European Commission

Future Internet Public-Private Partnership

Work Programme 2011-2013

Communications Networks, Content and Technology

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EUROPEAN COMMISSION

Future Internet Public-Private Partnership

Work Programmes 2011-2013

FP7 Cooperation
ICT – Information and Communications Technologies

Important general remarks

This booklet is an excerpt of the official European Commission FP7 ICT Work Programme 2011-2012 and 2013. It focusses exclusively on the objectives implementing the Future Internet Public-Private Partnership (FI-PPP) which form part of challenge 1 of the above referred to work programmes.

Potential proposers are kindly request to refer to the official and complete versions of the work programmes as they provide a wider context of the FI-PPP within the overall context of the work programmes, challenge 1 and the annexes.

The Future Internet Public-Private Partnership is an on-going and open European initiative, detailed information about state-of-play, coming calls, involved organisations, how to get involved and contact information are available at www.fi-ppp.eu.

This excerpt is provided for information and easy reference only!

Further Information

- *www.fi-ppp.eu* – Portal of the on-going Future Internet Public-Private Partnership
- *ec.europa.eu/foi* – Read about the many activities the European Commission undertakes on Future Internet
- *www.future-internet.eu* – The European Future Internet portal of the FIA research community
- *cordis.europa.eu/fp7/ict/programme/challenge1_en.html* – European research and development activities related to the Future Internet

Contact

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[1] For work programme 2011-2012 (European Commission C(2011)5068 of 19 July 2011) and work programme 2013 (European Commission C(2012)4536 of 09 July 2012) see: *http://cordis.europa.eu/fp7/ict/home_en.html*

INTRODUCTION

Future Internet Public Private Partnership

The FI-PPP addresses the need to make public service infrastructures and business processes significantly smarter (i.e. more intelligent, more efficient, more sustainable) through tighter integration with Internet networking and computing capabilities.

The aims of the FI-PPP are

i) to increase the effectiveness of business processes and of the operation of infrastructures supporting applications in sectors such as transport, health, or energy;

ii) to derive possible innovative business models in these sectors, strengthening the competitive position of European industry in domains like telecommunication, mobile devices, software and service industries, content providers and media.

This requires to

i) identify, define and up-date the Future Internet requirements coming from the different innovative use cases;

ii) specify an open standardised generic framework (specification, standards, implementation and research/usage validation trials) combining the required network, data, computing and services components;

iii) adapt and complement to the specific needs of use cases.

The FI-PPP follows an industry-driven, holistic approach encompassing R&D on network and communication infrastructures, devices, software, service and media technologies; and their experimentation and validation in real application contexts. Projects under the FI-PPP are required to draw upon the wealth of results already achieved through earlier European research and to valorize them further through a systematic integration with a complete system perspective.

The FI-PPP brings together the demand and the supply sides, and also requires to involve users early into the research lifecycle. The platform to be developed will thus be used by many actors, in particular by SMEs and public administration services, to validate the technologies in the context of smart applications and their viability to support «user driven» innovation schemes.

In technical terms the FI-PPP targets a versatile (multi-use case) and open network and service platform, supported by reusable, standardised and commonly shared technology enablers (horizontal foundation) serving a multiplicity of use cases in «smart applications» (vertical sectors). Platform validation is supported through large scale trials in environments including smart urban areas and smart regions. The target platform may draw upon resources from several independently controlled domains, which drives strong requirements towards standardised interfaces. Integration of sensor/actuator networks in the platform to provide «physical world» information in support of context-aware smart applications and services is an important technological driver.

The FI-PPP is based on a three-phased approach with four tightly related Objectives and two dedicated Calls under this Work Programme. A third Call is planned under Work Programme 2013.

The major building blocks, each of them implemented through one objective, are:

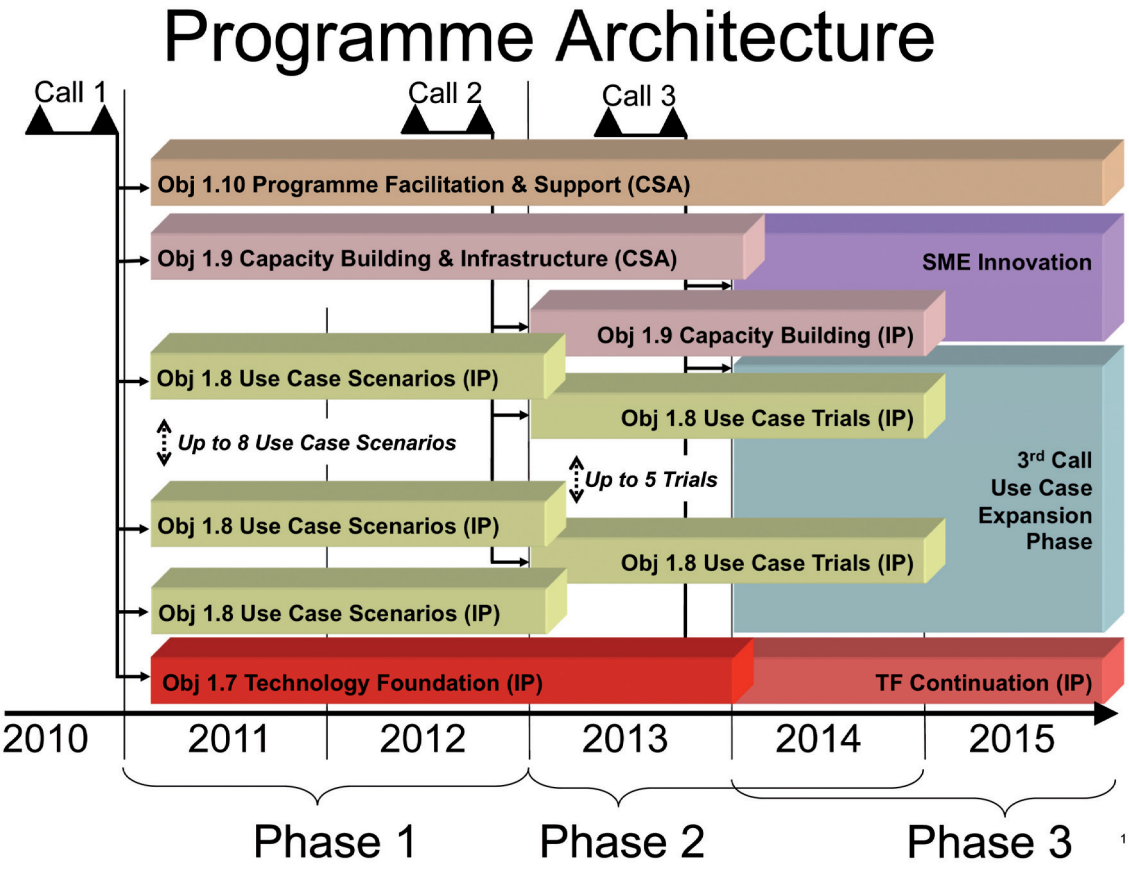
- Core Platform (1.7 -): design, develop and implement a generic, trusted and open network and service Core Platform supporting generic enablers with standardised interfaces serving multiple use cases, and making use of and integrating advanced Internet features.

- Use cases and trials (1.8 -): identify trial scenarios and derive the Internet platform requirements for a particular usage area; design, develop and implement a domain-specific instantiation of the core platform building on a selection of core platform generic enablers complemented by domain-specific capabilities; provide a limited scale testing infrastructure; validate the platform through early and large scale trials.

- Infrastructure support (1.9 -): identify existing and future advanced experimental infrastructures across Europe and integrate, federate and upgrade them towards serving large scale trials.

- Programme facilitation and support (1.10 -): Facilitate the development of an overall programme view and collaboration across all FI-PPP projects, support standardisation, SME involvement, link with regulatory and other relevant policy activities, dissemination and awareness raising.

The Programme is implemented through the following phases:



Phase 1 (Work Programme 2011-12)

- Derive the architecture and identify the common enablers of the core platform; start developing components.
- Define the usage area requirements on the Future Internet for supporting their business processes, identify the scenarios for early trials including the infrastructure to support them; and start implementing domain specific functionalities.
- Start the evaluation of test infrastructures and consider where investments need to be made to bring infrastructures to the level necessary to enable trials.
- Establish the programme support and coordination structures.

Phase 2 (Work Programme 2011-12)

- Ensure the availability of the necessary test infrastructure for the early trials,
- Develop the core platform and the use case specific functionalities, and instantiate them on the test infrastructure.
- Finalise selection, prepare and run early trials for all use cases.
- Prepare large scale trials in terms of SME participation as application and service developers and infrastructure integration across Europe.

Phase 3 (Work Programme 2013)

- Provide and maintain a stable infrastructure for the large scale trials, expand the core platform, the use case specific functionalities and their demand-driven instantiations.
- Run large scale trials populated with a variety of applications challenging the overall platform, and proving the viability of the concept.
- Prove the value of services mash-up across use cases as the bases for a new dimension of services and application.
- Involve SMEs at large as developers and providers of services and applications.

Implementation Requirements

In order to achieve a good balance between "application pull" and "technology push" and to produce viable results within a medium term time perspective (~5 years), the FI-PPP activities are implemented through a **coherent programme** with strong interdependencies between the different Objectives:

- Projects under all FI-PPP objectives are expected to pro-actively collaborate, manage their dependencies, and synchronise their activities under common FI-PPP collaboration and coordination structures facilitated by the programme support actions under Objective 1.10. It is key in the approach that boards and other advisory structures are put in place, with representatives from all FI-PPP projects, on issues such as the architecture of the core platform and its interfaces, user requirements, standardisation and certification, dissemination, large scale trials and their infrastructure, SME participation, acceptance and take-up, independent monitoring and advise, etc.

- Projects of all objectives are expected to run in parallel: collaboration between them must take place taking a spiral approach: vertical projects continuously fuel the horizontal projects with core platform and trial infrastructure requirements, whilst horizontal projects fuel the vertical projects with technological and system constraints and awareness.

- In terms of intellectual property rights and dissemination, it is expected that the FI-PPP projects under Objectives 1.7 to 1.10 agree on a programme level regime.

Proposers are expected to describe their commitment to, means and extent of collaboration with participants in the other projects under this PPP.

The FI-PPP initiative requires that the networking and services industries in Europe play a prominent role, and agree on a common specification of the Future Internet Core Platform to be developed, including its interfaces. Research and academic organisations should bring into the development their specific expertise, notably in terms of innovation and in building on earlier results achieved in relevant domains.

For what concerns the use cases and scenarios for large scale trials, it is expected that a prominent role is played by user organisations outside the core ICT industry, covering all relevant usage levels of the value chain, and including service and application providers building on horizontal business models cutting across usage areas. Here the public dimension is emphasised with public administrations having a key role in validating the technologies in environments such as smart urban areas and regions.

SMEs are expected to have a strong role across the initiative from being involved in technology development to offering services and applications in large scale trials thereby becoming a key pillar in the Future Internet ecosystems targeted by the initiative.

WORK PROGRAMME 2011-2012 (Phase 1 and 2 of the FI-PPP)

Objective FI.ICT-2011.1.7 Technology foundation: Future Internet Core Platform

Target outcomes

The design, development and implementation of a generic, trusted and open **network and service Core Platform** making use of and integrating advanced Internet features supporting the uptake of innovative «smart applications». This includes the specification of open standardised interfaces from this Core Platform to use case-specific instantiations addressed by projects under Objective 1.8. A major aim is to offer Core Platform functionalities that can be generically reused in multiple usage contexts to support «smart applications» of various natures.

The engineering and scaling-up of advanced Internet technologies, enriched by the necessary integration and functional components, enabling a comprehensive capability for generic and use case specific services and applications is a major research and innovation aspect of the Core Platform. The work requires a comprehensive system view of the Internet, underpinning the convergence of network-centric approaches of operators and telecom equipment manufacturers with web-based and service-oriented approaches of the software and service providers and integrators. This requires the involvement of the relevant stakeholders ensuring that convergence.

Generic Enablers are a key feature of the Core Platform. They offer functionalities that can be reused and composed for a multiplicity of use cases. Core platform functionalities need to cover a range of networks, service, devices and computing technologies that may be flexibly put together to serve innovative Internet use cases and their operational requirements. Typical Core Platform functionalities include:

- the general capability to draw upon resources from several independently controlled domains through ad-hoc aggregation or virtualization of resources;
- upgraded network capabilities, covering requirements derived from innovative Internet use cases and from the operational needs of smart infrastructures;
- adapted network/service management schemes including traffic flow optimisation, trust and security;
- Sensor and actuator networks coupled to the Internet through a uniform reference architecture and supporting real time «context aware» application capabilities;
- generic service infrastructure capabilities enabling application-related services, «things» and contents to be visible and accessible by end-users within and across domain-specific instantiations in a uniform way enabling «services mash-up»;
- information processing capabilities enabling the filtering, composition, sharing and intelligent exploitation of huge amounts of data in support of context aware applications and enabling «mash-up» applications;
- trust and identity capabilities enabling end-users, devices, digital objects and service providers to be identified globally and across multiple domains in a trusted manner;
- where and if appropriate, platform federation and interoperability between platforms, or instantiations thereof, from an architectural perspective and beyond data integration.

Developments using the Core Platform functionalities will be made open through use case-independent application and service development tools including application programming interfaces and software development kits. These tools will form a key target outcome, and will be made available to developers for the purpose of the trials and validation phase. Beyond an open development environment, it is also expected that the Core Platform functionalities can eventually be implemented through open specifications available to third parties under fair, reasonable and non discriminatory schemes (FRAND).

The dynamic specification of the Core Platform functionalities largely depends on the requirements stemming from the identified use cases. The testing infrastructure, on which the core platform is to be implemented in phase 2 will be provided by the Objective 1.8, building the starting point for large scale experimentation and validation across multiple use case scenarios in phase 3. Therefore, an efficient collaboration with the projects generated under the Objective 1.8 is a mandatory requirement, especially for the definition of common Generic Enablers to be provided by the Core Platform.

In this context, it is expected that relevant partners of projects implemented under Objectives 1.8 and 1.9 contribute to a Core Platform architecture board, to be chaired by the chief architect of the core platform.

The Target Outcomes of this Objective are:

i) System design: through research covering the specification and design of the functionality and interfaces of the Core Platform;

ii) Early prototyping: the phased development and maturing of a reference implementation with a convincing subset of the targeted capabilities of the Core Platform;

iii) Early implementation and validation: the provisioning of the Core Platform on a medium scale pan-European Future Internet testbed infrastructure supporting use case specific experiments.

In order to reach the target outcomes, the proposed work needs to demonstrate:

- The valorizations of earlier Future Internet research through integration within a complete system perspective;

- The largest extent of reusability of technological elements for multiple use cases;

- The commitment, backed by appropriate mechanisms, to collaborate with other FI-PPP activities;

- The potential for exploitation through user driven innovation;

- Openness and related approach towards standardization.

- The potential for innovation and related market impact, which is the main driving requirement of the FI-PPP implementation.

- It is imperative that the proposed partnership includes leading European industrial actors for all those technologies that are called upon to realize the multifaceted objectives of the Core Platform, especially in the software/services and networking domains.

Links to other activities

The Core Platform provides:

i) Members to the boards and advisory structures implemented under Objective 1.10,requiring representatives of all active projects in the FI-PPP;

ii) The architectural model, the common enablers, the SDK/API and their usage, the interfacing requirements to the projects implemented under objectives 1.8, 1.9, 1.10; iii) Standardizations requirements and contributions to the Co-ordination action under 1.10

Funding schemes

One IP

Indicative budget distribution and duration

- EUR 41 million; at least 30% of the budget is expected to be kept flexible for distribution among new partners; these new partners will be selected through Open Calls to allow for responding to emerging user needs not identified or known from the outset.

- Duration: 3 years

Call: FP7-2011-ICT-FI

Objective FI.ICT-2011.1.8 Use Case scenarios and early trials

Target outcomes

The work focuses on vertical use case scenarios whose intelligence, efficiency, sustainability and performance can be radically enhanced through a tighter integration with advanced Internet-based network and service capabilities.

The target use cases should cover innovative applications scenarios with high social or economic impact making use of advanced Future Internet capabilities. Without being restrictive, examples of such target use cases include systems for utilities like the electricity grid, for traffic and mobility management, for health, and for ubiquitous access to networked digital media. Each proposed use case is expected to utilize technologies and functionalities leapfrogging current innovative Internet technologies, such as context awareness and sensor networks, advanced real time information processing capabilities handling huge volume of information, ad-hoc service composition and mash-ups, managed broadband connectivity and services, embedded media support for interfaces easing the interpretation of processed contextual data, etc.

The work includes use case characterization; specification of platform requirements; development and technological validation prototypes, and large scale experimentation and validation. Of particular importance for each selected use case is the identification of usage specific requirements versus generic requirements that can be implemented through Generic Enablers. The latter will be developed by the Objective 1.7 which takes a central role in collecting requirements and defining generic enabling capabilities and interfaces, feeding them back into the specifications for the use case experiments. It is expected that a prominent role is given to user organisations covering all relevant usage levels of the value chain. The definition and preparation of the experimentation sites may be complemented by the provisions made under the Objective 1.9. Multiple sites throughout Europe are targeted for the implementation of experimentations and validations.

The activities are undertaken in two consecutive phases:
Target outcomes after phase 1:

i) A comprehensive set of detailed technical, functional and non-functional specifications for an experimentation in the given use case, including the characterisation of use case scenarios; the identification of Generic Enablers and architectural requirements to be developed through the Core Platform Objective, complemented by domain-specific capabilities including the definition of open interfaces and interoperability requirements and their validation as domain-specific sub-systems; the assessment of existing R&D activities to build on; and the drafting of a strategy towards contributing to standardisation in the respective application fields.

ii) Development of domain-specific capabilities and conceptual prototypes demonstrating critical technological solutions and the overall feasibility of the approach suggested for phase 2.

iii) A phase 2 implementation plan, including a detailed analysis of the potential experimentation infrastructures, and a plan for user community building.

Target outcomes after phase 2:

i) Working experimentation sites building upon common components and Generic Enablers as provided under the Core Platform Objective complemented by the identified use case specific capabilities;

ii) Selected test applications implemented on these experimentation sites;

iii) Validation of the openness and versatility of the Core Platform and its software development kit, through implementation of mixed use case scenarios originating from more than one use case project;

iv) A detailed plan for how to move into phase 3, including detailed plans for the large scale expansion of platform usage facilitated by local and regional stakeholders including SMEs.

In order to reach the target outcomes, the proposed work need to demonstrate:

- The valorizations of earlier Future Internet research within a complete system perspective;
- The commitment, backed by appropriate mechanisms, to collaborate with other FI-PPP activities;
- Openness and related approach towards standardization.
- The potential for innovation and related market impact, which is the main driving requirement of the FI-PPP implementation.

Links to other activities

The projects implemented under this objective provide:

i) Members to boards and advisory structures implemented under Objective 1.10, requiring representatives of all active projects in the FI-PPP;

ii) Scenarios, functional specifications, enabler requirements, interface requirements, reference implementation for trials, test case scenarios to the projects implemented under objectives 1.7, 1.9, 1.10; relevant information to the other projects implementing Objective 1.8, in the same phase or in a following one.

iii) Standardizations requirements and contributions to the Co-ordination action under 1.10

Phase 1 Funding schemes

- Up to 8 IPs; with priority given to maximising the spectrum of use cases covered.

Indicative budget distribution and duration

- EUR 5 million per use case project

- Duration: max 24 months

Call: FP7-2011-ICT-FI

Phase 2 Funding schemes

- Up to 5 IPs, with priority given to maximising the spectrum of use cases covered.

Indicative budget distribution and duration

- 13.5 M€ per use case project; at least 10% of the budget is expected to be allocated through Open Calls to allow for local solution providers and system integrators to get involved.

- Duration: max 24 months

Call: FP7-2012-ICT-FI

Objective FI.ICT-2011.1.9 Capacity Building and Infrastructure Support

Target outcomes

The goal is to leverage existing public investments in advanced infrastructures to support advanced experiments demonstrating the versatility of the Core Platform across a multiplicity of heterogeneous environments and use cases: Several European regions or urban areas are increasingly becoming equipped with advanced infrastructures (e.g. sensor platforms, advanced broadband wireless networks, server farms and service environments, energy grids, content delivery networks). Where applicable, it is also encouraged to leverage EU-wide infrastructures. The FIRE initiative is building a dynamic experimental infrastructure for Future Internet research and experiments whilst the national research networks together with GÉANT are providing a European high capacity and high performance inter-domain communication infrastructure with virtualization capabilities, which is connected across the world.

The aim is hence to identify, taking a pan European perspective, those infrastructures that could eventually be integrated with the Core Platform to support large scale experimentation and validation, and to identify the related interoperability requirements. These interoperability requirements will also help the definition of Generic Enablers under the Core Platform Objective, as they will drive the required level of virtualisation making it possible to seamlessly integrate various heterogeneous infrastructures and to federate them according to use case requirements.

This Objective requires putting in place a partnership strategy with the infrastructure owners or operators, public or private, and a detailed understanding on the operational usage taking into account that these supporting infrastructures will be used in different trials. Finally, supporting infrastructures need to be upgraded according to research results driving additional requirements and constraints to support the target use cases.

Target outcomes after phase 1:

i) The identification of existing and future advanced test and experimental infrastructures across Europe and the associated technological constraints that need to be overcome to use these for conducting large scale (ultimately user driven) experimentation and validation of innovative, integrated Future Internet applications. It is expected that the identified infrastructures also cover urban areas and regions in the EU 12.

ii) The maintenance of a web-based repository of available infrastructures potentially engaged in trials and of their key functional characteristics;

iii) The identification of the usage-related operational constraints derived from these infrastructures;

Target outcomes after phase 2:

i) The integration of some of the identified infrastructures relevant to support or complement the early trials of phase 2, satisfying the interoperability requirements characterised by the generic enabler definition of the Core Platform .

ii) The necessary adaptation, upgrade and validation of the infrastructures in view of supporting usage requirements stemming from the experimented use cases and a mix of those.

iii) The assembly of a pan-European federation of test and experimental infrastructures satisfying the interoperability requirements, equipped with the functionality of the core platform by the start of phase 3 to support the validation through large scale trials in representative environments.

In order to reach the target outcomes, the proposed work need to demonstrate the commitment, backed by appropriate mechanisms, to collaborate with other FI-PPP activities.

Links to other activities

The projects implemented under this objective provide:

i) Members to boards and advisory structures implemented under Objective 1.10, requiring representatives of all active projects in the FI-PPP;

ii) Supported functionalities, interfacing requirements, virtualization requirements, usability constraints to the projects implemented under objectives 1.7, 1.8, 1.10;

iii) Where appropriate, standardizations requirements and contributions to the Co-ordination action under 1.10.

Phase 1Funding schemes
- One CSA

Indicative budget distribution and duration
- EUR 3 million

- Indicative duration: 3 years

Call: FP7-2011-ICT-FI

Phase 2 Funding schemes
- One IP

Indicative budget distribution and duration
- EUR 12.5 million

- Indicative duration: 2 years

Call: FP7-2012-ICT-FI

Objective FI.ICT-2011.1.10 Programme Facilitation and Support

The primary objective of the Programme Facilitation and Support action is to design and facilitate the programme coordination, thereby ensuring collaboration between projects, SME involvement, links to standardisation and to regulatory and other relevant policy activities, dissemination and awareness raising. In doing so it draws significantly on the work of all FI-PPP projects.

The implementation of the FI-PPP activities across a limited set of highly interrelated projects requires the set-up of a comprehensive coordination and support mechanism. Furthermore the objective of this activity is to address all other non-research activities that are needed for a successful implementation of the FI-PPP.

Its target outcomes are as follows:

- Establish the adequate mechanisms for collaborations between projects, namely by facilitating information exchange, articulation between roadmaps, exploitation of synergies and consensus building. These would include the setting up of boards or advisory structures composed of representatives of all the projects implemented under objectives 1.7 to 1.9.

- Support the development of a set of key performance indicators and success criteria, to analyse the progress and achievements of the FI PPP. This includes the collection of the data, interpretation for management use and communication towards internal and external stakeholders

- Support and coordination of the necessary standardisation stemming from the target core platform, the use case scenarios and the trials; set-up a FI-PPP-wide certification programme for relevant enabling functionalities and services; coordination of the FI-PPP contributions to international standardisation so as to maximise impact and ensure that industry in Europe capitalise on the results. This includes the study and the development of a programme «IPR, use and dissemination rights» regime to be adopted by the FI-PPP as a whole (at programme level rather then only project level) and may require legal expertise and advice provided to the various projects.

- SME oriented measures such as awareness raising, training programme, incentive schemes, joint actions with local and regional authorities and innovation actions, and other necessary support work. This will support, inter alia, the identification of the ecosystems of service and application oriented SMEs around the trial locations of all projects selected under objective 1.8 in view of developing an approach on how to maximise their involvement in phases 2 and 3 in an open way;

- Contributions, including debates, related to the EU policy development and regulatory issues, made towards/with relevant bodies and organisations at EU and Member States level and elsewhere; studies and proposals regarding the necessary regulatory evolution, making it possible to operate a distributed Future Internet platform across Europe, with a perspective of an internal market for trusted and secure e-services, e.g. related to public sector priorities;

- Development and execution of consistent and coherent programme-wide public relations strategy towards the different audiences (EU level/regional and specialist/general public). This includes dissemination and awareness activities at all levels, in particular dissemination activities towards European urban areas and regions, awareness raising actions targeted at policy makers e.g. responsible for local or regional developments; support and co-ordination of FI-PPPs participation to conferences (technical and non-technical), exhibitions and fairs; preparation of high quality dissemination material, including publications and the programme website.

Given the key role of the advisory boards composed by representatives of all the FI-PPP projects, the Programme Facilitation and Support action should, at the beginning of Phase 2 and Phase 3, analyse and evaluate the suitability and efficiency of the facilitation and support mechanisms put in place for the preceding phase, with the aim to improve them if necessary.

Funding schemes

- One CSA

Indicative budget distribution and duration

- EUR 6 million

- Indicative duration: 5 years

Call: FP7-2011-ICT-FI

Expected Impact of the FI-PPP (The 4 objectives described above)

- Significant increase of the effectiveness of business processes and novel approaches to the operation of infrastructures and applications of high economic and/or societal value. This will be supported by reappraised Internet architectures, services and technologies in large-scale application contexts;

- Reinforced industrial capability on novel service architectures and platforms, building on the longer-term requirements of the Internet and encouraging players in Europe to embrace the challenges of smart infrastructures;

- New opportunities for novel business models based on cross-sector industrial partnerships built around Future Internet value chains, involving users and public authorities at local, regional and national levels, and providing SME players with opportunities to offer new products, equipments, services and applications.

- Creation of new European-scale markets, overcoming potential fragmentation, for smart infrastructures, with integrated communications functionality, contributing to economic growth and to European leadership in global ICT applications markets.

- Evolution (not clean slate) of Future Internet infrastructure compatible with the emergence of open, secure and trusted service platform for building networked applications that can be leveraged through user-centred open innovation schemes;

- A comprehensive approach towards regulatory and policy issues such as interoperability, openness, standards, data security and privacy within the context of the Future Internet complex and 'smart' usage scenarios. This may also address the required methodologies, procedures and best practice needed to address transnational aspects where a high degree of public-private co-operation is needed. Participation of the public sector in the FI-PPP will be a key asset to progress in these non-technological issues.

Budgetary Notice:

The budget amounts for the 2011 Future Internet PPP are from the 2011 budget, under the condition that the draft budget for 2011 is adopted without modification by the budgetary authority. The remaining amount the 2012 PPP Calls is indicative and is expected to be added from the 2012 budget for which a new financing decision to cover the budget of that year will be requested at the appropriate time.

Call title: "Future Internet"-2011

Public-Private Partnership "Future Internet"

- Call identifier: FP7-2011-ICT-FI
- Date of publication[1]: 20 July 2010
- Deadline[2]: 2 December 2010 at 17.00.00 (Brussels local time)
- Indicative budget[3,4], : EUR 90 million
- Topics called:

Challenge	Objectives	Funding schemes
Challenge 1: Pervasive and Trusted Network and Service Infrastructures	FI.ICT-2011.1.7 Technology foundation: Future Internet Core Platform	IP
	FI.ICT-2011.1.8 Use Case scenarios and early trials (Phase 1)	IP
	FI.ICT-2011.1.9 Capacity Building and Infrastructure Support (Phase 1)	CSA
	FI.ICT-2011.1.10 Programme Facilitation and Support	CSA

- Eligibility conditions:
  The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

  Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

  The minimum number of participating entities required, for all funding schemes, is set out in the Rules for Participation. See Appendix 1 of the ICT work programme for further details on the minimum number of participants.

- Evaluation procedure:
  - A one-stage submission procedure will be followed.
  - The evaluation criteria and sub-criteria (including weights and thresholds), together with the eligibility, selection and award criteria, for the different funding schemes are set out in Annex 2 to the Cooperation work programme.

  Proposal submission must be made by means of the European Commission's Electronic Proposal Submission Service (EPSS) on or before the published deadline. Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

- Particular requirements for prioritisation of proposals with the same score[5]:

  The procedure for prioritising proposals which have been awarded the same score (ex aequos) within a ranked list is described below. It will be applied successively for every group of ex aequo proposals requiring prioritisation, starting with the highest scored group, and continuing in descending order:

  (i) Proposals that address topics not otherwise covered by more highly-rated proposals, will be considered to have the highest priority.

  (ii) These proposals will themselves be prioritised according to the scores they have been awarded for the

[1] The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.
[2] The Director-General responsible may delay this deadline by up to two months
[3] The budget for this call is indicative. The final budget awarded to actions implemented through calls for proposals may vary:
- The final budget of the call may vary by up to 10% of the total value of the indicated budget for each call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call

[4] Under the condition that the draft budget for 2011 is adopted without modification by the budgetary authority
[5] For this call, the procedure detailed below replaces the procedure foreseen in Annex 2 for the handling of tied scores.

criterion impact. When these scores are equal, priority will be based on the scores for the criterion scientific and/or technological excellence. If necessary, any further prioritisation will be based on other appropriate characteristics, to be decided by the panel, related to the contribution of the proposal to the European Research Area and/or general objectives mentioned in the work programme.

(iii) The method described in (ii) will then be applied to the remaining ex aequos in the group.

- Indicative evaluation and contractual timetable: It is expected that the grant agreement negotiations for the shortlisted proposals will start as of January/ February 2011.

- Consortia agreements: Participants in all actions resulting from this call are required to conclude a consortium agreement.s

- The forms of grant which will be offered are specified in Annex 3 to the Cooperation work programme.

Call title: "Future Internet"-2012

Public-Private Partnership "Future Internet"

- Call identifier: FP7-2012-ICT-FI
- Date of publication[6]: 17 May 2012
- Deadline[7]: 24 October 2012 at 17.00.00 (Brussels local time)
- Indicative budget[8,9]: EUR 80 million
  See indicative budget breakdown in section 7 of the ICT work programme.
- Topics called:

Challenge	Objectives	Funding schemes
Challenge 1: Pervasive and Trusted Network and Service Infrastructures	FI.ICT-2011.1.8 Use Case scenarios and early trials (Phase 2)	IP
	FI.ICT-2011.1.9 Capacity Building and Infrastructure Support (Phase 2)	IP

- Eligibility conditions:
  The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

  Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

  The minimum number of participating entities required, for all funding schemes, is set out in the Rules for Participation. See Appendix 1 of the ICT work programme for further details on the minimum number of participants.

- Evaluation procedure:
  - A one-stage submission procedure will be followed.

  - The evaluation criteria and sub-criteria (including weights and thresholds), together with the eligibility, selection and award criteria, for the different funding schemes are set out in Annex 2 to the Cooperation work programme.

  Proposal submission must be made by means of the European Commission's Electronic Proposal Submission Service (EPSS) on or before the published deadline. Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

- Particular requirements for prioritisation of proposals with the same score[10]:

  The procedure for prioritising proposals which have been awarded the same score (ex aequos) within a ranked list is described below. It will be applied successively for every group of ex aequo proposals requiring prioritisation, starting with the highest scored group, and continuing in descending order:

  (i) Proposals that address topics not otherwise covered by more highly-rated proposals, will be considered to have the highest priority.

  (ii) These proposals will themselves be prioritised according to the scores they have been awarded for the criterion impact. When these scores are equal, priority will be based on the scores for the criterion scientific

[6] The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.
[7] The Director-General responsible may delay this deadline by up to two months
[8] The budget for this call is indicative. The final budget awarded to actions implemented through calls for proposals may vary:
- The final budget of the call may vary by up to 10% of the total value of the indicated budget for each call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call

[9] The budget amount for the «Future Internet – 2012» Call is expected to be added from the 2012 budget for which a new financing decision to cover the budget of that year will be requested at the appropriate time.
[10] For this call, the procedure detailed below replaces the procedure foreseen in Annex 2 for the handling of tied scores.

and/or technological excellence. If necessary, any further prioritisation will be based on other appropriate characteristics, to be decided by the panel, related to the contribution of the proposal to the European Research Area and/or general objectives mentioned in the work programme.

(iii) The method described in (ii) will then be applied to the remaining ex aequos in the group.

- Indicative evaluation and contractual timetable: It is expected that the grant agreement negotiations for the shortlisted proposals will start as of January 2013.

- Consortia agreements: Participants in all actions resulting from this call are required to conclude a consortium agreement. Special clause 41 'Complementary Grant Agreements' and the provisions therein will be applicable to all projects selected under this call.

- The forms of grant which will be offered are specified in Annex 3 to the Cooperation work programme.

WORK PROGRAMME 2013 (Phase 3 of the FI-PPP)

The objective of the third phase of the FI-PPP[1] is

(i) to provide and run a stable infrastructure for the large scale trials, expand the core platform, the use case specific functionalities and their demand-driven instantiations, and

(ii) to involve through open calls SMEs and web-entrepreneurs as developers of highly innovative, infrastructure based, data-rich services and applications, building on, and extending, the large scale trials and the core platform functionalities. The third phase is an integral part of the FI-PPP and capitalises on the investments and developments of phase one and two.

All projects operating under the FI-PPP contribute and adhere to the governance structures in place and develop cooperation notably with CONCORD and FI-WARE[2]. The third phase of the FI-PPP ensures that technological developments and trials taking place in phases one and two will evolve into seed-type activities generating actual take-up of innovative Internet services and applications.

The FI-PPP should also be an accelerator for regional smart growth. Therefore this last phase of the FI-PPP is expected to connect and establish close synergies with regional developments and policies.

[1] See the ongoing activities under the FI-PPP: *www.fi-ppp.eu*
[2] Project website: *www.fi-ware.eu*

Objective ICT-2013.1.8 Expansion of Use Cases

Target Outcomes

A large set of innovative and technologically challenging services and applications in a wide range of Internet usage areas and large scale trials, making innovative use of the technologies and validating the concepts developed under the previous phases of the FI-PPP. These services and applications should make public service infrastructures and business processes significantly smarter (i.e. more intelligent, more efficient, more sustainable) through tight integration with Internet networking and computing capabilities, and notably exploiting open data.

Implementation requirements

This objective calls for projects with participants that can rapidly connect to existing communities of small and innovative ICT users and developers, i.e., SMEs and web-entrepreneurs, to take-up Future Internet technologies developed in previous phases.

Typically projects will bring together partners providing the full ecosystem to successfully involve the SMEs and web-entrepreneurs called to participate, such as partners having access to and experience with SME environments, partners bringing in the innovative ICT infrastructure, trial providers, the user notion, and the public sector to foster local/regional commitment.

Project participants, notably the coordinating organisation, will have to demonstrate their financial viability to receive and manage funds at the level requested, as well as their expertise and capacity, first and foremost in developing and managing the full life-cycle of the open-calls transparently. The projects are encouraged to ensure a sustainable longer-term environment. A combination with other innovation actions, supported by regional, national and European policies and funds, is highly desirable.

The task of projects is to:

i) scope, organise and manage open calls for small and innovative ICT players such as SMEs and web entrepreneurs to develop services/applications that present a clear societal and economic value while exceeding a defined minimum level of functional complexity and thus generating a very large number of small, innovative services, which build on technologies of the ongoing large scale trials and the FI-WARE Generic Enablers. Any IPR generated by the SMEs and web entrepreneurs shall rest with them.

ii) liaise with the other projects selected under this objective in defining the open calls, support SMEs and web entrepreneurs in terms of access to information, tools and services provided by the technology foundation extension selected under objective 1.8, notably on functionalities of the core platform toolbox, the test bed, the large scale trials, the infrastructure availability/accessibility and others, in order to get involved SMEs rapidly up to speed/familiarised with the FI-PPP environment and enable them to focus on their innovation task.

iii) coordinate and collaborate with programme support actions with regard to their offerings to SMEs, notably aiding SMEs and web entrepreneurs in aspects such as innovation, entrepreneurship and business modelling, training and education for and among entrepreneurs, business sustainability, intellectual property.

In addition, projects selected under this objective will link-up to the capacity building activity[1] of phase two of the FI-PPP.

[1] See the previous FP7 ICT work programme 2011/2012 objectives 1.8 and 1.9 - *http://cordis.europa.eu/fp7/ict/docs/3_2012_wp_cooperation_update_2011_wp_ict_en.pdf*

At least 80% of the project budget should be reserved for open calls for SMEs and web-entrepreneurs. Projects must publish widely their open calls using the Commissions publishing channels for public calls[2] and adhere to FP7 standards with respect to evaluation, conflict of interest and confidentially. Projects must also promote widely the participation in their open calls, e.g., by tapping into venture capital communities and corporate venture activities, public/private accelerators and others. SMEs and web entrepreneurs that are successful in the open calls will be granted financial assistance which is typically in the order of EUR 50.000-150.000.

Speed and quality of service to SMEs and web entrepreneurs as well as their successful and sustainable involvement will be a key success measure.

Projects selected under this objective shall jointly set-up an innovation cluster bringing together relevant public sector and private/industrial actors, developers and users to ensure the sustainability of the developments under the FI-PPP, as well as to develop and contribute to a cooperative approach to identify good practices and success cases including dissemination.

Funding Schemes:
Up to 20 CP-CSAs, with a priority given to maximise the geographic and/or sectorial coverage.

Indicative budget distribution:
EUR 100 million

Duration: 24 months

Call:
FP7-ICT-2013-FI

[2] - I.e. the participants portal:
https://ec.europa.eu/research/participants/portal/page/cooperation

Objective FI.ICT-2013.1.9 Technology Foundation Extension and Usage

Target Outcomes

a) Technology Foundation Extension

An updated and extended technology foundation should answer both the needs identified in the use case trials of phase two as well as the needs arising during the use case expansion in the third phase (see objective 1.8). Such needs include technological updates and improvements of existing core platform functionalities, i.e. generic enablers, and the development and implementation of additional enablers across multiple domains, including work relevant for the adoption of common standards. Continuity with the FI-WARE[1] project, in particular with respect to intellectual property, is required.

b) Platform availability

The work must ensure the availability of the FI-PPP generic enablers for use in different infrastructures, in different regional contexts, and across different domains during the remaining lifetime of the FI-PPP, notably under phase 3 to all participants and possibly beyond. This includes support for the further extension and adaptation of these generic enablers to domain-specific instantiations, their reference implementation in open source, operational support for these instances, and the operation of a test infrastructure on generic enablers servicing several trials can be hosted. It particularly, as a service, it includes technological training of the SMEs and web-entrepreneurs involved under objective 1.8 on how to best use developed technologies and knowledge. The work should eventually integrate the achievements of the FI-PPP capacity building and infrastructure support activities (Objective FI-ICT-2011.1.9) of the previous phases.

c) Platform sustainability

Ensure sustainability of the core platform and of domain-specific platform developments in terms of usage and further evolution beyond the FI-PPP lifetime, including exploitation planning, standardisation, interoperability, IP arrangements and other measures maintaining their availability in the longer-term.

d) Usage and participation

While objective 1.8 focuses on the involvement of the take-up actors and direct, full-service support to them, this sub-objective provides for the necessary tools and support across all projects selected under objective 1.8 and the FI-PPP. This includes the provision of:

- support for SMEs and web-entrepreneurs in view of developing and sharing best practices, fostering entrepreneurship, access to finance, matchmaking between regional ecosystems and the financial community, innovation support for the various large-scale trial sites, benchmarking, mentoring, partnering with regional innovation actors, as well as monitoring and coordination across all trial sites and domains (Key Performance Indicators).

- Provide qualitative and quantitative evidence of the socio-economic impact of the activities under the Future Internet PPP until 2020.

- support for communications, networking and dissemination and exploitation activities such as developing success stories, road shows, conferences and presence at conferences and fairs to achieve significant visibility and attract further usage and exploitation using the latest multi-media and Internet tools.

- working with the FI-PPP community and beyond to support the creation, networking and development of Internet innovation hubs by bringing together web entrepreneurs, mentors, investors, students, academia, public sector innovators and industry – this action shall be carried out in collaboration with ongoing work of the EIT ICT Labs.

- support for the future European Internet community to better link research to innovation through technology and business road-mapping (including in relation with activities in US, Japan, Canada and the BRICs), identification of new stakeholder groups, transfer of knowledge and best practices from the FI-PPP towards the larger FI community, including organising European-level conferences and workshops.

[1] For details of the ongoing project FI-WARE see *www.fi-ware.eu*

Expected Impact of the FI-PPP (the two objectives described above)

Significant increase of the effectiveness of business processes and novel approaches to the operation of infrastructures and applications of high economic and/or societal value.

Reinforcement of the European industrial capability for novel service architectures and platforms in view of new business models based on cross-sector industrial partnerships built around Future Internet value chains.

Increased involvement of users and public authorities at local, regional and national levels.

New opportunities for high-growth entrepreneurs and SME players to offer new products, equipments, services and applications.

Funding Schemes:

One IP which must cover a), b), c)

2-5 CSAs which cover d)

Indicative budget distribution:

One IP: EUR 23 million. At least 10% of the budget is expected to be allocated through one open call to allow for adjustments in light of the projects selected under objective 1.8.

CSAs: EUR 7 million

- Duration: 18-24 months

Call:

FP7-ICT-2013-FI-PPP

Call title: "Future Internet"-2013

Public-Private Partnership "Future Internet"

- Call identifier: FP7-2013-ICT-FI

- Date of publication: 16 May 2013

- Deadline: 10 December 2013 at 17.00.00 (Brussels local time)

- Indicative budget[1]: EUR 130 million[2]

See indicative budget breakdown in section 7 of the ICT work programme.

Topics called:

Challenge	Objectives	Funding schemes
Challenge 1: Pervasive and Trusted Network and Service Infrastructures	FI.ICT-2013.1.8 Expansion of Use Case	CP-CSA
	FI.ICT-2013.1.9 Technology Foundation Extension and Usage	IP/CSA

Eligibility conditions:

The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

The minimum number of participating entities required, for all funding schemes, is set out in the Rules for Participation. See Appendix 1 of the ICT work programme for further details on the minimum number of participants.

Evaluation procedure:

- A one-stage submission procedure will be followed.

- The evaluation criteria and sub-criteria (including weights and thresholds), together with the eligibility, selection and award criteria, for the different funding schemes are set out in Annex 2 to the Cooperation work programme. Proposal submission must be made by means of the electronic Submission Services of the Commission on or before the published deadline. Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template.

Particular requirements for prioritisation of proposals with the same score:

The procedure for prioritising proposals which have been awarded the same score (ex aequos) within a ranked list is described below. It will be applied successively for every group of ex aequo proposals requiring prioritisation, starting with the highest scored group, and continuing in descending order:

(i) Proposals that address geographies and/or domains not otherwise covered by more highly-rated proposals, will be considered to have the highest priority.

(ii) These proposals will themselves be prioritised according to the scores they have been awarded for the criterion impact. When these scores are equal, priority will be based on the scores for the criterion Quality and efficiency of the implementation and the management. If necessary, any further prioritisation will be based on other appropriate characteristics, to be decided by the

[1] The budget for this call is indicative. The final budget awarded to actions implemented through calls for proposals may vary:
- The final budget of the call may vary by up to 10% of the total value of the indicated budget for each call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call

[2] Under the condition that the draft budget for 2013 is adopted without modification by the budgetary authority.

panel, related to the contribution of the proposal to the European Research Area and/or general objectives mentioned in the work programme.

(iii) The method described in (ii) will then be applied to the remaining ex aequos in the group.

Indicative evaluation and contractual timetable:
It is expected that the grant agreement negotiations for the shortlisted proposals will start as of May 2014.

Typically grant agreements resulting from this call will included Special Clause 39 'Open Access'.

Consortia agreements:
Participants in all actions resulting from this call are required to conclude a consortium agreement. Special clause 41 'Complementary Grant Agreements' and the provisions therein will be applicable to all projects selected under this call. The forms of grant which will be offered are specified in Annex 3 to the Cooperation work programme.

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European Commission
Directorate-General for Communications, Networks, Content and Technology

INFORMATION ABOUT THE ACTIVITIES OF THE EUROPEAN COMMISSION ON THE FUTURE OF THE INTERNET.
http://ec.europa.eu/foi

INFORMATION ABOUT THE ICT PROGRAMME, ITS ACTIVITIES AND PEOPLE INVOLVED.
European Commission
Directorate-General for Communications, Networks, Content and Technology
http://ec.europa.eu/dgs/connect/

CORDIS
The European Union window to research and technological development http://cordis.europa.eu/ict/ch1/
In addition, the ICT Programme maintains a network of national contact points throughout Europe and the world. It is available to you with information, advice, guidance and training. Find your nearest contact point at:
http://cordis.europa.eu/fp7/ict/participating/partner_en.html

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