, or Research Infrastructures and policy or capacity building aspects of international cooperation).

1.6 The Cooperation component

The Cooperation component is structured into 10 large thematic areas:

1. Health
2. Food, Agriculture and Fisheries, Biotechnology
3. Information and Communication Technologies
4. Nanosciences, nanotechnologies, materials and new production technologies
5. Energy
6. Environment (including climate change)
7. Transport (including aeronautics)
8. Socio-economic sciences and the Humanities
9. Space
10. Security

Each thematic priority constitutes a funding programme with own budget, work-programme, publication of calls for proposals and running projects. The calls for proposals implement, through projects, the research priorities established in every programme. All programmes adopt an overall work-programme at the launch of the FP. Work-programmes are then updated on the basis of upcoming needs in research. There is no standard interval for the update of work-programmes, but most work-programmes get updated approximately every two years.

1.7 The Work-Programmes

The work-programme of each thematic priority is commonly considered as a fundamental document for every potential participant, as every potential project idea should first of all be assessed against the topics and requirements contained in each work-programme. Though the scientific content is of course based on the specific needs of the thematic areas they address, work-programmes usually follow a common structure, with an introduction highlighting the overall drivers and orientations of research in the thematic priority, making reference to background EU policies and referring to the expected impact of research in the different areas.

Work-programmes are then broken down into large chapters called Challenges that describe macro research areas (ie. ICT for Health). Every Challenge is subdivided into Topics, that is

sections that describe specific areas of research in which projects will be funded. Topics are sometimes split into outcomes, when in a given research field different projects might address a common topic from different perspectives or by promoting different (and in most cases complementary activities). Each Topic is usually accompanied by specific provisions related to how many projects, of which type and with which budget will be supported in the different calls for proposals. As a work-programme extends its validity usually for two or three calls for proposals, it usually contains a table or calendar for the implementation of calls for proposals, where indications are given as for the timing of calls publications and closure. The actual date of calls opening and closing can in reality differ (although it often coincides) from what written in the work-programme. It is then therefore highly recommended that potential participants consult EC (European Commission) sources or relevant websites and refer in their work only to the deadlines as published in the calls for proposals.

1.8 Functioning through competitive calls for proposals

Funding is assigned to consortia (composed of at least three participants) after evaluation of proposals submitted at the deadlines given by the “calls for proposals”. Calls for proposals are official documents² by which the EC “starts the game”. Calls for proposals are published at least three months before their deadline. A call for proposals typically states in which topics of the work-programme proposals can be submitted, with which typology of projects, and at which deadline. All proposals must be submitted electronically through the EPSS (Electronic Proposal Submission System) usually by 17.00 CET (Central European Time). No additional paper documents are needed at the time of proposal submission. Calls for proposals are not descriptive documents. In most cases they only refer to the topics codes as published in the work-programmes. Although calls for proposals are essential documents (especially to know which exact deadline applies) most of the technical information on the research fields and types of projects that can be funded is to be found in the work-programmes.

1.9 Type of projects and funding

Any proposal submitted in the FP7 must fit one of the different funding schemes (in EU jargon a funding scheme means a type of project) foreseen by the programme. In most cases the calls for proposals are very precise in detailing which funding schemes can be used for a given topic. The main funding schemes under the cooperation component of the FP7 are the so-called Collaborative Research projects, which are distinguished in Small-Medium scale and Large Scale projects. Under the FP6 these were also identified as STREPS (Specific Targeted Research Project) or IP (Integrated Project). The legal requirement of at least three legal entities from different Member States or Associated Countries apply to both types of projects, but in practices larger consortia are preferred.

² Calls for Proposals are published on the Official Journal of the European Union. They are also available on several other web sources among which Cordis (the Commission Research and Development Information Systems) and other websites.

A small-medium scale proposal would be typically submitted by a consortium of 6-8 partners and be characterised by a strong focus on one given research challenge. Funding may reach 3M€.

A large scale project has usually a more “systemic” approach and can combine several research activities in different fields converging towards an integrated result. Large scale projects have wide consortia, a higher budget (10-15M€ funding is not rare) and tend to be driven by the large industry.

As well as the collaborative research projects, NOEs (Networks of Excellence) support the establishment or consolidation of networks devoted to the exchange of information among (mainly) academic institutions. Other funding schemes such as the CSA (Coordination and Support Actions) support smaller scale projects that do not perform research activities, but rather help researchers in dissemination, sharing of knowledge, organisation of events and conferences, production of roadmaps, etc.

Funding to research in FP7 is based on the principle of co-financing at 50% of research activities. However universities, research centres, public entities, SMEs and no profit organisations benefit from a 75% funding to research activities.

Non research activities can also be funded (mostly in large scale projects) at the following rates: management (100%)³, demonstration (50%), other activities (dissemination, training) (100%).

1.10 ICT is the largest theme

With an overall budget of around 9 billion €, ICT is the most important thematic priority of the Cooperation component. The ICT programme is structured into 7 Challenges and covers both basic and applied research. Whereas three of its challenges address areas considered as “technology pillars” (ie. network security, grids, components and systems), four other challenges address application areas such as health, energy, transport or environment. Funding to ICT research is also provided by other areas of the FP or external programmes that are connected to it and function according to its rules. It is worthwhile mentioning the FET (Future Emerging Technologies) programme that funds visionary research under two different funding schemes (FET Open and FET Proactive), and the programmes run by the (JTIs) Joint Technology Initiatives (see section 2.2 to know more on this subject) on embedded systems (ARTEMIS) and nanoelectronics (ENIAC). More recently the European Commission, in collaboration with the industry and academia, has put efforts into the launch of PPPs (Public Private Partnerships) meant to function as “autonomous” funding programmes within the context of FP7 calls for proposals. Three PPPs have been launched in the second half of 2009 on EEB (Energy Efficient Buildings), FoF (Factories of the Future), and the Green Car

³ Under FP6 a ceiling of max. 7% of the contribution requested to the EC applied for management. Such provision is no longer applied in FP7 but management costs exceeding a 10% would need to be clearly justified.

initiative. An additional PPP is in the process of being launched on the Future Internet (see section 2.6.2).

1.11 What's behind the ICT work-programme

The main scope of work-programmes is to inform the scientific and research communities on which specific research priorities are pursued by the ICT programme. While it is important, in order to participate, to have a clear vision of what research is needed under the different topics and challenges, it is also essential to understand how these priorities are formulated and included in the work-programme. Understanding how given themes become priorities for the ICT programme is key to being able to take action in time and with the right partners. The elaboration of work-programme at the beginning of an FP, or its update during the FP implementation are very long processes that may take up to 18-24 months before a work-programme is validated and adopted by the EC and published as an official document. Work-programmes are produced directly by the EC (with contributions from several technical units), but take into account the needs, interests and priorities of the Member States and Associated Countries, and of the research constituency. These inputs are usually channelled through two parallel processes. At an institutional level, each Member State or Associated Country expresses its priorities through “national delegates” (see section 1.11). Inputs from the scientific community are usually obtained through the mechanism of the ETPs (European Technology Platforms, see section 2.1).

1.12 The national delegates and the Programme Committee

As well as on the input of industry and the scientific community, work-programmes reflect the national priorities for research and technological development. These are usually expressed in the so-called programme committees where national delegates and national experts attend, mandated by their governments, to express the priorities that their countries wish to see addressed in the work-programmes. Programme Committee meetings take place usually on a monthly basis. Member States and Associated Countries appoint one ICTC (ICT Committee) delegate and a number of national experts (so as to cover different areas of the programme). Only one representative per country can vote at the Committee meetings. There is a weighing system for votes expressed by the Member States. Associated Countries do not vote but can freely express their views on the work programme and other issues. The Programme Committee decides on very important matters among which the work-programme composition and the approval of retained projects under each batch of the ICT calls for proposals.

PART II – ETPs AND FUTURE INTERNET

This chapter intends to shed light on the function of Technology Platforms in the priority setting process of European research. The first sections provide general information on the ETPs and on the way they operate, which is in most cases common to all research areas. The other sections go into depth with the themes connected to the Future Internet, the ETPs that are active in it, the main projects which have been deployed so far and the future perspectives also in the light of complementary initiatives launched by the EC (like FIRE Future Internet Research and Experimentation) or by the Member States.

2.1 The Technology Platforms (ETPs)

The European Technology Platforms were introduced in FP6 (2001-2006) as a way to structure the provision of input by the industrial and scientific communities to the European Commission on which research priorities should be addressed by the different programmes. There are today 35 Technology Platforms (plus one on Renewable Heating and Cooling in the process of being formed) on various themes of the FP. Nine of these cover ICT areas mostly corresponding to challenges, topics or research fields addressed by the ICT thematic priority. ETPs usually function as consultation bodies or networks of research organisations (private or public) formed by a large number of participants. Their mission is to clearly express and structure the need for research in specific areas of their competence. The typical outcome of an ETP's work is the so-called SRA (Strategic Research Agenda). SRAs can be considered as "position papers" in which the research constituency of a given field illustrates the research orientation and needs of its scientific domain. Very often, the work-programmes adopted by the European Commission take into high consideration the indications provided by the SRAs. Being able to participate in the ETPs means obtaining or even shaping information and content that are regularly reflected in the work-programmes and in the calls for proposals. The SRAs are usually produced as a "research manifesto" of the ETPs and get updated whenever the need to include new research fields or modify previous positions within a given area arises. The oldest ETPs have so far produced two versions of their SRAs. Though there is no standardised structure for the internal organisation of ETPs, most of them get organised into a Steering Committee (usually representing different components such as the large industry, academia and SMEs), which coordinates or integrates the work and conclusions of specialised Working Groups. The ETPs are run directly by their members and different rules for membership or internal mechanisms of cooperation can apply. The general and common principle is anyway that they are open to membership from any European organisation with proven interest and skills in their own research fields. The success of the ETPs model has inspired also national mechanisms for consultation within several EU countries. This is contributing to improve the coordination between nationally supported and EU funded

research. A gateway page to the individual websites of all ETPs is available at: http://cordis.europa.eu/technology-platforms/individual_en.html

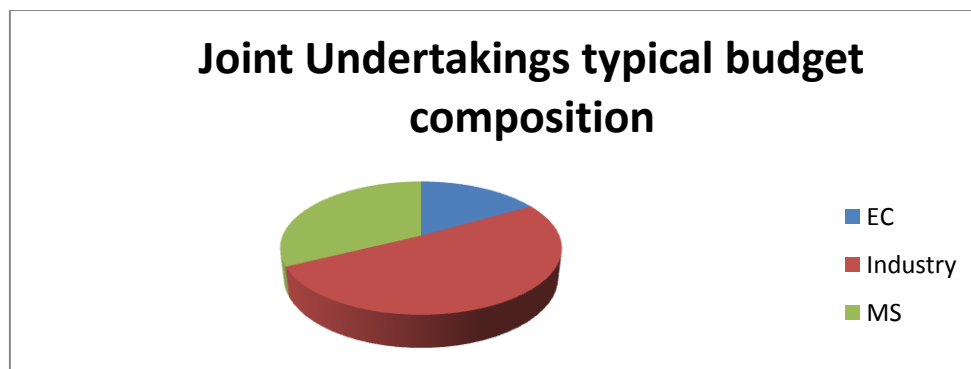
2.2 The Joint Technology Initiatives (JTIs)

The Joint Technology Initiatives have been created by the European Commission in most cases as a further development of activities already promoted through the Technology Platforms. JTIs are typically “public-private partnerships”. They have been promoted towards the end of FP6, beginning FP7 and unlike the ETPs, whose mission is priority setting, they evolve into “autonomous” funding programmes, where a substantial amount of the budget (usually around 50%) is directly provided by the industry. JTIs are a way of implementing large-scale applied and industrial-based research activities, based in part on the needs identified by ETPs. ETPs are not funded by the Framework Programme, whereas JTIs can be. As of June 2010 there are two Joint Technology Initiatives operating in ICT research: the ARTEMIS Joint Undertaking in the field of Embedded Systems and the ENIAC Joint Undertaking in the field of Nanoelectronics. Both were originated by work carried out in the related ETPs (ARTEMIS and ENIAC). Other JTIs are active in the fields of: Fuel Cells and Hydrogen, Aeronautics and Air Transport and Innovative Medicines. An additional one is in the process of being created in the field of Energy Efficient Buildings. Unlike the ETPs, JTIs manage real “funding programmes” in charge of selecting research projects through a call for proposals mechanism similar to the one implemented in FP7. The managing bodies of the JTIs are the so-called Joint Undertakings (JU) where the industry, the European Commission and the Member States are represented. The origin of JTIs’ budget may vary depending on their specific rules. The ARTEMIS and ENIAC JUs function in a very similar way with budget contributions approximately split around the following percentages:

ℱ- EC, 16,7%

ℱ- JU Member States⁴, 32,3%

ℱ- Industry, 51%



⁴ Member State means here an MS that has decided to participate in the funding of projects selected through the JTIs. For instance ARTEMIS is directly supported by 22 EU Member States.

JTIs have not formulated yet a clear international cooperation policy. Though there are no formal limitations to participation from third countries organisations in projects funded by the JUs, funding to any entity originating from a country that does not directly support the JU is limited to the EC share (16,7%).

2.3 What do ETPs do? Activities within Technology Platforms

The primary mission of European Technology Platforms is to obtain and process input by the scientific and industrial community and transform it into priorities that are in most cases transmitted to the EC through the Strategic Research Agendas. Almost all work-programmes in the different thematic priorities are largely inspired by the priority setting of the SRAs. The ETPs are usually organised as “loose” consultation bodies with a secretariat being handled by one of its members (for some ETPs secretariat services are provided via ad hoc support projects). Rules or policies regarding membership can vary from case to case. Some ETPs tend to be more open than others, but the main criterion by which members are accepted is that they demonstrate their full involvement into research activities within the scientific field covered by the ETP they apply for. Some ETPs charge a membership fee (which can vary depending on the member’s type), others don’t. Most ETPs have a management committee or management board where different types of members are represented. For instance in the ARTEMIS ETP on Embedded Systems, SMEs are represented by two members in the board. Below the board most “hands-on” operations on the identification of specific research priorities are run by working groups. ETPs may have as many working groups as they consider appropriate to efficiently address the key issues emerging in their research areas. It is through work carried out in the working groups that specific positions on research are proposed and then confirmed (or emended) by the board within the Strategic Research Agenda. In most ETPs membership is limited organisations from the EU or associated countries.

2.4 The ETPs of the ICT theme

As of June 2010, there are 9 Technology Platforms explicitly dealing with ICT research themes. Other ETPs deal with themes falling under thematic priorities of the FP7 (Energy, Environment, Nanotechnologies, etc.) but have in some cases interest towards multidisciplinary research that encompasses ICT⁵. The 9 ICT related ETPs are listed in the table below. The right hand side column indicates the year in which the latest version of their Strategic Research Agenda has been produced.

⁵ See for instance the Smartgrid ETP on Electricity Networks of the Future, <http://www.smartgrids.eu/>

ETP	Theme	Website	SRA latest version
ARTEMIS	Embedded Systems	http://www.artemis.eu/	2006
ENIAC	Nanoelectronics	http://www.eniac.eu/	2007
EPOSS	Smart Systems Integration	http://www.smart-systems-integration.org/public	2009
ISI	Integral Satcom Initiative (Satellite technologies)	http://www.isi-initiative.org/	2006
eMOBILITY	Mobile and Wireless Technologies	http://www.emobility.eu.org/	2009-10
NEM	Networked Electronic Media	http://www.nem-initiative.org/	2009
NESSI	Software and Services	http://www.nessi-europe.eu/	2009
PHOTONICS 21	Photonics	http://www.photonics21.org/	2010
EUROP	Robotics	http://www.robotics-platform.eu/cms/index.php	2009

2.4.1 ARTEMIS

The ARTEMIS European Technology Platform represents the field of Advanced Research & Technology for Embedded Intelligence and Systems. The ARTEMIS-ETP started in 2004 and produced a Strategic Research Agenda (SRA) in 2006: the ARTEMIS SRA. The ARTEMIS SRA gives a vision, mission, goals and strategy, as a Pan-European guideline for the research, technology and innovation in the field of ARTEMIS.

In January 2007, the key members of the ARTEMIS-ETP founded the ARTEMIS Industry Association (ARTEMISIA) registered under Dutch law. The association was set up to take over and continue the activities of the ARTEMIS ETP and to set up with the Commission and Member States a Joint Undertaking (JU). The ARTEMIS Joint Undertaking was launched as the first ICT based JTI (Joint Technology Initiative), in charge of running a funding programme through competitive calls for proposals funded by the industry, the European Commission and the 22 Member States that take part in the JU.

A two-tier approach to research activities is taken: on the one hand the SRA should address the R&D challenges that will allow Europe to compete effectively in the future markets of ambient intelligence and to realise a number of visionary applications in the interest of society at large; on the other hand, the SRA will address structural weaknesses and obstacles, such as openness of middleware and standards, fragmentation of research, or the development of a state-of-the-art research infrastructure.

The Steering board of ARTEMISIA is currently formed by three groups⁶ (SMEs, research organisations and corporate).

2.4.2 eMobility

The Mobile and Wireless Communications Technology Platform has the overall objective to reinforce Europe's leadership in mobile and wireless communications and services and to master the future development of this technology to serve Europe's citizens and the European economy.

The implementation plan of the eMobility ETP revolves around activities planned on different time horizons (short-medium and long term). The most immediate challenges are: the refinement of the Strategic Research Agenda for research and development in mobile and wireless systems beyond 3G; Establishment of links with related activities and sectors e.g. broadcasting; Active efforts to bring together national and local authorities to promote an environment conducive to the development of the mobile and wireless communications sector in Europe. In a longer run, specific international cooperation activities are foreseen especially to establish peer to peer relations with Asian and American research programmes.

The Steering Board in charge for 2010-2011 is chaired by Werner Mohr of NSN (Nokia Siemens Network). Ericsson, Alcatel Lucent Deutschland and Gowex are also represented. The Steering Board coordinates activities of three “stakeholders groups”: Industry, Research and SMEs.

2.4.3 ENIAC

The European Technology Platform on Nanoelectronics and its governing structure European Nanoelectronics Initiative Advisory Council (ENIAC) have the mission to bring together the leading players of the sector to develop and implement a coherent European vision, making the best use of European talent and infrastructures to ensure European leadership. ENIAC gathers European research centres, major producers of semiconductors, materials, equipment and applications, high technology small and medium-sized enterprises, national and regional authorities, universities and financial institutions.

Like ARTEMIS in the Embedded Systems, ENIAC has evolved into a JTI (Joint Technology Initiative) that funds research projects through calls for proposals. The JU (Joint Undertaking) in charge of organising the ENIAC activities as a JTI is AENEAS (Association for European NanoElectronic Activities) a non-profit industrial association established under French law. Association to AENEAS is open to all European key players in Nanoelectronics, such as large industry, Small and Medium Enterprises, research institutes, academia, and associations.

Membership in AENEAS is organised in three “Chambers”: A for SMEs; B for Research organisations; C for Corporate.

⁶ See the full list at: https://www.artemis-association.org/artemis_steering_board

2.4.4 EPoSS

EPoSS, the European Technology Platform on Smart Systems Integration, is an industry-driven policy initiative, defining R&D and innovation needs as well as policy requirements related to Smart Systems Integration and integrated Micro- and Nanosystems.

A group of major industrial companies and research organizations⁷ from more than 20 European Member States co-ordinate their activities in Smart Systems Integration within a vision defined in the Strategic Research Agenda on Innovative Smart Systems Integration. EPoSS brings together European private and public stakeholders in order to create an enduring basis for structuring initiatives, for co-ordinating and bundling efforts, for setting-up sustainable structures of a European Research Area on Smart Systems Integration.

At the moment EPoSS is concentrating (though not exclusively) on two main drivers of development in smart systems applications such as the Electrical Vehicle and Internet of Things (IoT). The activities of EPoSS are supported in their organisational process by the Cepass project, a Support Action coordinated by VDI VDE (Germany).

2.4.5 EUROP

EUROP, the European Robotics Technology Platform, is an industry-driven framework for the main stakeholders in robotics to strengthen Europe's competitiveness in robotic R&D, as well as global markets, and to improve quality of life. Its SRA was first launched in 2005. Its revision started in 2006, supported by the European Commission through CARE, the Coordination Action for Robotics in Europe. An Executive Summary of an intermediate version of the new SRA was published in June 2008. The final version was presented in the summer of 2009 and is currently the main document for priorities setting in Robotics R&D.

EUROP's SRA revolves around five main development areas: industrial, professional service, domestic service, security and space robotics. The extensive analysis of market developments and future opportunities as well as the ensuing strengths, weaknesses, opportunities and risks in all five sectors are clearly identified in the SRA. EUROP has a President (Bernd Liepert from KUKA, Germany) and an Executive Board. Under the Executive Board, activities are organised in work groups on different areas such as: Industrial Robotics, Professional Service Robotics, Domestic Service Robotics, Space Robotics and Security Robotics. The secretariat is run by EUnited Robotics (BE)

2.4.6 ISI

The Integral SatCom Initiative (ISI) is an industry-led action forum, in the form of an ETP, designed to bring together all aspects related to satellite communications. ISI addresses broadcasting, broadband, and mobile satellite communications, as well as their convergence, in integration within the global telecommunication network infrastructure. ISI supports all

⁷ See list at: <http://www.smart-systems-integration.org/public/about/members/eposs-members>

forms of space communication and space exploitation. ISI is an open platform, whose membership embraces all relevant and interested private and public stakeholders. ISI collaborates with the European Commission, the European Space Agency (ESA), the EU and ESA Member States and Associated States, the National Space Agencies, International Organizations, user forums, and other European Technology Platforms.

Representative sectors of interest include ICT, Space, Security, Transport, Development, and Environment. Specific policy initiatives of interest include i2010, the European Space Policy, and in general all those initiatives which can benefit from the existence of an efficient satellite communications infrastructure, or which are aimed at the development of innovative satellite services and technologies. As stated in its Strategic Research Agenda, ISI works towards the convergence and integration of satellite and terrestrial networks, both fixed and mobile, considering all interworking and interoperability aspects. It supports the development of applications and services according to a user-centric approach, to enable all citizens to become full members of the knowledge-based society. ISI addresses the integration of satellite communications with navigation, Earth observation, and Air Traffic Management systems.

The Chairman of ISI is Nicolas Chuberre from Thales Alenia Space. The Steering Council involves representatives from the Manufacturing, Network Operations and Service Provisions, research organisations and SMEs. Activities are run by working groups dealing with regulatory matters, R&D, users, Future Internet and Security.

2.4.7 NEM

The Networked and Electronic Media (NEM) ETP addresses the convergence of media, communications, consumer electronics, and IT as a wide opportunity for future growth, by taking advantage of generalized broadband access, increased mobility, availability of richer media formats and contents, as well as new home networks and communications platforms.

The Networked and Electronic Media (NEM) Initiative is focused on an innovative mix of various media forms, delivered seamlessly over technologically transparent networks, to improve the quality, enjoyment and value of life. NEM represents the convergence of existing and new technologies, including broadband, mobile and new media across all ICT sectors, to create a new and exciting era of advanced personalised services. NEM is an industry-led Initiative to promote and direct the large-scale initiative needed to accelerate the pace of innovation and rate of technology evolution to the level that will place European Industry at the forefront of the technology and give users the broadest possible choice of services.

NEM activities encompass road mapping, common experimental platforms, experimentation of business models, and feedback on customer experience and technology adoption by consumers. One of its key objectives is to build a pan-European NEM infrastructure as a sustainable technology carrier allowing integration of projects results, as a permanent

evaluation facility, to test and validate service models, and as a vehicle for international cooperation.

The current NEM chairman is Christophe Diot from Technicolor. The secretariat is jointly managed by Eurescom (Germany) for aspects related to Future Internet, governance and EU collaboration, and by Rose Vision (Spain) for international cooperation, public relations and NEM strategy.

2.4.8 NESSI

NESSI (Networked European Software and Services Initiative) is the European Technology Platform dedicated to Software and Services. The main focus of NESSI is that of service and is based on a simple concept: a service consumer does not own the service and therefore need not be concerned with all the aspects generally associated with ownership such as infrastructure, technology, integration and maintenance. Instead he/she has only to choose a service which meets his business needs. NESSI therefore deals not only with technical aspects related to software but also in large part with Service Oriented business models.

NESSI is currently one of the largest ETP in terms of membership with more than 400 registered members. It is also in the process of revising the third version of its Strategic Research Agenda.

The overall ambition and long term objective of NESSI is to create an open service framework, NEXOF, based on three core elements: the NESSI open reference model, an open specification based on a conceptual model including business dynamics, development environment and operational environment; the NESSI open reference architecture addressing the definition and selection of innovative architectural styles and patterns based on the reference model and the NESSI open reference implementation, in charge of delivering to the community at large.

The Board of NESSI is currently chaired by Reinhold Achatz of Siemens. Vice chairmen are from Atos Origin, Engineering, IBM and Thales.

2.4.9 PHOTONICS 21

Photonics21 is the Technology Platform formed by industrial enterprises and other stakeholders in the field of photonics in Europe. Presently, it accounts for more than 1.400 stakeholders registered as members from 49 countries. Photonics21 has the mission of establishing Europe as a leader in the development and deployment of Photonics in five industrial areas (Information and Communication, Lighting and Displays, Manufacturing, Life Science and Security) as well as in Education and Training.

Photonics21 has recently issued a new Strategic Research Agenda (SRA) "Lighting the way ahead" , published at the Photonics21 Annual Meeting in January 2010. The new SRA shows

how photonics can contribute to solve the major societal challenges of Europe with regard to energy efficiency, the ageing society, safety and security as well as the European knowledge society. Furthermore, it relates to the enormous growth and potential of photonics. The new SRA also figures out the major research priorities of the most relevant fields of application, which should be reflected in the upcoming updates of the ICT work-programme.

Photonics 21 has an Executive Board whose president is Martin Goetzeler from Osram. The other entities represented in the EB are Aixtron, the Warsaw University of Technology and Cube Optics. Technical activities are organised within working groups dealing with: Information and Communication; Industrial Manufacturing and Quality; Life Science and Health; Lighting and Displays; Security: Metrology and Sensors; Optical Component and Systems; Research education and training.

2.5 The Future Internet

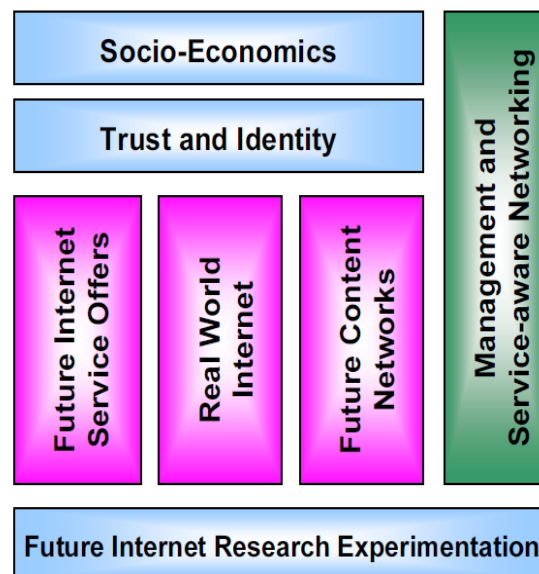
The Future Internet is commonly referred to as a broad theme that addresses the need to solve problems and bottlenecks related to Internet's current limitations. These related to several issues like the ones highlighted in "Towards the Future Internet, Emerging Trends from European Research" (2010)⁸:

- F*- Explicit multi-faceted unification, integration and orchestration of polymorphic systems.
- F*- Inherent network management functionality, specifically self-management functionality.
- F*- Facilities for the addition of new functionality, including capability for activating a new service on-demand, network functionality, or protocol (i.e. addressing the ossification bottleneck).
- F*- Facilities for the large scale provisioning, management and deployment of services; support for a high-level integration between services and networks.
- F*- Facilities for orchestration of security, reliability, robustness, mobility, context, service support, and management for both the communication resources and the services' resources.
- F*- Mobility of networks, services, and devices.
- F*- Facilities to support Quality of Service (QoS) and Service Level Agreements (SLAs).
- F*- Trust Management and Security; Privacy and data-protection mechanisms of distributed data.
- F*- An adequate addressing scheme, where identity and location are not embedded in the same address.
- F*- Facilities to interact with the physical world and seamlessly use the physical context information to enhance and improve existing services and to create the new ones.

⁸ Towards the Future Internet, G. Tselentis et al. (Eds.), IOS Press 2010

- F- Socio-economic aspects including the need for appropriate incentives, viable business models, legal and regulative issues, and the need for security and privacy.
- F- Energy awareness.

Those challenges for the Future Internet are addressed by several research areas as depicted in the figure below:



2.6 The future internet in Europe

Research around the Future Internet in the EU is organised essentially around seven interconnected initiatives, which in turn are linked to other international or national activities. These are:

- F- the Future Internet Assembly (FIA)
- F- the Future Internet Public-Private Partnership (FI PPP)
- F- the Future Internet Research and Experimentation Facility (FIRE)
- F- the ICT FP7 programme
- F- the FI related areas of JTI programmes
- F- the Future Internet Forum (FIF)
- F- the European Future Internet Initiative (EFII)

The following paragraphs provide short descriptions of each of them and of their interconnections. It should however be highlighted that research in this field shows a high level of interdependence with international initiatives such as the ones being promoted in industrialised countries like the US, Japan, South Korea etc.

2.6.1 The Future Internet Assembly (FIA)

The Future Internet Assembly was created in 2008 as one of the results of the so-called Bled Conference held in Slovenia in April 2008. It is structured as an open platform in order to

permit interactions and cross-fertilization across different technical domains, within a vision of a European approach towards the Future Internet⁹. The Bled Declaration was endorsed by a number of EU funded projects working on research areas converging in what can be defined as the Future Internet. The FIA has the mission to keep the “network” of European projects working on FI themes alive and mutually connected. It can be considered as a large, open and multidisciplinary technology platform that federates current research efforts done in the framework of different projects and produces regular input for the EU research agenda in the FI domain. The FIA runs regular conferences (twice a year) and manages a website¹⁰, which functions as a shared work tool for researchers and projects involved. The Future Internet Assembly has also published a book in March 2010, collecting 25 papers on FI related subjects: “Towards the Future Internet - Emerging Trends from European Research”, edited by Georgios Tselentis, Alex Galis, Anastasius Gavras, Srdjan Krco, Volkmar Lotz, Elena Simperl, Burkhard Stiller, Theodore Zahariadis¹¹.

The picture below lists the ETPs and projects that have endorsed the Bled Declaration in April 2008:

This declaration is endorsed by the following European Technology Platforms and European Research Projects*:

eMobility, NEM, NESSI, ISI and EPOSS

2020 3D Media	CHORUS	FAST	N-CRAVE	SAPIR	SOCRATES
4NEM	COIN	FORWARD	NESSI 2010	S-CUBE	SWIFT
4WARD	CONTENT	INTERSECTION	OPEN	SEA	TA2
ADAMANTIUM	CuteLoop	IRMOS	P2P NEXT	SENDORA	TAS3
AGAVE	DICONET	iSURF	PanLab / PII	SENSEI	TECOM
ASPIRE	E3	m CIUDAD	PERSIST	SERVFACE	THINK-TRUST
AUTOI	eCRYPT II	MASTER	PetaMedia	Service WEB 3.0	VICTORY
AVANTSSAR	EFIPSANS	MobileWeb2.0	PICOS	SHAPE	WOMBAT
AWISSENET	EIFFEL	MOBITHIN	PRIMELIFE	siSI	
CASAGRAS	eMOBILITY	MOMENT	PRISM	SMOOTH-IT	
CHIANTI	EURO-NF	NAPA-WINE	RESERVOIR	SOA4ALL	

2.6.2 The Future Internet Public Private Partnership (FI PPP)

Following a large consultation in the first half of 2009, the European Commission has decided to launch a public-private partnership (PPP) between public sectors and major ICT players devoted to the Future Internet. With an expected investment of 300 million Euros for 2011-2013, the new PPP will supplement the 200 million Euros already earmarked on a yearly basis Research and Development (R&D) under the FP7. The FI PPP will support the development of key internet technologies and open, standardised, cross-sector service platforms in order to support socio-economic efficiency of vital daily processes. It is expected that by employing novel internet technology, the efficiency of business processes and the activity of

⁹ The Bled Declaration, http://www.fi-bled.eu/Bled_declaration.pdf

¹⁰ <http://www.future-internet.eu>

¹¹ The book can be downloaded at: <http://www.booksonline.iospress.nl/Content/View.aspx?piid=16465>

infrastructures and applications of important social value can be considerably raised. Smarter internet-enhanced infrastructures such as smart energy grids, smart systems for transport and mobility, smart healthcare systems, smart environmental information systems etc will be at the core of the FI PPP efforts. A first call by the FI PPP is being launched in 2010. The European Commission will decide in the future whether to pursue efforts in this field through the creation of a new dedicated JTI¹².

2.6.3 The European Future Internet Initiative

The European Future Internet Initiative (EFII) is an initiative¹³ founded by 16 of the leading ICT companies¹⁴ in Europe to foster a new approach in the support to FI related research in Europe. In particular they want to bring together the application domains and the ICT expertise to develop an internet that fully supports the business processes of the different sectors while taking advantage of their common aspects. These are applications or services in areas such as health, ageing and inclusion, energy efficiency, environmental impact, transport, manufacturing, security and content. To meet the challenge of developing the devices, interfaces, networks and services required to support the future networked society and economy, a multidisciplinary approach led by strong European industrial stakeholders is needed, in conjunction with academia and innovative SMEs. The EFII is among the promoters of the Future Internet PPP and its members are coordinating work related to the identification of key research challenges on several topics that the PPP will address.

2.6.4 The Future Internet Research and Experimentation Facility (FIRE)

The FIRE - Future Internet Research and Experimentation - Initiative is supported by the European Commission, through the FP7, to create a multidisciplinary research environment for investigating and experimentally validating highly innovative and revolutionary ideas for new networking and service paradigms. FIRE promotes the concept of experimentally-driven research, joining the two ends of academic-driven visionary research and industry-driven testing and experimentation. To make this approach a reality, FIRE aims to create a large scale European Experimental Facility, which is built by gradually connecting and federating existing and new test-beds for emerging or future internet technologies. FIRE is therefore functioning as a “network of projects”, funded under the FP7 ICT programme. The first wave of FIRE projects was launched in summer 2008, with a budget of Euro 40M, under Call 2 - Objective 1.6 “New Paradigms and Experimental Facilities”. Two Coordination Actions (CA)

¹² COMMUNICATION FROM THE COMMISSION, COM(2009) 479 final, of 28 October 2009, A public-private partnership on the Future Internet

¹³ http://www.future-internet.eu/fileadmin/news/Call_for_Action_with_signatures_V5.pdf

¹⁴ The EFII members are: Alcatel Lucent, Atos Origin, British Telecom, Deutsche Telekom, Engineering, Ericsson, Eurescom, Nokia, Nokia Siemens Network, Orange, Sap, Siemens, Technicolor, Telecom Italia, Telefonica and Thales.

projects, Fireworks¹⁵ and Paradiso¹⁶, are now providing support and connection among the research organisations involved in the “FIRE” projects.

2.6.5 The ICT FP7 programme

The ICT programme highlights the strategic importance of the Future Internet and re-emphasises the role of experimentally-driven research. This is done also by providing direct funding to projects falling under the FIRE initiative (see above) within four interconnected outcomes (Facility, Federation, Experimentation and Science). Aside from the FIRE related topics, Challenge 1 on Pervasive and Trusted Networked and Service Infrastructures is largely devoted to support research in areas that are strongly related to the FI, focussing on Future Networks (Wireless and mobile broadband systems; High capacity end-to-end infrastructure technologies; Novel Internet architectures; Management and operation frameworks; Flexible, resilient, broadband and integrated satellite communication), Cloud Computing, Internet of Services and Advanced Software Engineering, Internet-connected objects (Open networked architecture; Adaptive Software supporting data acquisition), Trustworthy ICT (Heterogeneous networked, service and computing environments; Trust, eIdentity and Privacy management infrastructures; Data policy, governance and socio-economic ecosystems), Networked Media and Search Systems (Digital Media Delivery Platforms; End-to-end Immersive and Interactive Media Technologies; Multimedia Search). Though not explicitly referred to as FI research, other activities in the framework of the ICT programme can be linked to FI concepts.

2.6.6 The FI related areas of JTIs programmes

The Artemis JTI, dealing with research on embedded systems, has a relevant position within the federating concept of the Future Internet. Its work-programme for 2010 focuses on 8 sub-programmes¹⁷ which can be clearly connected to Future Internet themes, especially for applications related to IoT (Internet of Things) concepts.

ASP1. Methods and processes for safety-relevant embedded systems

ASP2. Person-centric health management

ASP3. Smart environments

ASP4. Efficient manufacturing and logistics

ASP5. Computing environments for embedded systems

ASP6. Security, privacy and dependability

ASP7. Embedded technology for sustainable urban life

ASP8. Human-centric design of embedded systems

¹⁵ <http://www.ict-fireworks.eu/about-us.html>

¹⁶ <http://www.sigma-orionis.com/paradiso-fp7.eu/>

¹⁷ https://www.artemisia-association.org/attachments/726/DRAFT_AWP_2010_submitted_by_IRC_to_PAB.pdf

The ENIAC JTI work-programme 2010¹⁸ on nanoelectronics focuses on specific research topics under 7 sub-programmes¹⁹ on:

SP1 - Automotive & Transport

SP2 - Wireless Communications

SP3 - Energy Efficiency

SP4 - Design Methods and Tools

SP5 - Silicon Process and Integration

SP6 - Equipment, Materials, and Manufacturing

SP7 - Healthcare and the Aging Society

2.6.7 The Future Internet Forum (FIF)

The Future Internet Forum (FIF) was set up in the context of the Future Internet Assembly held in Prague in May 2009. Its establishment responded to the need, expressed by the National ICT Directors at the ICT Event held in Lyon in November 2008 to allow Members and Associated States to share best practices and experiences, overcome fragmentation of efforts and to look for synergies across the programmes and initiatives funded at the national and EU Levels. The FIF currently gathers 20 countries with the objective to accompany technological developments with the appropriate management of people, skills, policies and resources across different countries.

Whereas the Future Internet Assembly organises the cooperation of FI related projects, the Future Internet Forum (FIF) brings together the representatives of the Member or Associated States initiatives²⁰ and activities on Future Internet. It consists of either high-level officials from the competent ministries or experts from a public or private institution mandated specifically to represent national Future Internet (FI) initiatives. The FIF is an informal group to allow that works at sharing knowledge, experience and best practices, identifying key national actors, activities and institutions and devising common approaches and

¹⁸ Funding in for research projects under the ENIAC call for proposal 2010 was foreseen in two steps with deadline for the outline of proposed projects on the 30 April 2010 and deadline for the full research proposals on the 30 July 2010.

¹⁹ http://www.eniac.eu/web/downloads/join/ENIAC_AWP_2010_PAB_46_10_pub.pdf

²⁰ The national initiatives currently active on the Future Internet are: **Austria** - Future Internet Austria; **Belgium** - IBBT; **Finland** - ICT SHOK; **France** - Groupe de Reflexion Internet du Futur - GRIF; **Germany** - G-Lab; **Ireland** - Future Internet; **Italy** - TERIT; **Luxembourg** - IPV6 Council; **Spain** - Spanish Technology Platform convergent towards Future Internet; **Sweden** - Ambient Sweden ; **The Netherlands** - Future Internet; **UK** - Internet Centre Imperial

complementarities between the various frameworks. Any Member or Associated State can join the forum at any time. The focus of the FIF is on R&D and innovation policies related to the Future Internet. In this respect, its role and responsibilities are complementary to existing groups and forums such as the FP7 ICT Committee (ICTC), the FP7 IST Advisory Group (ISTAG), the CIP-PCP Committee, the i2010 High Level Group, etc, with which the FIF strives to promote collaboration and exchange of information on a regular basis. The FIF meets twice a year, possibly in the context of European Future Internet Assembly conferences. Organisational support is provided by the European Commission.

2.7 Other initiatives at worldwide level

All industrialised countries in the world have launched research and facility initiatives to design their vision and infrastructures for the Future Internet. In the US, the main initiative is GENI (Global Environment for Network Innovation)²¹ launched by the NSF (National Science Foundation) and by the Computer Information, Science and Engineering Directorate. GENI federates several universities and research centres across the country and aims at bridging activities related to technology development with architectural issues and application opportunities. GENI's activities are structured around working groups on: Experiment Workflow and Services, Control Framework, Operations, Management, Integration & Security and Instrumentation and Measurement. In Japan the main project dealing with the Future Internet is AKARI (small light in Japanese), The AKARI Architecture Design Project (AKARI Project)²² aims at designing a new generation network architecture and is supported by the National Institute of Information and Communications Technology (NICT) of Japan. AKARI was launched in May 2006, and intends to build technologies for new generation network by 2015, developing a network architecture and creating a network design based on that architecture. The AKARI Project involves universities and companies like Tokyo University, Keio University, Osaka University, Tokyo Institute of Technology and NTT. In South Korea, the main national initiative for the Future Internet is the FIF (Future Internet Forum)²³. The Korean FIF is managed by OSIA, Open Standards and Internet Association. The forum brings together members from the government, the main Korean universities and industry. An exchange of information is already in place with the FIA (Future Internet Assembly).

²¹ <http://www.geni.net/>

²² <http://akari-project.nict.go.jp/eng/conceptdesign.htm>

²³ <http://fif.kr/home.php>

PART III - HOW TO WRITE A PROPOSAL

This part is largely inspired by work done by TESEO in the last six years in international cooperation projects within the ICT field. In 2006 TESEO organised a series of training sessions in India, in the framework of the INCITE project, and produced a project document, called STREP by STREP, meant as a practical handbook to be used by third countries applicants to better understand the proposal writing process and getting as effective as possible in submitting their own proposals or in contributing to proposals in cooperation with European coordinators. Feedback from users has always been very encouraging. The content included in this part updates the previous versions with specific provisions related to new elements such as the FP7 rules, the role of Technology Platforms, and with further tips and indications that come from hands-on experience in handling the process of submitting good quality proposals to the FP.

The following pages are based on the usual application form of a Small-Medium sized collaborative project (or STREP, Scientific Targeted Research Proposal) as in the common jargon of FP participants.

The parts in italic under the different section titles are directly taken from the application forms. The following texts in plain characters are our tips for a good proposal.

Section 1: Scientific and/or technical quality, relevant to the topics addressed by the call

(Recommended length for the whole of Section 1 – twenty pages, not including the tables in Section 1.3)

1.1 *Concept and objectives*

(Explain the concept of your project. What are the main ideas that led you to propose this work?)

Describe in detail the S&T objectives. Show how they relate to the topics addressed by the call. The objectives should be those achievable within the project, not through subsequent development. They should be stated in a measurable and verifiable form, including through the milestones that will be indicated under Section 1.3 below.)

With this part you should be able to convince the evaluators of what makes your project absolutely needed. To do so you need to describe the context in which the project intervenes, which problems or shortcomings of current state of the art it intends to solve. From the context you ideally proceed to identify the objectives and therefore the research and development activities needed to that end. While you are dealing with technical issues, do not take for granted that all evaluators know in every detail what you are talking about. Do not forget to make your descriptions understandable while technically consistent.

In a few words, you are advised to structure this part as follows:

- ✓ **Current State of the Art.** Although the State of the Art is the object of the second part of this section, it is very useful to provide here a very short description of the state of the art, so as to justify the innovative character of your project. Your proposal will be assessed based also on its potential to go beyond the State of the art.
- ✓ **Clearly state the scientific and technical objective.** Having described the State of the Art you will also have provided a picture of what is missing (eg. What technology is currently not providing, that could highly benefit the industry and/or society). Those shortcomings, or gaps, or missing links will lead you to identify the technical and scientific objectives of your project. Since current technologies allow you to do x, your project has the objective of obtaining x+y, that is of clearly going beyond the state of the art.
- ✓ **Project Rationale and Methodology.** Why you decide to tackle a given issue or problem in a given way. This provides the basis for the development of your project as “structured activities”. Once identified the problem to be faced and the objective to be achieved, you need to explain how your activities will lead to the expected result. While you are supposed to give a detailed description of the work-plan (including the methodology) in a different part of Section 1, here you need to convince the evaluators that your research and development activities are designed as a coherent path towards that result.
- ✓ **State how the project links to the objectives of the work-programme.** Do not limit this part to re-writing the objectives stated in the work-programme. Do not forget that the objectives listed in the Work-Programme summarise the needs of European research in that area and are based most of the time on background documents such as White Papers or the Strategic Agendas of the Technology Platforms or Public Private Partnerships (where applicable to your research area).
- ✓ **Precise the objectives and identify performance indicators.** Scientific and Technological objectives should be clearly expressed. While each project has final objectives, you also need to define clearly how the achievement of those objectives will be monitored and through which kinds of indicators. Performance indicators are very important to make sure that the EC and its reviewers will have well identified benchmarks to refer to when assessing the implementation of the project.

It is usually a good thing to define both quantitative and qualitative indicators and provide an estimate (to be detailed in the work-plan) of how and when these will be used during the project life-time.

1.2 *Progress beyond the state-of-the-art*

(Describe the state-of-the-art in the area concerned, and the advance that the proposed project would bring about. If applicable, refer to the results of any patent search you might have carried out.)

- ✓ Describe which products/technologies are currently available and what the trends are. Describe clearly the problem addressed (ie. What technologies and/or products cannot do right now) and the point (objective) you want to get to.

Prior to your project submission you should have carried out an extensive research identifying the main actors in your domain, and the most advanced products or technologies available.

DO NOT FORGET to check previously ICT funded projects, at <http://cordis.europa.eu/ist/projects/projects.htm>

The European Commission are not going to fund twice the same thing and you are supposed to know what is going on in Europe.

You should be consistent with the claims that your project will go beyond the state of the art and demonstrate that the consortium has all the research capacities *to be able to achieve that result*.

1.3 S/T methodology and associated work plan

(A detailed work plan should be presented, broken down into work packages²⁴ (WPs) which should follow the logical phases of the implementation of the project, and include consortium management and assessment of progress and results. (Please note that your overall approach to management will be described later, in Section 2).

Please present your plans as follows:

- i) Describe the overall strategy of the work plan.*
- ii) Show the timing of the different WPs and their components (Gantt chart or similar).*
- iii) Provide a detailed work description broken down into work packages:*
 - Work package list (please use table 1.3a);*
 - Deliverables list (please use table 1.3b);*
 - Description of each work package, and summary (please use table 1.3c)*
 - Summary effort table (1.3d)*
 - List of milestones (please use table 1.3e)*
- iv) Provide a graphical presentation of the components showing their interdependencies (Pert diagram or similar)*

The number of work packages used must be appropriate to the complexity of the work and the overall value of the proposed project. The planning should be sufficiently detailed to justify the proposed effort and allow progress monitoring by the Commission.

Any significant risks should be identified, and contingency plans described.)

The work-plan is the most technical and structured part of the project. Once you have described why your proposal is innovative and stated what the objectives are, you need to clarify how those objectives will be achieved.

i) Overall strategy of the work-plan

The work-plan has usually two equally important components, the methodology and the description of activities. It is usually introduced with a free text part (which can extend to max 10 pages) on its overall strategy, that also

²⁴ A work package is a major sub-division of the proposed project with a verifiable end-point - normally a deliverable or a milestone in the overall project.

describes the methodology and the mutual interconnections among the different activities of the project and then goes into the detail of activities, by using the appropriate forms as listed above.

It is advisable that you start working first on the description of activities, since this is the most technical part that you will also need to discuss with your partners, and which will form the basis for the calculation of the budget.

Once you have completed the description of the activities, its introduction and description of strategy/methodology will be a relatively easy task.

The overall strategy is a narrative part that explains how the project will be able to meet its objectives. In this part you will explain why project activities have been broken down into work-packages and how these activities are connected. The overall strategy should leave the evaluator with a clear idea about the input-output dynamics of the project (which partial result is feeding which other activity) and should also be explained on sound methodological ground. Do not forget that evaluators are usually very attentive to why activities are organised in a certain way rather than another. You will need to demonstrate that you have thoroughly thought about the organisation of work and that what you are proposing (sequence of activities, relative weight of each activity, partial results and responsibilities of each partner) respond in the most appropriate way to the needs of project implementation.

Whereas the “overall strategy” subsection has a narrative style, the description of activities is expressed in a series of forms, expressing different kinds of information but tightly interconnected.

ii) Timing of the different WPs and their components (Gantt chart or similar).

The best way to cope with this is the GANTT chart, which allows you to express the time span of each activity (Work-Package) of the project and the time at which partial results or deliverables are produced.

There are not specific recommendations about how to draw a GANTT chart. Ideally you should indications about the deliverables time and possibly about the duration of each Task.

The next pages contain examples of standard GANTT charts used in ongoing FP6 projects.

GANTT chart examples

1 - GANTT with detail on deliverables and milestones

WpN	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)	(M7)	(M8)	(M9)	(M10)	(M11)	(M12)	(M13)	(M14)	(M15)	(M16)	(M17)	(M18)	(M19)	(M20)	(M21)	(M22)	(M23)	(M24)				
WP 1	MANAGEMENT																											
	D1.1 M1.1	D1.2				D1.3.1						D1.3.2 M1.2						D1.3.3						D1.3.4 M1.3				
WP 2	METHODOLOGY																											
			D2.1 D2.2	D2.3 M2.1																								
WP 3	MAPPING IT EXCELLENCE																											
									D3.1																			
WP 4	DATABASE CONSTRUCTION AND MANAGEMENT																											
				D4.1 D4.6		D4.2		D4.3				D4.4.1 M4.1												D4.4.2 D4.5				
WP 5	AWARENESS RAISING TO THE INDIAN IT COMMUNITY																											
			D5.1		D5.2					M5.1									D5.3									
WP 6	TRAINING TO POTENTIAL NCP																											
						D6.1 D6.2							D6.3							D6.4								
WP 7	SUSTAINABILITY STUDY FOR POTENTIAL NCP																											
														D7.1					D7.2 D7.3		D7.4							

2- GANTT with detail on tasks

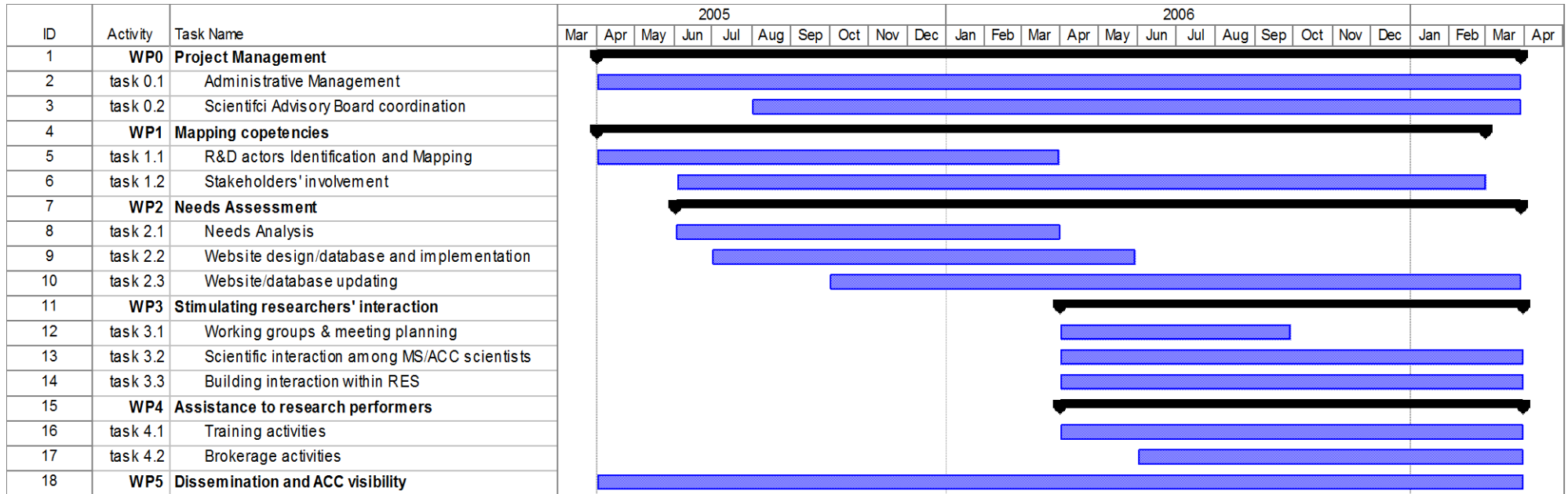


Table 1.3 a: Template - Work package list

The work-package list is expressed into a standard form (see below) which is common to all projects. You need to indicate number and title of the work-package (some examples are given in the form below), as well as the type of activity, the partner in charge of work-package coordination (this can be different from the overall project coordinator), dates of beginning and end of activities and the amount of Person Months globally needed for those activities.

You need to provide the total of Person Months, which will only be available to you after completing the Man Months Effort Matrix.

Please note that the Type of activity you indicate has an influence on the funding rate of those activities. Whereas RTD can be reimbursed at 50% or 75% depending on the type of partners involved, Management can be paid at 100% and Demonstration at 50%.

Dates of beginning and end must correspond to what you indicate in the GANTT chart.

Work package list

Work package No ²⁵	Work package title	Type of activity ²⁶	Lead partic no. ²⁷	Lead partic. short name	Person-months ²⁸	Start month ²⁹	End month ²⁹
1	Management	MGMT	1	ABC			
2	Technical Specifications	RTD	3	DEF			
3	System Design	RTD	1	ABC			
4	Architecture	RTD	5	HGI			
5	Prototype	RTD	2	RVZ			
6	Testing	RTD	4	STU			
7	Demonstration	DEM	3	DEF			
8	Dissemination	OTH	2	RVZ			
	TOTAL						

²⁵ Workpackage number: WP 1 – WP n.

²⁶ Please indicate one activity per work package:

RTD = Research and technological development (including any activities to prepare for the dissemination and/or exploitation of project results, and coordination activities); DEM = Demonstration; MGT = Management of the consortium; OTHER = Other specific activities, if applicable in this call

²⁷ Number of the participant leading the work in this work package.

²⁸ The total number of person-months allocated to each work package.

²⁹ Measured in months from the project start date (month 1).

Table 1.3 b: Template - Deliverables List

Deliverables are tangible results that are produced at a specific date (Month) of the project, according to the workplan. Deliverables are given to the EC services and they are used to monitor the performance of the project. Deliverables can be prototypes or other types of scientific and technological results, but also reports and paper documents.

They need to be listed following the delivery date order and they have to be numbered according to the work-package they refer to. For instance D2.3 means Deliverable N°3 of Work-Package N°2, D4.1 means Deliverable N°1 of Work-Package N°4.

Since you might need to add or delete deliverables while completing your proposal, you can work on an excel file and turn it into word at the end when the list becomes final.

You will also need to indicate Nature and Dissemination level according to the guidelines provided in the footnotes. In order to ensure adequate scientific dissemination, a certain number of deliverables will have to be made public, especially is the action is totally funded by the EC (it is not the case of a collaborative research project).

There is no fixed number of deliverables per project or minimum-maximum indications about how many deliverables one project should produce. It is better not to have too many deliverables, but only the ones that are necessary for the structure of the project. An average work-package has usually 2-4 deliverables.

List of Deliverables

Del. no. <small>30</small>	Deliverable name	WP no.	Nature <small>31</small>	Dissemination level ³²	Delivery date ³³ (project month)
1.1	Needs analysis	1	R	PP	M 2

³⁰ Deliverable numbers in order of delivery dates. Please use the numbering convention <WP number>.<number of deliverable within that WP>. For example, deliverable 4.2 would be the second deliverable from work package 4.

³¹ Please indicate the nature of the deliverable using one of the following codes:
R = Report, P = Prototype, D = Demonstrator, O = Other

³² Please indicate the dissemination level using one of the following codes:
PU = Public
PP = Restricted to other programme participants (including the Commission Services).
RE = Restricted to a group specified by the consortium (including the Commission Services).
CO = Confidential, only for members of the consortium (including the Commission Services).

³³ Measured in months from the project start date (month 1).

Table 1.3 c: Template - Work package description

Work-Packages are used to describe the project activities in a standardised way. You will need to use the forms below. Information given in the forms must be expressed clearly but also in a concise way. While you can use a narrative style in the “overall strategy” subsection, you should stick to a very precise description of technical activities in this form.

You are recommended to start working on this part of the project since the very beginning of your proposal writing. The work-plan is usually co-written with other partners and goes under a constant evolution until it is crystallised in its final version. Whereas some other parts (relevance to the work-programme) will mainly be read by the evaluators, the work-plan is the basis for your work and is the main source to clarify roles and responsibilities with your partners. For this reason, it needs to be very clearly structured, it has to clearly define who does what and needs to be closely linked to the description of project resources.

You will need to provide a Work Package Number (corresponding to the one used in the WP list), and a starting date (corresponding to the one indicated in the GANTT chart). The Work-Package title must reflect the nature of the work proposed.

Do not forget that the activity type has to correspond to the type indicated in the WP list and that this can influence the funding rate of those activities according to the FP7 financial rules.

In the participant rows (Number, short name and Person Months) you will need to indicate which partners are involved in the WP. There is no specific rule on the order to follow. Most proposers just list the entire partnership and if one of the participants is not involved in the WP they would put 0 in the Person Months cells.

You are advised to insert data on Person Months only at the end, when the effort of each partner per work-package has been confirmed (as by Man Months Effort matrix).

The elements that you will need to include in the Objectives, description of work and deliverables of each Work-package are shortly described in the forms below.

Work package description

Work package number	1	Start date or starting event:					M 1
Work package title						
Activity type³⁴							
Participant number	1	2	3	4	5	6	
Participant short name	ABC	DEF	GHI	
Person-months per participant	5	0.5	3.25	0.5	

³⁴ Please indicate one activity per work package:
 RTD = Research and technological development (including any activities to prepare for the dissemination and/or exploitation of project results, and coordination activities); DEM = Demonstration; MGT = Management of the consortium; OTHER = Other specific activities, if applicable in this call.

Objectives

You should describe the specific objective(s) of one set of activities. You should clearly state how this links to previous activities within the project and which kind of input it gives to other activities.

Description of work (*possibly broken down into tasks*) and role of partners

Each work-package should be broken down in tasks and each task described with a sufficient level of detail so as to allocate roles and responsibilities and quantify its associated effort. Note also that deliverables are usually a result of tasks. In many cases the description of tasks and deliverables is “parallel” with deliverables being the results of tasks. For instance if T2.1 (N° 1 of WP2 is Needs Analysis, the associated deliverable could be something like “System requirements”.

To attribute tasks and resources to partners, you’d better start from the Man Months Effort Matrix and from the forms used to calculate the budget. While you can since the start describe the activities to be carried out in each work-package, you will have the final calculation of person months associated to those activities towards the end of your proposal writing activity.

Deliverables (*brief description*) and month of delivery

Deliverables are tangible results and need to be described shortly. Since deliverables can also be a way for the EC to monitor the implementation of the project, it is quite important to avoid any vague description.

Do not forget to indicate the partner in charge of the deliverable and to make sure that the delivery date corresponds to what is indicated in the GANTT and deliverables list.

Example:

Del. 1.1 Consortium Agreement (M 2)

Del. 1.2 First year project management report (M12)

.....

Table 1.3 d: Summary of staff effort

The summary of staff effort is a fundamental document and is the basis to calculate the budget. You will need a well detailed staff effort table to allocate resources and responsibilities. It is recommended to start with the summary of staff effort since the beginning and to break it down at tasks level. Although this is not requested, it will be a much easier way for you to calculate the effort and resources and a useful tool to check how projects resources are being used when running the project.

You are advised to use an excel file to calculate the effort (see also the recommended tables for the budget calculation).

A summary of the staff effort is useful for the evaluators. Please indicate in the table number of person months over the whole duration of the planned work, for each work package by each participant.

Identify the work-package leader for each WP by showing the relevant person-month figure in bold.

Partic. no.	Partic. short name	WP1	WP2	WP3	...	Total person months
1						
2						
3						
etc						
Total						

Table 1.3 e: Template - List of milestones

Milestones are control points where decisions are needed with regard to the next stage of the project. For example, a milestone may occur when a major result has been achieved, if its successful attainment is a required for the next phase of work. Another example would be a point when the consortium must decide which of several technologies to adopt for further development.

There is no fixed number of milestones per project. The number of milestones should however be quite limited and correspond to main control points. Means of verification should correspond to indicators included in Section 1.

Milestone number	Milestone name	Work package(s) involved	Expected date ³⁵	Means of verification ³⁶

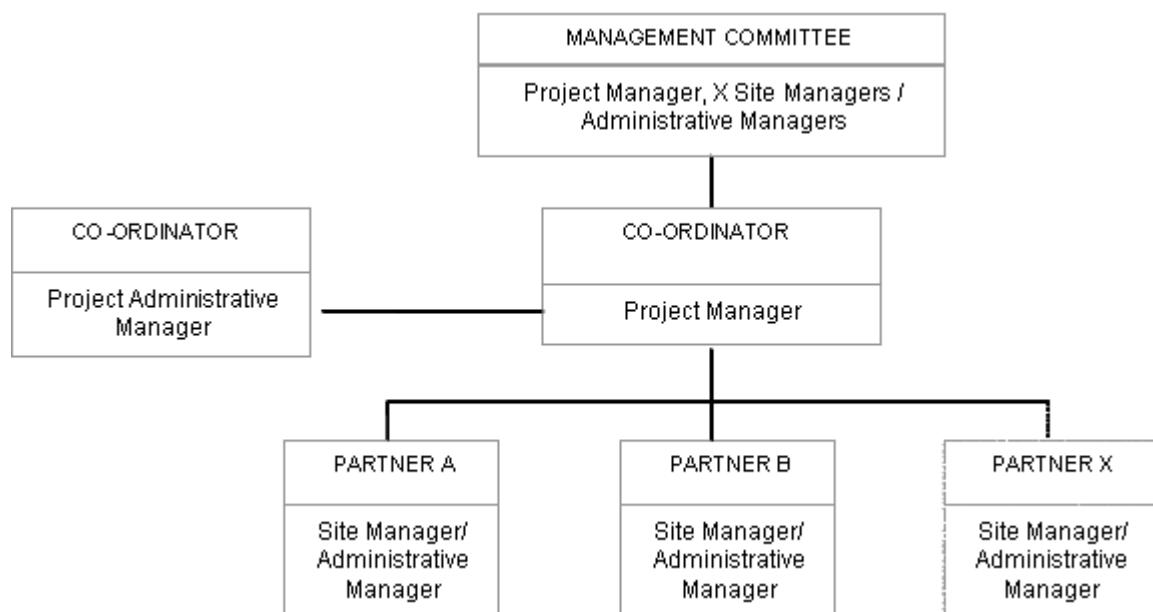
³⁵ Measured in months from the project start date (month 1).

³⁶ Show how both the participants and the Commission can check that the milestone has been attained. Refer to indicators if appropriate.

Section 2. Implementation

2.1 Management structure and procedures

(Describe the organisational structure and decision-making mechanisms of the project. Show how they are matched to the complexity and scale of the project.)



Each project is a joint effort by a group of different organisations of different countries and therefore needs to be well structured from the point of view of cooperation procedures, mutual relationships and responsibilities, as well as from the decision making point of view.

The complexity of management structure usually depends on the type of project and complexity of the work to be done.

In all projects there is always one project coordinator organisation and one Project Manager (a person), most of the times chosen by the project coordinator. The project coordinator assures the administrative and financial management of the project as well its relations with the European Commission and the Project Officer. Although in the financial and administrative guidelines there is no statement ruling against a coordinator being from an ICPC (International Cooperation Partner Country), you need to ensure that the coordinator is sufficiently experienced and in a position to stay in regular contact and if necessary run the appropriate meetings with the EC officials.

Most EC funded projects have the following bodies:

Project Manager: one experience person appointed by the Project Coordinator

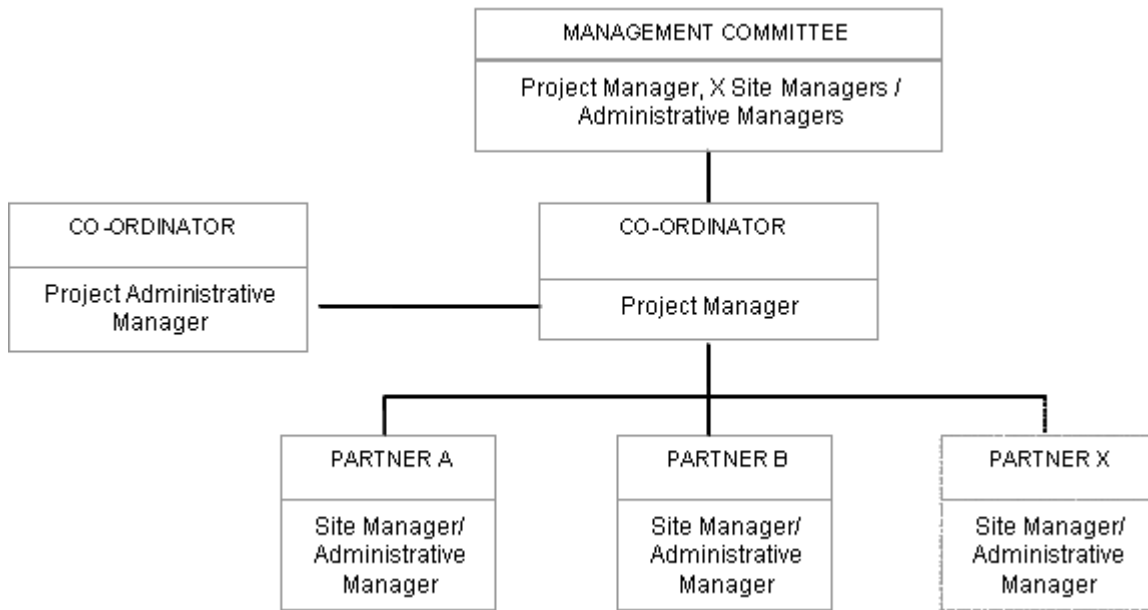
Assembly of Partners: It's a sort of assembly where all partner are represented.

Steering Committee: It's a restricted group of partners representatives that acts as a sort of government body in charge of practical decisions. They cannot anyway take decisions regarding changes on the nature of the project or on other matters that would require contract amendments (substantial transfer of activities and resources among partners, change of partners, substantial changes of activities).

There is a high degree of autonomy in setting up the management structure of a consortium.

Please note that prior to the start of the project the consortium will need to have signed a Consortium Agreement regulating the relationships among partners. IPR issues can either be addressed in the Consortium Agreement or in a separate document if the complexity of their management requires so.

The description of the Management structure and decision making mechanisms can also be illustrated graphically, for instance



This part should also clarify how internal communication is dealt with (is there a web based communication platform, do partners communicate by email, skype or other means? how often partners would meet for project meeting, how dispute resolution mechanisms work (for instance by tie cast vote by the Steering Committee) or in other forms.

2.2 *Individual participants*

(Maximum length for Section 2.2: one page per participant)

(For each participant in the proposed project, provide a brief description of the organisation, the main tasks they have been attributed, and the previous experience relevant to those tasks. Provide also a short profile of the staff members who will be undertaking the work.)

It is a common practice to provide this information into a standardised way, with roughly 1 page devoted to each organisation and followed by a number (usually 2-3) of relevant CVs in text format. Make sure all partners deliver the information to you in the correct format and language!!

Although organisations taking part in projects are mostly specialists of the research areas addressed, it is always necessary to customise the profile of the organisation and the CVs based on the objectives to achieve. You need to convince the evaluators that your team is absolutely the best to achieve those objectives and that all necessary competencies are present within the consortium.

It is also a good thing to stress previous mutual cooperation (if any) among project partners since this gives the EC a sort of warranty that people know and trust each other, whereas it would be more difficult to believe in the capacity of a team where people work together for the first time.

Any experience in international cooperation (eg. Projects in which you partners have cooperated with organisations from other countries) is worth mentioning since it will reassure the evaluators about your ability to run international projects.

2.3 Consortium as a whole

(Describe how the participants collectively constitute a consortium capable of achieving the project objectives, and how they are suited and are committed to the tasks assigned to them. Show the complementarity between participants. Explain how the composition of the consortium is well-balanced in relation to the objectives of the project.

(If appropriate describe the industrial/commercial involvement to ensure exploitation of the results.)

Differently from the individual description of participants, this section deals with the idea of the consortium as a team, the competencies of which are adequate to carry out the work. The keyword here is complementarity.

Based also on information provided in the individual profiles you will need to demonstrate that the sequence of activities illustrated in the work-plan is reflected in the skills of all partners and that the role of each of them is essential to ensure one piece of work.

Evaluators are usually quite severe about redundancies in the consortium. Avoid putting into a project organisations or companies that do exactly the same things, unless the structure of the proposal itself makes it necessary. For instance if a system needs to be tested in two different environments, you might have two partners in charge of testing, but the principle should be to only include in a consortium the necessary partners.

There is no fixed rule as for the composition of the consortium in terms of countries. However you should pay attention to make sure that the consortium is balanced and that the European dimension (the need to cover several areas of the EU) is sufficiently addressed. Rules are slightly different for Specific International Cooperation Actions, where the geographical requirements are usual established by the call for proposals.

i) Sub-contracting:

(If any part of the work is to be sub-contracted by the participant responsible for it, describe the work involved and explain why a sub-contract approach has been chosen for it.)

Sub-contracting means that a part of the work is outsourced to an external entity, which gets paid 100% for it without retaining any IPR on that work (since IPR usually belong to the consortium).

Although subcontracting is possible, you should consider it only as a last resort option, since you would need to recur to subcontracting only when the partners within the consortium cannot provide the necessary skills to a part of the work. Subcontracting should therefore be as limited as possible in terms of budget and is subject to specific procedures. The partner in charge of subcontracting (that is of coordinating and paying the work of the subcontractor) should ideally get three different offers and choose according to the best value for money principle.

You need to explain clearly why a certain activity is being subcontracted and how the subcontract will be managed.

ii) Other countries:

(If a one or more of the participants requesting EU funding is based outside of the EU Member states, Associated countries and the list of International Cooperation Partner Countries³⁷, explain in terms of the project's objectives why such funding would be essential.)

FP7 is open to the participation of almost all countries in the world, and with a few exceptions, partners from almost all countries are eligible to receive funding. In case your project includes non EU partners, you need to explain why their participation is essential or useful to the project.

The main principle should be that those partners ensure the necessary skills to carry out a certain part of the work, but you could also claim that they will provide the necessary links or contacts with a potentially interesting market.

Do not forget that the FP7 is a Research and Development Programme and the approach to international cooperation is totally different from other funding schemes such as Cooperation to Development. FP7 does not fund any infrastructural work nor (with a very limited number of exceptions) any work specifically conceived to solve the problems of one particular region.

You are bringing in competencies from non EU partners because they represent among the best resources available in that particular domain.

International cooperation partners can be included in any type of project, but you will still need to ensure the eligibility of the consortium with at least 3 partners from different EU or associated countries.

The only exceptions are the SICA (Specific International Cooperation Actions) where the requirements are 2 EU + 2 ICPC (International Cooperation Partner Countries). Please note that for big countries like China, India, Brazil and Russia you may have two partners from the same country provided they represent two different states or regions (ie in Brazil, one from Sao Paulo and one from Amazonas).

³⁷ See CORDIS web-site, and annex 1 of the work programme.

2.4 Resources to be committed

(Recommended length for Section 2.4 – two pages)

(In addition to the costs indicated on form A3 of the proposal, and the staff effort shown in Section 1.3 above, please identify any other major costs (e.g. equipment).

Describe how the totality of the necessary resources will be mobilised, including any resources that will complement the EC contribution. Show how the resources will be integrated in a coherent way, and show how the overall financial plan for the project is adequate.)

This section deals with one of the key elements of the project, its cost. This section is read very carefully by the evaluators since one of the things they need to assess when evaluating a proposal, is its “value for money” rate.

You will need to be very careful in this part of the proposal and very convincing that the money you are asking for is worth the work proposed.

Note that in FP7 you need to express the budget (costs and requested funding) of your project in a very simple form called A3. The A3 form has a very simple structure and although it is the only formal requirement in terms of how the budget should be expressed, it is by far not enough to make evaluators understand how exactly the money is being spent. This means that you need a much more analytical tool.

There are very good reasons to make a well detailed budget since the start:

- a) by breaking down costs and resources in an analytical way, you will convince the evaluators that you know exactly what you are talking about
- b) by associating clear costs to specific activities you will have a very useful management tool when running the project, since you’ll be able to track roles responsibilities and performance of different partners.

Although there are no fixed rules for structuring your budget, you should definitely take into account the following costs categories:

Personnel – the staff that will work in the project. Staff effort should be quantified in Man Months and in money (budget is only expressed in €). You can use different categories of staff (ie. an engineer would cost more than a technical assistant) and/or you can use average monthly rates especially if the work in the project is going to be done mostly by one staff category.

Travels – International projects entail frequent travels either for project meetings, or meetings with the EC or other events connected to the needs of the project. Since you won’t be able to have the exact prices for flights or hotels at the time of proposal writing you need to make estimations based on average prices. Note that most people in EC projects use 3-4 stars hotels (no extra luxury resorts) and that only Economy flights can be reimbursed.

Other costs- This category includes all the costs that are needed for project activities but do not fall within personnel, travels or subcontracting. A typical example of other costs can be printing brochures or renting a conference room for an event. When a specific type of other cost has an important weight on the budget, you are advised to include it as a specific category. For instance if you need to spend 50.000€ on equipment in a project, you would need to explain it in the budget and calculate the depreciation rate (reference formulas can be found on the EC web-sites). If project costs represent a small portion of the budget and a relatively homogeneous category (for instance other costs related to the organisation of events you don’t need to split those costs into subcategories).

Overheads – Overheads are a fixed percentage related to general expenses an organisation incurs in its daily functioning. These usually refer to rent, electricity, equipment maintenance, secretariat and/or administration. Overheads are identified by each participant and they can be established at different rates. For instance one partner could have 67% overheads, while another one 32%.

In FP7 budget, overheads are calculated as a percentage of all costs but subcontracting. For instance if Partner A has 35% overheads and its costs in a project account for 100.000€, the total costs, overheads included will be 135.000€.

Note that there is no ceiling to fixing overheads for research projects (IP and/or STREPs) but in CSAs only a 7% flat rate is applied.

You may choose out of two main methods for the calculation of your overheads: either an AIC (Actual indirect costs) method if your organisation has an analytical accounting system that traces exactly every indirect cost, or a Flat Rate system by which you can claim your overheads at 20% (or 60% if you qualify for the Special Transition Flat Rate) of all direct costs but subcontracting. You must apply the same method to all your participations to FP7³⁸.

Subcontracting – As mentioned above subcontracting can be used but only when necessary. Note that subcontracting is not taken into account when calculating your overheads. Whereas overheads refer to indirect but internal costs of organisations, subcontracting refers to direct but external costs and no overheads can be taken into account

Aside from subcontracting due to having one piece of work performed by an external entity, you may need to foresee a subcontracting cost for the audit certificates if necessary depending on your budget and according to the financial guidelines of FP7.

³⁸ The Cordis website regularly publishes the financial guidelines applicable to all funding schemes. Other projects like the Finance Helpdesk, <http://www.finance-helpdesk.org/front/ShowCategory.aspx?CatId=30> provide also very useful tips on how to deal with applications' administrative and financial matters. You should always check that your budget calculations are in line with the latest rules applied in FP7.

Section 3. Impact

(Recommended length for the whole of Section 3 – ten pages)

3.1 Expected impacts listed in the work programme

(Describe how your project will contribute towards the expected impacts listed in the work programme in relation to the topic or topics in question. Mention the steps that will be needed to bring about these impacts. Explain why this contribution requires a European (rather than a national or local) approach. Indicate how account is taken of other national or international research activities. Mention any assumptions and external factors that may determine whether the impacts will be achieved.)

This section deals with “how your project will change the world”, or “how the world will be different after the project has been implemented”. Although logically related to the objectives of the project, this part deals with a longer term and more indirect impact deriving from activities in the project.

You should explicitly refer to the “expected impact” listed in the work-programme in the part addressing the research objective you are dealing with. Do not forget the expected impact the European Commission has identified is also the result of consultation with the scientific community and other stakeholders. You might need to consult other documents while writing this part of the proposal, such as the Strategic Agendas of the Technology Platforms.

You will also need to explain why you are applying to a European funding schemes rather than a national one. You might want to stress the need for pooling the necessary competencies or the need to address European fragmentation or again the potential opening of cross-border markets. Never forget that a too “country-focussed” approach will result in a weak point for your proposal.

While describing your project, you need to position your research effort and demonstrate you know what has been done before and what is going on now in Europe or other regions of the world. You will have already made reference to the state of the art in section 1, but you would need to refer here also to other projects that have been funded by the EC or other entities in the same research area.

3.2 Dissemination and/or exploitation of project results, and management of intellectual property

(Describe the measures you propose for the dissemination and/or exploitation of project results, and the management of knowledge, of intellectual property, and of other innovation-related activities arising from the project.)

As contractors of the European Commission, you will be obliged to give some dissemination to your research projects and results. You are advised to look at the specific guidelines related to the type of project you are planning to submit to know which dissemination obligations you have to abide. In principle, since you are using public funding, you will need to disseminate information about your research work and results within the European scientific community. This obligation does usually not extend to knowledge derived by the project that can be protected by Intellectual Property Rights.

You also need to show you have very clear ideas about how the results of your project are going to be exploited. Although there is no standard way of addressing such issues in proposals, most organisations foresee to deliver within the project lifetime a Technology Implementation Plan and/or any other document that usually commits project partners to agree about steps to be taken to exploit the results of the project after completion.

At the stage of proposal writing you are not expected to produce detailed business plans, but at least to identify the directions or paths on which you intend to bring results exploitation forward.

Intellectual Property has to be addressed. As a consortium, you are free to regulate it as preferred among partners based on each individual partner interest, but you need to show to the EC that the issue has been clearly addressed and that you have a mutual understanding about it.

Regulations about the IPR can either be included in the Consortium Agreement prior to the start of the project, or be elaborated into other specific agreements (usually it is the case for more complex types of projects, such as the IPs and often the STREPs). At the stage of proposal writing you do not need to have final arrangements about IPR but the more you can show you are advanced on the issue, the better it is.

For more in depth information about IPR you can consult the financial guidelines and read about the concepts of background or foreground knowledge (knowledge which was pre-existing or that is generated by the project), or refer to the IPR helpdesk managed by the EC services.

Section 4. Ethical Issues

(Describe any ethical issues that may arise in the project. In particular, you should explain the benefit and burden of the experiments and the effects it may have on the research subject. Identify the countries where research will be undertaken and which ethical committees and regulatory organisations will need to be approached during the life of the project.)

Include the Ethical issues table below. If you indicate YES to any issue, please identify the pages in the proposal where this ethical issue is described. Answering 'YES' to some of these boxes does not automatically lead to an ethical review³⁹. It enables the independent experts to decide if an ethical review is required. If you are sure that none of the issues apply to your proposal, simply tick the YES box in the last row.)

Please note that filling in the Ethical Issue table is mandatory even if your project does not address any of the issues listed below. If it does, you have to show it fully complies with European and Member States legislation.

ETHICAL ISSUES TABLE

	YES	PAGE
Informed Consent		
• Does the proposal involve children?		
• Does the proposal involve patients or persons not able to give consent?		
• Does the proposal involve adult healthy volunteers?		
• Does the proposal involve Human Genetic Material?		
• Does the proposal involve Human biological samples?		
• Does the proposal involve Human data collection?		
Research on Human embryo/foetus		
• Does the proposal involve Human Embryos?		
• Does the proposal involve Human Foetal Tissue / Cells?		

³⁹ Projects raising specific ethical issues such as research intervention on human beings; research on human embryos and human embryonic stem cells and non-human primates are automatically submitted for ethical review

<ul style="list-style-type: none"> Does the proposal involve Human Embryonic Stem Cells? 		
Privacy		
<ul style="list-style-type: none"> Does the proposal involve processing of genetic information or personal data (eg. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction) 		
<ul style="list-style-type: none"> Does the proposal involve tracking the location or observation of people? 		
Research on Animals		
<ul style="list-style-type: none"> Does the proposal involve research on animals? 		
<ul style="list-style-type: none"> Are those animals transgenic small laboratory animals? 		
<ul style="list-style-type: none"> Are those animals transgenic farm animals? 		
<ul style="list-style-type: none"> Are those animals cloned farm animals? 		
<ul style="list-style-type: none"> Are those animals non-human primates? 		
Research Involving Developing Countries		
<ul style="list-style-type: none"> Use of local resources (genetic, animal, plant etc) 		
<ul style="list-style-type: none"> Benefit to local community (capacity building i.e. access to healthcare, education etc) 		
Dual Use		
<ul style="list-style-type: none"> Research having direct military application 		
<ul style="list-style-type: none"> Research having the potential for terrorist abuse 		
ICT Implants		
<ul style="list-style-type: none"> Does the proposal involve clinical trials of ICT implants? 		
I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

PART IV – GLOSSARY

GLOSSARY of EC related terms and acronyms

The EU jargon in the FP can be quite complex. The list provided below illustrates some of the most recurring terms and acronyms.

1	Applicant	The lead organisation within the partnership which submits the proposal (the coordinator)
2	Associated State	Associated State means a State which is party to an international agreement with the Community under the terms or on the basis of which it makes a financial contribution to all or a part of FP7.
3	Audit certificate	The audit certificate is a document provided by an external auditor certifying that the costs claimed during a specific period meet the contractual requirements established by the FP6 model contract. In FP7 it applies only to beneficiaries that receive contributions from the EC for more than 375.000€
4	Background / foreground	Background replaces ‘pre-existing know-how’ and no longer includes side-ground; ‘foreground’ replaces ‘knowledge’
5	Call for proposal	Invitation of the EC to consortia to present proposals in a specific theme
6	Consortium	Each project is developed by a group of partners that all together form a consortium
7	Consortium agreement	Document prepared by each project consortium regulating the internal procedures for management, decision-making and conflict resolution. The consortium agreement is compulsory in FP7 and also includes the management of intellectual property (prior to, during and after the end of the project)
8	Negotiation Forms (NEF)	Official administrative documents that form the Part A of an FP7 proposal. Include project title and abstract, details of the coordinator and of each partner, as well as the project budget and EC requested contribution.
9	Beneficiary	Any legal entity that is part of a project consortium.
10	Coordinator	The leading contractor of a project consortium, generally in charge of the overall coordination of the project activities and reporting to the EC.
11	DG and units	The European Commission (EC) hierarchy is structured in Directorate-Generals and Units. FP7 is managed by DG Research. Work programmes and project are managed by specific units.
12	Grant agreement	Contract between the Community and the participants concerning the performance of an indirect action establishing rights and obligations between the Community and the participants on the one hand, and between the participants in that indirect action, on the other.

13	CSA	Coordination and Support Action – FP7 funding scheme: projects are either Coordination Action or Support Actions
14	Deliverable	Tangible output of the project activities: report, database, system specification, etc...
15	Eligible costs	All actual costs (excluding VAT) incurred during the duration of the project and being essential to the development of the project activities
16	EPSS	Electronic Proposal Submission System: electronic tool for proposal submission on CORDIS
17	ETP	European Technology Platform - bringing together all interested parties in a particular sector
18	Evaluation	Stage that each proposal undergoes, during which a board of external evaluators mark the proposal and make a shortlist of proposal to be retained for funding
19	FP6/FP7	EC Framework Programme for Research and Technological Development 6 and 7
20	Funding rate and EC contribution	Percentage of eligible costs covered by EC funding; the actual amount is the EC contribution
21	Funding schemes	Types of projects (known as instruments under FP6)
22	Guide for applicants	Proposal structure and guidelines towards the presentation of a proposal
23	ICPC / INCO	International Cooperation Partner Countries
24	IPR	Intellectual Property Rights
25	IST – ICT	Information Society Technologies and Information and Communication Technologies are the specific IT-related programmes of FP6 and FP7, respectively
26	JRC	Joint Research Council
27	JTI	Joint Technology Initiative - user-driven follow-up to the European Technology Platforms (ETPs), the JTIs are a new concept that brings together different partners to take on objectives that cannot be reached via the ‘Calls for Proposals’ approach
28	Member State	All 27 member states of the European Union
29	Milestone	Control, “go-no-go”, check point in the project implementation. May or may not correspond with a project deliverable
30	Negotiation	Phase during which the EC asks clarifications and modifications to be made to a proposal before it is finally agreed upon

31	Person-month	Measurement of human resources effort, expressed in an amount of time (months).
32	Person-month rate	Average salary for an organisation to convert human effort into financial allocation
33	Project officer	EC official who is in charge of monitoring the project implementation and activities
34	SICA	Specific International Cooperation Action
35	SME	Any company with less than 250 employees, turnover and balance sheet not exceeding 50 M€ and 43 M€ respectively and that is not owned by more than 25% by an organisation that is not an SME
36	STREP	Specific Targeted Research Project: FP6 terminology; under FP7 they are referred to as Small or medium Collaborative Project
37	Sub-contractor	Any organisation providing a specific service to the project who is not part of the consortium and is selected through a tendering procedure.
38	Theme	FP7 Cooperation pillar is subdivided in 10 specific priorities called themes.
39	Work package	Project activities are subdivided into meaningful work packages, the number and content of work packages depends from one project to another
40	Work programme	Document highlighting the objectives of a specific programme (e.g. ICT theme) and desired project activities. It is the main reference document required to prepare any proposal