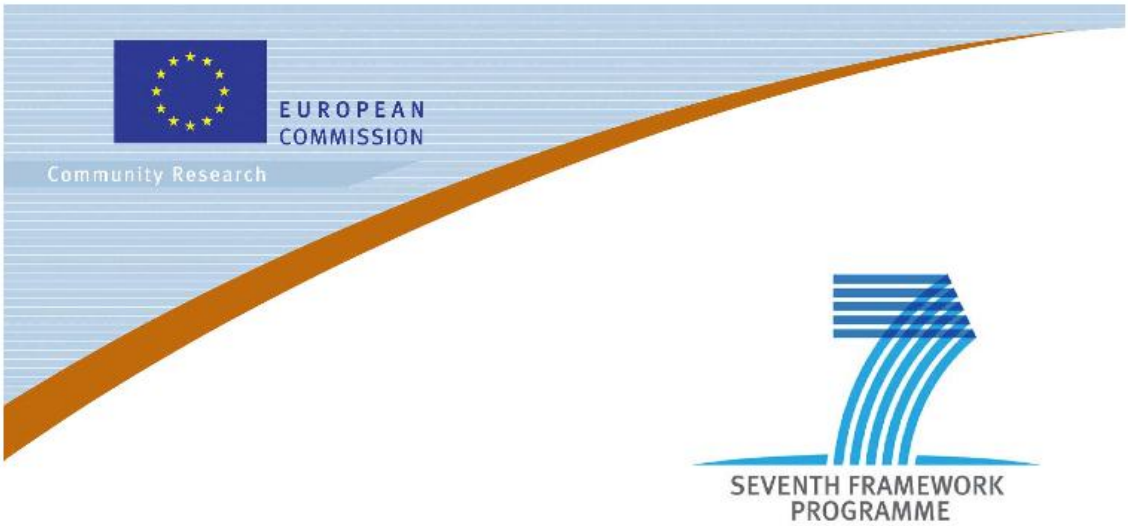

Private Public Partnership Project (PPP)

Large-scale Integrated Project (IP)

D.11.1.3b: FI-WARE Market and Policy Regulation Awareness

Project acronym: FI-WARE

Project full title: Future Internet Core Platform

Contract No.: 285248

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

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Author: Carmen Perea

Contributors: FI-WARE Consortium

1.1 Executive Summary

FI-WARE is the Technology Foundation or the Core Platform of the Future Internet PPP, which means that the whole PPP programme depends on it to reach its overall objectives. It will provide the basis of the technology that should help different sectors or application domains to increase its competitiveness. Therefore, it should bring the main benefits of the Future Internet to many other stakeholders independently on which sector is targeted.

This ambitious objective requires not only a sound technical basis and a resulting solid technical product/service, but also other elements that present FI-WARE as a convincing option from both technical and business points of view. Among those elements there are two important things that this task will address: a) market awareness and b) policy and regulation. The first one aims at disseminating FI-WARE results from a business point of view to make others aware of its benefits and advantages. This expands the typical dissemination of an EU-funded project, since it will require that potential users know the Value propositions of FI-WARE as a product/service. The success of this task will depend on the ability of the project to engage the first potential users of the platform. In the first year actions will mainly address the other projects in the PPP. As soon as reference implementations are released, actions will be extended to other stakeholders.

The second sub-task will run, on one side, the rise of platforms in ICT markets that invites to a reappraisal of regulatory frameworks and practices. Besides inter-organizational collective action, formal law regulations and policies from government and/or regulatory authorities play an important role in enabling the vision of common service platforms.

- One relevant issue in this domain is that sharing distributed service resources (i.e. network infrastructure, service platform and devices) may not be in the interest of all involved actors only if there is strong added value or perhaps enforcement from market competition or regulations.
- Moreover, there is a lack of interest from actors to solve the problem of interoperability mainly because of related costs, complexity, and reliability or competition concerns.

The Deliverable 11.1.b- Market and Competition Analysis studied the main platform regulatory concerns and the platform typology regarding the different control and value configurations that platforms employ and linked them with regulations concerns regarding with questions such as; who has dominance within a complex ecosystem of actors, who possesses the strongest bargaining position, who may function as a competitive bottleneck, and who may lock-in users.

And on the other side, the main regulatory challenges from the technical chapters and will identify those non-technical aspects that could influence FI-WARE exploitation in one way or another. In the first year the project will identify those channels that could help to this purpose. Thus, this document identifies interesting organizations/communities to talk to, defines actions and presents some of the contributions already made in the initial phase of the project.

1.2 About this Document

This document is an on-going work aiming to complement the analysis carried out in WP11 under the tasks 11.1 Market and Competition Analysis and 11.2 Exploitation Strategy, FI-WARE sustainability and IPR Management. While the mentioned documents focus on the analysis of the external environment of FI-WARE from a market point of view and the definition of the FI-WARE strategy as such (based on the former one) respectively, this specific report will keep an eye on those opportunities that could help FI-WARE to increase its impact in the market and/or alternatively identify those barriers that may prevent FI-WARE from being successfully exploited. We will pay special attention to those elements that fall under the categories of legal and regulatory barriers.

1.3 Intended Audience

As this deliverable contributes to defined FI-PPP Programme level activities the perspective and needs of FI-WARE and the FI-WARE consortium and related stakeholders are the addressed audience. As the dissemination level is "PP" (FI-PPP private) there is no plan to release this document to external parties.

1.4 Context of Chapter WP11 Exploitation

This work package focuses on a series of activities that identifies, create and work towards the exploitation and standardization opportunities of the FI-WARE project results. This work package approaches exploitation of the FI-WARE results from the point of view of the partners of the FI-WARE consortium, both individually and as a project. It does not intend to replace or overlap exploitation activities at the Future Internet Public Private Partnership Programme level, but to complement in a synergetic way the work that other projects within Usage Areas will do in terms of take up of the generic enablers provided by FI-WARE., therefore complementing the perspectives of the partners of this project and the related stakeholders in the ecosystems they represent.

The exploitation of FI-WARE results is not based on a purely technological approach (technologypush) but on the needs and requirements of the future "customers" and "users" of FI-WARE enablers. As a result, both supply and demand are meet within this WP.

With that in mind the project's exploitation activities have as main objectives the:

- Definition of project outcomes from an exploitation point of view, including identification of stakeholders and different typologies of users that will make use of FI-WARE
- Systematic analysis and continuous monitoring of market situation and trends
- Definition of overall and individual exploitation plans
- Definition of a framework for IPR and licensing management
- Definition of a Sustainability Plan for FI-WARE results
- Policy and Regulation Considerations
- Feedback of adjustments to project plan if necessary and promotion of the FI-WARE Testbed as an Open Innovation Lab
- Business oriented communication and training activities to increase market awareness and impact
- Definition and implementation of a standardization strategy that will enable adoption and achievement of the project goals and ambitions
- Definition of impact indicators and management of those along the project duration

This WP also supports and runs the project-level Standardization Committee that is in charge of the overall strategy, planning and execution of the Standardization activities.

1.5 Structure of this Document

The document is compiled in MS word and was prepared in the private wiki of the exploitation work package; eventually this will be uploaded to the `fi-ware-review` FI-WARE wiki

D.11.3.1b Market and Policy Regulation Awareness

1.6 Acknowledgements

The current document has been elaborated using a number of collaborative tools, with the participation of Working Package Leaders and as well as those industrial partners business people in their teams they have decided to involve.

1.7 Keyword list

Market awareness, exploitation, regulation, marketing, barriers, deployment, policy, privacy and data protection, net neutrality, open access to interfaces

1.8 Changes History

Release	Major changes description	Date	Editor
0.1	Table of contents	5/09/2011	Carmen Perea
0.2	Revision of structure of the document and index	9/09/2011	Juan Bareño, Nuria de Lama
0.3	Development of contents on Section 1. Market awareness	20/04/2012	Carmen Perea
0.4	Development of contents of Section 2. Policy and regulation	18/05/2012	Carmen Perea, Nuria de Lama
0.5	Revisions	31/05/2012	Nuria de Lama
0.6	Refinements	5/06/2012	Carmen Perea
0.7	Final revision, some add-ons, formatting issues	15/06/2012	Nuria de Lama
0.8	Include recommendations from the June Review: - 3.2- Complete more additional contacts with European cities to wide geographic extension, and intensification for concrete (multi-)localized achievements. - 4.1 Link with Platform Market analysis regarding Strategies o Introduction o 4.1.2 Digital Agenda - 4.2 Platform types and Regulatory concerns - 4.3 FI WARE main regulatory challenges o 4.3.1 FI-WARE chapters technological regulatory challenges - 4.5 Tools for regulatory intervention	05/11/2012	Juan Bareño
0.9	Final Review	12/11/2012	Juan Bareño

1.9 Table of Contents

1.10 TABLE OF FIGURES

2 Objectives of this task

The deliverable D11.1 Market and Competition Analysis deals with the external factors, such as market trends as well as elements related to the political and economic context. The second deliverable defined in WP11, D11.2 Exploitation Plan, including IPR Management, deals with the internal functions of exploitation and the third deliverable, D11.3, is concerned with ways to attract organizations to the Open Innovation lab and create awareness about FI-WARE and ultimately identify potential barriers that could prevent its adequate implementation and/or deployment.

In terms of timing, WP11 has devoted more efforts in the first year to the market research so that a clear context of the market is considered when taking technical decisions (this is relevant now that major developments are taking place). Special effort has also been devoted to IPR management, as a requirement to inform other stakeholders appropriately about the conditions of use of the FI-WARE Generic Enablers (GE). Some initial exploitation roots have also been depicted in D11.2, but this chapter will be further developed in the second and third year of the project. In the case of D11.3, we have defined the strategy of the task and have identified the mechanisms to make it possible operationally. Nevertheless, major contents will come mainly in the second year (for policy issues) and the third year (for policy and market awareness). The deliverable as such is an open document that will gather information along the project implementation and will be updated regularly.

T11.3 has two main objectives intrinsically linked, which means that some actions designed to achieve an objective will undoubtedly support the achievement of the other objective:

1. Establishing market awareness
2. Analysing the Policy and Regulation context, and when possible, contributing to shape it in a way that is beneficial for FI-WARE deployment and exploitation

Establishing market awareness

This sub-task deals with the external representation and marketing of the project with a business focus (versus a pure dissemination of research results). This will ensure that actual user requirements in the market are not disregarded and market awareness is created. The basis for all actions within this task will be the market and competition analysis.

Analysing Policy and regulation

Due to the nature of FI-WARE results a Policy and Regulation Analysis will be required in order to better understand how it may influence the exploitation of FI-WARE results. In this context special attention will be paid to the challenges pointed out in the Digital Agenda that are relevant to FI-WARE such as trust, security & privacy or cloud, to name a few.

The initial objective of this task was to identify barriers at policy and regulatory level that could prevent FI-WARE from a successful exploitation. However, the initial work has changed slightly and we have focused the initial efforts in establishing channels that could be a useful tool to promote business and innovation concepts coined by FI-WARE and to obtain feedback from external communities.

Additionally we analyse and adopt the main conclusions from the Deliverable 11.1.b- Market and Competition Analysis about the rise of platforms in ICT markets that invites to a reappraisal of regulatory frameworks and practices. In this deliverable we studied the main platform regulatory concerns and the

platform typology regarding the different control and value configurations that platforms employ and linked them with regulations concerns regarding with questions such as; who has dominance within a complex ecosystem of actors, who possesses the strongest bargaining position, who may function as a competitive bottleneck, and who may lock-in users.

We complete the work identifying the main regulatory challenges of the technical chapters and will identify those non-technical aspects that could influence FI-WARE exploitation in one way or another. In the first year the project will identify those channels that could help to this purpose. Thus, this document identifies interesting organizations/communities to talk to, defines actions and presents some of the contributions already made in the initial phase of the project.

Since FI-WARE is part of a programme, these activities are executed in a wider context and this task has specifically contributed to two working groups set up by the CONCORD project as part of global activities of the PPP: the “Exploitation and business model WG” and the “Institutional Agenda Design Work Group”.

3 Market Awareness

While WP12 addresses dissemination with a view on communicating the project results to different communities and engaging them in the process of building FI-WARE, still as a project, WP11 will take care of more business-related aspects and therefore, it should progressively change the vision of FI-WARE as a "research", development or innovation project into an image of a solid technological product/service that will be soon in the market. In this context, not only technical functionalities are important, but also operational elements come into the discussion. Potential users will need to know the specific benefits FI-WARE will bring to their business (in comparison to other offerings), the price or investment it will require for them, the licensing schemas, service support and in general, any condition that is related to the use of the overall package or parts of it.

As it was previously said, the work in this respect will be emphasized along the project development and will be especially intense close to the end of the project, when stable implementations of the GE are released and the Open Innovation Lab is considered a stable tool where potential customers can play with the technology. Focusing too much on this in the beginning would create expectations that could harm the project, since real customers will not be waiting 2 years for a full technology stack to be ready.

However, this does not mean that there is no work to do now, since FI-WARE can work in a very productive way with use case projects and other potential users of the Core Platform expected in the first phase of the FI PPP. In order to organize this preparatory work and be able to assess the progress of the task, FI-WARE has defined the following steps that we analyse in the next sections:

1. Identifying the target audience
2. Defining incentives
3. Designing relevant business messages
4. Translating technical messages into business language (marketing material)
5. Selecting communication channels and activities
6. Collecting and evaluating feedback

3.1 Identifying the target audience

FI-WARE will take as starting point the work performed by D11.1 and the classification provided by the SESERV Project[1]- Even though all the categories that appear in the following diagram are relevant to FI-WARE, relationships will be different depending on the specific stakeholders. While decision makers will be considered supporters of the FI-WARE concept, others will become direct consumers of the technology.

The categories that are labelled as "providers" (such as Technology makers, Connectivity Providers, Information Providers, Infrastructure Providers) will probably have different ways to relate to FI-WARE: while some may include their technology as part of FI-WARE offering (let's imagine for example a sensor operator that follows the Open Specifications of FI-WARE), others may provide some of the FI-WARE GE (that could be the case of a cloud operator). The spectrum is wide and will be further analysed in the exploitation strategy of the project and further versions of this document.

[1] SESERV (Socio-Economics Service for European Research projects): http://www.seserv.org/

Figure 1 Internet Stakeholders by SESERV project

Just for the purpose of giving some initial context it is interesting to have a look at the last figures provided by Eurostat about the size of those sectors that have been identified as target market for FI-WARE. In 2009 there were 590.000 enterprises in Europe, employing 4.1 million people and generating EUR 344 517 million of added value. The table shows also the differences between Member States, which may help the project to define specific marketing strategies for the different countries. However, these figures and facts will be revisited later on in the project when the preparation of commercial actions takes place.

INDIC_SB	Number of enterprises			Turnover or gross premiums written			Value added at factor cost			Number of persons employed		
GEO/NACE	Telecommunications	Computer programming, consultancy and related activities	Information service activities	Telecommunications	Computer programming, consultancy and related activities	Information service activities	Telecommunications	Computer programming, consultancy and related activities	Information service activities	Telecommunications	Computer programming, consultancy and related activities	Information service activities
European Union (27 countries)	39.601	453.279(2008)	101.000	400.000	336.105,7	:	180.000	164.490,33	27.336,66	12.000	24.626	4.896
Belgium	859	13.483	1.175	12.876,8	11.706,9	677,7	5.410,6	5.151,1	365,9	29.598	61.767	3.459
Bulgaria	849	4.001	972	1.910,1	746,6	141,6	980,0	378,0	66,5	21.277	24.887	5.527
Czech Republic	1.318	19.054	5.647	5.206,7	4.673,8	938,1	2.622,2	2.027,7	430,4	21.859	53.224	12.219
Denmark	:	:	:	:	:	:	:	:	:	:	:	:
Germany (including former GDR from 1991)	2.605	54.511	11.079	72.539,9	73.102,5	8.288,7	29.543,2	37.753,7	4.676,2	177.422	458.843	72.744
Estonia	112	1.169	271	775,2	284,1	:	305,6	169,6	:	3.755	6.281	:
Ireland	372	:	:	5.431,8	:	:	2.113,6	:	:	14.256	:	:
Greece	:	:	:	:	:	:	:	:	:	:	:	:
Spain	4.931	22.216	3.445	39.762,6	21.225,7	1.652,9	18.325,9	10.617,0	974,0	67.627	203.039	21.471
France	4.746	38.533	8.960	67.301,7	43.046,7	8.588,4	28.141,4	21.290,6	3.688,8	:	:	:
Italy	3.793	46.517	35.252	47.665,6	27.298,5	10.286,6	22.163,5	12.542,3	5.009,3	102.608	232.370	142.213
Cyprus	120	270	31	622,0	151,7	22,8	372,7	83,9	15,9	3.459	1.520	290
Latvia	387	1.192	512	762,3	231,4	71,5	335,6	122,1	34,2	5.330	6.214	1.917
Lithuania	318	1.001	183	901,5	264,1	67,0	381,9	120,7	24,6	6.296	7.576	1.270
Luxembourg	75	1.157	101	:	:	:	:	:	:	:	:	:
Hungary	1.049	18.008	5.752	4.106,4	2.988,8	1.258,9	1.855,5	986,7	204,3	17.911	48.120	11.266
Netherlands	1.122	23.173	2.601	17.746,2	22.953,2	3.163,6	8.265,0	11.047,6	1.545,6	35.377	151.510	17.095
Austria	327	8.073	3.830	6.605,6	4.833,6	2.399,8	2.773,7	2.318,0	990,6	17.274	35.986	14.970
Poland	5.121	27.409	6.437	10.380,4	4.480,7	864,2	4.695,6	1.918,7	453,0	66.731	83.731	23.640
Portugal	448	8.218	673	7.642,6	3.091,7	348,5	3.054,6	1.309,7	153,2	14.242	35.699	3.735
Romania	2.965	8.453	2.162	4.790,7	1.685,5	210,8	2.197,2	649,5	102,4	49.159	39.115	7.796
Slovenia	318	3.135	557	1.420,5	867,4	107,8	481,6	345,6	45,7	5.180	10.210	1.455

Slovakia	147	322	285	2.264,1	1.061,8	158,6	1.117,7	521,1	93,2	9.542	11.089	3.143
Finland	355	4.953	598	4.692,4	5.526,3	651,7	1.983,3	2.940,3	302,8	13.352	42.783	4.376
Sweden	763	31.033	2.041	9.627,4	13.039,3	891,4	3.761,5	6.077,7	417,8	29.396	95.319	7.363
United Kingdom	6.049	104.112	6.220	70.777,6	68.049,9	10.479,3	30.335,6	38.508,6	7.037,1	227.423	486.104	63.689
Norway	660	7.411	1.189	7.497,8	5.890,5	742,1	2.875,1	3.169,1	389,6	12.964	32.827	4.398
Switzerland	164	3.794	250	12.305,6	14.214,0	:	5.319,9	7.173,8	:	24.269	65.265	4.850
Croatia	264	2.790	751	2.194,3	642,9	:	1.023,9	289,3	:	10.408	10.309	:

3.2 Defining incentives

In order to attract the different players (for consumption of the technology, for collaboration in terms of further developments and so on and so forth) a clear value proposition has to be provided. In some cases, and especially where FI-WARE has to compete with other offerings, a catalogue of incentives will be defined. These incentives will help in modulating the message for the different targeted communities.

One of the challenges FI-WARE has faced already in the first year is convincing development companies to use FI-WARE GE. The benefits *a priori* provided by the technology as such seem convincing, but looking at the large companies that compose the FI-WARE consortium most development organizations, especially in the case of SME, think that they will have to pay a lot of money to make use of the functionalities, or that they will encounter difficulties to learn to use them. Having so much open source software out there, why should they change? What is the added value of developing services or applications with FI-WARE technology?

Even though the consortium is confident that the technology will proof to be beneficial for most of these stakeholders (this will be documented once the Testbed is available), this will be accompanied by commercial incentives. The initial strategy for this, which could be modified if needed depending on the findings of the project, will be based on:

- Convincing service providers about the high potential of FI-WARE
- Support them in creating an innovation environment on top of FI-WARE that attracts application and SW developers

Therefore, the idea will not be to sell the concept directly to the developer (even though this could be done in parallel) but to create a base of customers for these developers. Cities are a good candidate for this. Many cities in Europe are defining their Smart City strategies. For this they require the use of infrastructures and technologies that enable the development of very innovative applications and services. In this political context they are open to invest in a rational way to create the tools that make this possible. In fact, FI-WARE has already had discussions and exchange of ideas with some of these candidates and there is willingness to create such innovation environment.

The cities will make this initial investment and will provide the channels for the provision of those services either to companies or to the citizens. This will clearly motivate many developers (especially SMEs and entrepreneurs), who will have a great base of users at their disposal.

Companies willing to provide their services to the Public Administration will have a more direct channel to do so. Competition will increase, but also innovation, leading to lowered barriers for new entrants.

The business case around Smart Cities can be replicated around large sectorial companies (including domains like energy or transport).

These activities will be supported by the experience of business associations or technology transfer organizations, some of which have already been contacted as preparatory work to stimulate actions once the FI-WARE Testbed is ready.

Action 1 ⇨ Involve Relevant Actors, including Smart Cities and Large sectorial companies (as promoters of innovation ecosystems)

***Practical case*:** On March 20th, some members of the FIWARE and CONCORD projects met representatives of the Malaga City Council. Malaga is a city with a strong technological infrastructure. It participates in the FI-PPP project OUTSMART through the stakeholders group, and also holds the labels of smart city and Living Lab. FI-WARE had the opportunity to provide them with an overview of the FI platform. Possible ways of collaboration were explored and several potential action lines were defined around the Open Innovation Lab to encourage innovation in the city.

The following **European cities** have been informed, within the current dynamic of the project, about FI-WARE platform availability:

City	Responsible	Action, Involvement
Malaga	Telefonica / Atos	The city of Málaga has offered its sensors networks Presentation of FI-WARE at Green Cities event
Stockholm, Sweden	Ericsson	Stockholm Royal Seaport, Smart Energy, Electro Mobility, Healthcare and other use cases. Ericsson has informed the deputy mayor of Stockholm City on the Smart City Manifesto. Ericsson intends to further discuss participation in the Manifesto. Ericsson anticipates a clear linkage between the Manifesto and FI-WARE.
Dublin, Ireland	Intel	The Intel Energy and Sustainability Lab is engaged with Dublin City Council and other partners on various smart cities initiatives and is exploring integration on top of FI-WARE when the platform becomes available.
Nice Cöte d'Azur - France	France Telecom	Nice Cote d'Azur is a group of 37 cities with various smart initiatives. a sensors network (France Telecom trial) is available for pollution, noise, lighting. Another project will begin in September on Smart Energy (national project Nice Grid) and other actions are running regarding smart mobility.
Lyon	France Telecom	France Telecom is involved in some national smart energy projects which are under evaluation by French Authorities
Seville	Telefonica	Explained to Seville the possibilities offered by installing the Testbed there. Good reaction from SMEs

As it was anticipated in the strategy, FI-WARE will need the experience, contact and involvement of other associations that can act as interface to a big base of potential users/clients. These organizations will have

additional elements of value to present to their communities, and FI-WARE will get access to them, resulting in a win-win situation. Our actions will not be restricted to pure dissemination and communication, but will also take advantage of the knowledge and experience of these organizations to validate and refine the FI-WARE concept (from a commercial perspective). This leads us to the second concrete action.

Action 2 ⇨ Contact and get support from business associations and other initiatives (to extend the network of potential interested parties)

Practical case: Contact with EIT ICT Labs

EIT ICT Labs is part of the European Institute of Innovation and technology and one of the three Knowledge and Innovation Communities (KICs). In particular, this KIC is focused on Information and Communication Technologies (ICT). Their aim is to bring innovation to market through connection with excellent European organisations in Education, Research and Industry.

In the last months actions with ICT Labs have taken place at two levels: on the one hand the overall PPP is in the process of signing a collaboration agreement that will affect all the projects (in fact the MoC will be signed by each of the organizations involved in the programme). On the other hand, FI-WARE has carried out its own actions for the purpose of promoting specifically the deployment and use of the Open Innovation Lab. Many companies in FI-WARE are part of the active nodes of ICT Labs, which has made easier to propose working lines in that context that relate precisely to FI-WARE. Further information is provided in the second part of this document.

Practical case: Contact with the Madrid Chamber of Commerce

In order to open channels to organizations that are totally outside the framework programme (and European projects), FI-WARE is exploring new paths. One of the channels already established is the Madrid Chamber of Commerce [2], with whom some of the FI-WARE partners have already had discussions in the context of several meetings and teleconferences.

FI-WARE has provided them with information about the project in order to perceive the willingness of spreading the benefits of FI-WARE among the members and get a first feedback from those companies that could be potentially interested in using FI-WARE from a commercial point of view. The Chamber has become a good supporter of the initiative and has already two potential options, not mutually exclusive, for channelling the project.

They are willing to present the Project in the ***"Club de Directivos del Conocimiento***". The club is composed of the Innovation directors of top Spanish business companies. They meet three times

[2] the Madrid Chamber of Commerce and Industry is a Public Corporation, a consultative and collaborative body liaising with the Administrations, which represents, promotes and defends the general interests of companies in the region http://www.camaramadrid.es/index.php?lang=EN

each year with the aim of exchanging best practices between the members. The Chamber hosts these meetings.

The second option is to present the project in ***COTEC foundation***. The COTEC foundation is a business supported institution with a view to contributing to the promotion of technological innovation and increasing society's awareness of technology. Due to the fact that Telefonica is a member of this foundation, FI-WARE has high chances to be promoted there.

With a view to developing activities based on concrete programmes and objectives, COTEC is structured into specific Commissions in which the Foundation's Board Members and their representatives participate, these commission are: Innovation Framework Commission, Technology Transfer Commission and the Innovation Resources Commission.

The Chamber of Commerce has committed to host a National event that will be scheduled close to the launch of the Open innovation Lab. The target audience will be selected from the multiple databases of the Chamber and the event will be held in their Auditorium.

3.3 Designing relevant business messages

Once the audience is identified, the message will have to be defined ("What to say") and communicated in different ways ("how to say it") depending precisely on that audience in order to be effective. The core message should underline the following points:

3.3.1 Lower entry barriers

Entry barriers are obstacles for potential new participants to enter the market and compete. FI-WARE is based on the following principles that we have already detailed in deliverable D11.2 Exploitation Plan, including IPR Management:

- Specifications of APIs (Application Programming Interfaces) and Interoperable Protocols supported by FI-WARE Generic Enablers (GE) will be Open and Royalty-free.
- There will be a reference implementation for each of the Generic Enablers provided by FI-WARE
- Access Rights to Foreground, and for Background and Sideground needed for the use of any Foreground, outside FI PPP program activities shall be granted on Fair and Reasonable and Non-Discriminatory (FRAND) Conditions [3]

The fulfilment of these conditions is a key factor for the adoption of the FI-WARE solutions and that is why one of the resulting actions is a continuous IPR management (that was initiated early in the project and maintained since then).

[3] Software distributed under an open source license will be considered granted on FRAND conditions.

Action 3 ⇨ Assess IPR

3.3.2 Availability of experimentation capacities/ infrastructure

The open innovation lab will provide technology that is not currently available for SMEs and Start-ups. The experimentation capacities provided by the Open innovation lab are out of reach for many small and medium-size businesses and so far restricted to few strong players. The Open Innovation Lab will allow anyone to test the technology and decide if it adds value to his/her business or not.

Action 4 ⇨ Promote the Open innovation Lab

3.3.3 Technical excellence: top quality GE

The top quality GE provided by FI-WARE were born from relevant European research projects; this is a great opportunity to transfer research results into the market. In other words, the Open Innovation lab will help to pass through the "Valley of Death".

FI-WARE project is providing the users with tools (GE) that can be combined, thus forming new tools; furthermore these pieces will be tested at different levels, ranging from the unitary test of the project itself to the integrated test in the Use Case project, which will provide an added value to the technology offered.

The availability of this technology in the Open Innovation Lab will provide a space where future innovations on top of the GE provided by FI-WARE can be nurtured.

Action 4 ⇨ Promote the Open innovation Lab

3.4 Translating technical messages into business language (marketing material)

A business brochure has been designed in order to spread main benefits of FI-WARE. This initial marketing material will be revisited along the time and modified according to the audience and the degree of project development.

The immediate audience for this brochure is the Use Case projects. That is why the main intention is to clearly show the business opportunities that the project will provide to their customers.

The following points have been stressed:

- quality
- performance

- reliability
- improved productivity
- Where does FI WARE value lie?

Two models have been designed:

- A diptych.
- A triptych.

It should be taken into consideration that the brochure is aimed at a business audience even though in the beginning FI-WARE may take advantage of them in other events until additional promotional material is created. We have tried as much as possible to emphasise the FI-WARE added value avoiding very technical language. Below an explanation of every part of the brochure is given.

Figure 2 Brochure Page 2

Figure 2, explains the FI-WARE added value. What is FI-WARE offering to the potential customers? What kind of tools does it provide to its users? Thus, it is an overview of the main features that FI-WARE is offering in the several fields represented by the project.

In order to provide a clear and easy to understand example of the versatility of FI-WARE we have used the comparison with Lego pieces (see Figure 3). The different SW components represented by the GE will be interoperable and should work together to build different systems. For a user of the FI-WARE technology, making use of the APIs should be as easy as a plug-and-play mechanism.

Figure 3 Brochure comparison with Lego pieces

In the double page that can be seen below (see Figure 4), a joint vision of the platform is represented through the concentric circumferences.

The inner circumference in which the FI-WARE logo is placed represents the core parts of the project, encircled by the main FI-WARE chapters (Cloud, Internet of Things, Security, Interface to the Network and devices, Applications and Data Context).

The outside part identifies the multiple sectors in which FI-WARE can be applied, among others: Retail and Transportation, Media, Public Administration, Telecom, Aeronautics, Construction, Education, Energy & Utilities, Environment, eTourism, Finance, Foreign Affairs, Health, Homeland and Security, Defence, showing the multi-purpose and cross-sectorial nature of the Core Platform.

Brief and clear definitions of the FI-WARE chapters are provided out of the circumferences avoiding, where possible, very technical language.

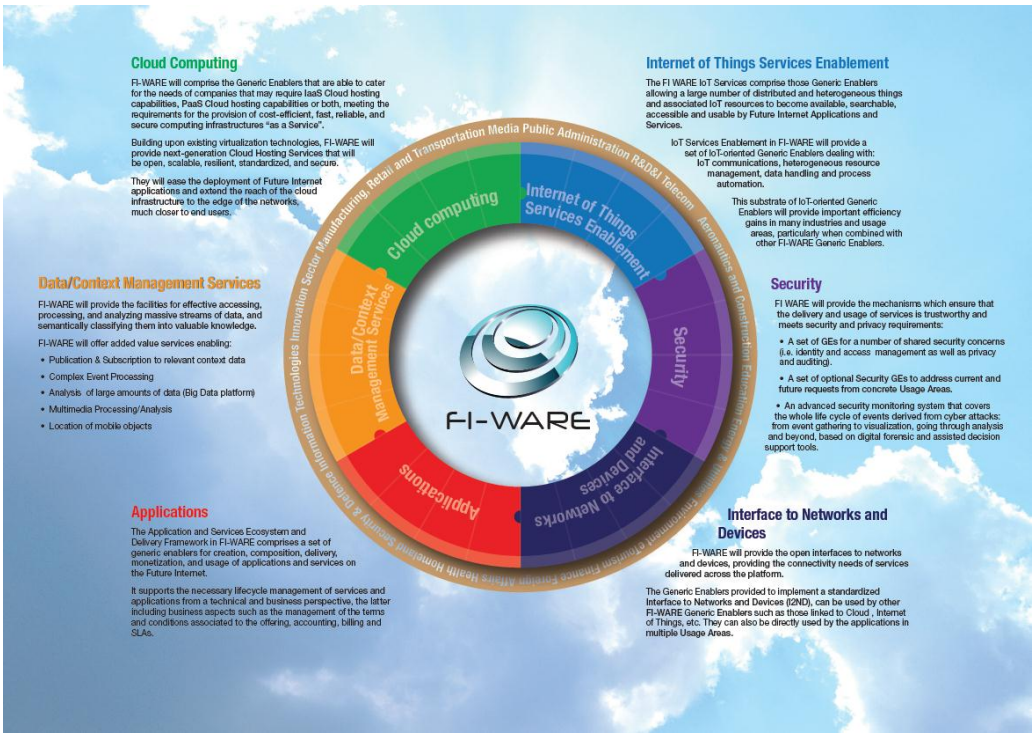

Figure 4 Brochure Double page

Figure 5 FIWARE tag cloud

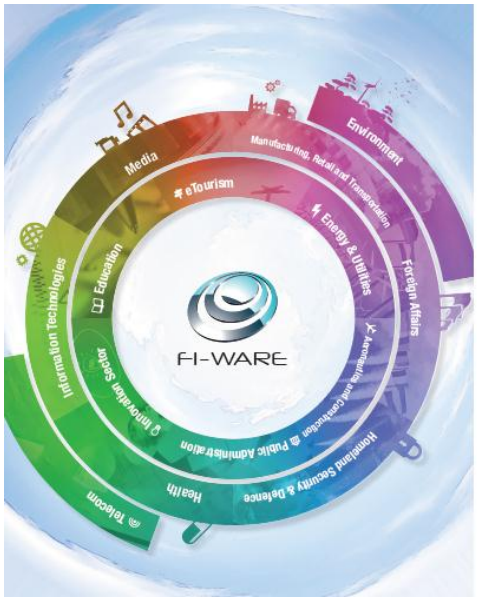

Figure 6 Brochure cover page

The inside shows the names of the main Generic Enablers trough a tag cloud, in an attempt to display the information in a graphical way. The triptych has basically the same pages than the diptych but placed in a

different way, with the exception of the cover and the back pages. The cover focuses on application domains, trying to highlight once again that "FIWARE can be applied in all business sectors".

Based on the learning experience acquired by the project especially when the Open Innovation is launched, messages will be adapted and refined to serve the purpose of the project in the most suitable way. This ongoing work will be reflected, as we did in the previous cases, in concrete actions:

Action 5 ⇨ Elaborate marketing material for business impact

3.5 Selecting communication channels and activities

With the potential market identified and business messages clarified it is now the time to select some of the relevant activities and events where the project could expand its influence, get new potential users/customers and present its main contents to make relevant communities aware of it.

3.5.1 Business presentations and events

Business events are a suitable tool to raise awareness and to obtain feedback from participants. In order to provide a homogeneous vision of the project and facilitate the replication of the sessions (this has proven to be useful to minimize efforts and maximize the representation of the project), a typical session has been designed. See the structure below.

Main Goal

To attract future clients by showing the advantages of FI-WARE. To obtain feedback from potential customers.

Standard event structure

The typical session will be composed of the following parts:

- *Brief overview of FI-PPP*
- *The way the Open Innovation Lab works*
- *Some possible applications in the FI-PPP use cases*
  - *FI-PPP Use Case I .FI-WARE application in sector X*
  - *FI-PPP Use Case II. FI-WARE application in sector Y*

Schedule: The standard event should be held very close to the launching of the open innovation lab, but of course after the Testbed has been implemented and has been successfully working for a reasonable period of time.

Obtaining feedback: The participants will be provided with a questionnaire, the main aim being to obtain feedback about the Open Innovation Lab. A complete analysis of these questionnaires will be provided in the following deliverable.

Depending on the duration of the event, the structure could be modified.

The project will work on three different types of events:

National events: National events will focus on one particular country and they will be hosted mainly (even if not exclusively) in the following countries: France, Germany, Italy and Spain. These four countries represent a great market and there is a reasonable number of partners that could support the organization of those events and could potentially host FI-WARE instantiations (as in the case of the Seville Testbed).

European events: At least one big European event will be organized with a clear business perspective. Depending on resources and opportunities that appear in the coming months more events could be envisaged. The event will be carried out in synergy with another big event that attracts main players targeted by FI-WARE. The most suitable candidate at this stage is CEBIT.

Vertical domain events: as it has been mentioned in this document, the immediate users of FI-WARE will be the use case projects. Understanding their needs, requirements, language and expectations is a crucial issue to attract a wider constituency in later phases. For this purpose FI-WARE is already collaborating with current projects and disseminating its progress and results within their constituencies, which in many cases cover the whole value chain of the sector. Besides existing projects, FI-WARE has been invited in many occasions to provide presentations in the context of other application domains that are interested in establishing collaboration with the PPP, such as the case of Ambiente Assisted Living and eHealth communities. Main objectives for FI-WARE in those cases is that the audience understands well the value proposition of FI-WARE and that they can see the way FI-WARE can be used in the domains with as many examples as possible.

The work in the coming months will be represented by the following actions:

Action 6 ⇨ Organize National Events

Action 7 ⇨ Organize (Pan)-European Event/s

Action 8 ⇨ Get involved in sectorial Events (and understand specificities of the domains)

Action 9 ⇨ Obtain and analyse feedback from questionnaires

Practical case: SmartAgrimatics 2012: The SmartAgriFood project will hold an event called SmartAgriMatics on the 13-14th June in Paris. The event is a conference jointly organized by three projects funded by the European Commission under the 7th Framework Programme: agriXchange, ICT-AGRI ERA-NET and SmartAgriFood. The commonality between these projects is that they all deal with the future use of ICT and robotics in the agri-food sector even if from different perspectives. FI-WARE will have a keynote speaker at that place to share the concept and developments of the project and make this community aware of FI-WARE (apart from SmartAgrifood partners, most attendees will be companies working in that sector without the background of the FI PPP and very much focused on the problems associated to very particular aspects of the Agri-food value chain). The Open Innovation Lab will be offered as an opportunity for them to get closer to the FI-WARE offering.

3.5.2 Open calls

Although the main goal of the Open calls is not to create market awareness, without doubts it does provide a unique opportunity to do so. The attendees to these events are willing to participate in the FI-WARE project and therefore show interest in one way or another to become a part of the FI-WARE community (not only as technology providers). That is why sometimes frontiers between WPs are blurred and tight collaboration is needed not only with WP1 for the Open Call announcements and dissemination, but also with technical WPs and even more with the other tasks in WP11 and the ones in WP12. Cross-fertilization is the only way to attain results with the resources of the project.

Action 10 ⇨ Hold Open Calls events (as a complementary way to create market awareness)

3.5.3 Contributions to the Working group on Business models (set up by CONCORD for overall FI PPP objectives)

FI-WARE is fully aware of the great importance of collaborating with the FI-PPP projects. CONCORD, in its role of supporting the programme as a whole, has created several working groups where all the projects can contribute and whose conclusions and outcomes will be given the necessary visibility at programme level. One of this WGs is the one about "Exploitation & Business Modelling" , whose main goal is maximising the impact and exploitation potential of the FI-PPP Programme and the individual FI-PPP projects.

The **specific goals** of the WG are:

- To provide internal and external insights into Future Internet exploitation plans and business models;
- To support the FI-PPP projects' individual exploitation and business modelling efforts;

This group has major significance for FI-WARE, due to the fact that it provides a deep knowledge of the exploitation plans of Use Case projects. As it is well-known, Use Case projects focus on different markets, providing a valuable market vision of every domain. FI-WARE project is going to take advantage of this working group to acquire the generated knowledge and react accordingly.

The working group acts in two levels:

- Horizontal from an internal and external perspective.
    - Internal: Extracting internal conclusions from the FI-PPP projects exploitation plans and business models.
    - External: Studying the way to transfer the results obtained in the FI-PPP projects to other initiatives and obtain the validation of the Future Internet community.
- Vertical: The Concord Project is planning to provide a FI exploitation and business model tool. At this moment the approval of the tool is still pending. The availability of such a tool would facilitate the integration of the different views. At this moment, for instance, some projects are using the CANVAS model to define their potential business models, but that does not apply to all projects.

Since the WG was created FI-WARE has had an active participation in all the meetings. As said, every occasion to share views with Use Case projects represents an opportunity to convince a potential customer. Within the context of the CONCORD project and the WGs of the FI PPP programme in general several specific actions have been defined by FI-WARE in an attempt to filter and shape its activities and related efforts.

Action 11 ⇨ Validate FI-WARE messages

Action 12 ⇨ Assess the FI-PPP programme

Action 13 ⇨ Jointly participate in workshops

Practical case: one of the actions carried out so far in this framework has been to analyse those GE that Use Case projects are planning to use in their pilots and trials (see Figure 7). This analysis reflects which FI-WARE chapters are more relevant for each particular domain or sector, therefore helping us to align supply and demand.

Figure 7 FI-WARE generic enablers required by use case project

3.5.4 To present the project in contest, consultations and other similar actions

From the point of view of defining the future of the ICT Research & development activities we could say that this is a very busy period. The new Horizon 2020 is under preparation and many activities have been organized to allow people/companies/initiatives to provide their views on what the future should be.

Thanks to this, in the last months numerous contests, public consultations, etc have been launched. They represent a good opportunity for FI-WARE to provide its own views and furthermore, they constitute a

channel for us to shape the future of innovation and propose those aspects that could be relevant and could contribute to the suitable exploitation of the Core Platform and the FI PPP in general. In fact, every time is more typical that the European Commission, for instance, uses collaborative tools to organize this kind of contributions, allowing people to share their ideas and comment on those provided by others, which has proved to be a quite useful tool. So far we have realized that this can be used to create market awareness, to promote and give visibility to the project and to obtain feedback from those that are not involved in this activity and could look at it in a more objective way.

During the project life the FI-WARE team is constantly studying and pondering the possibility of submitting applications for different initiatives, such as European Union contest, consultations, TechCrunch awards, etc. So far FI-WARE has submitted ideas in the context of consultations for H2020, preparation of the Digital Agenda Assembly (as it can be seen later on in this document) or elaboration of roadmaps. The timing of these candidatures is being carefully judged in order to be prepared for contributions when the project has achieved solid technical stability.

Action 14 ⇨ Submit contributions to public consultations

3.5.5 Organization of hackathons

Organizing a Hackathon is one of the activities of the joint roadmap between FI-WARE and CONCORD. Hackathons are powerful tools to attract developers around the project and will serve as mechanism to assess, among other aspects, how attractive and easy-to-use the FI-WARE technology is.

Action 15 ⇨ Organize a hackathon

3.6 Collecting and evaluating feedback

After spreading the message in different events and towards different communities to help stakeholders understand all the possibilities available through the platform the main task for FI-WARE will be to validate the effect of the message in the target audience gathering stakeholders' opinion and analysing the main outcomes arising from them. Obtaining opinions, insights and ideas from people is highly valuable for improving the platform, which should always keep in mind the objective of satisfying customers' needs and covering requirements of user communities. Without that as major direction for the project, FI-WARE would remain a purely technology push effort. Feedback will be collected mainly through surveys, and the analysis of on-line comments.

Action 16 ⇨ Undertake surveys

Action 17 ⇨ Analyse on-line comments & feedback

4 Policy and regulation

4.1 Introduction

The emergence of multi-sided platforms implies that **policy makers and regulators should not take for granted that simply allowing and facilitating the convergence** between IT, internet, telecommunications and media services and technologies will result in an unbundled, open marketplace in which competition will flourish (Ballon, 2009a). The final objective of this section is to explore how such aspects could be taken on board by the regulation of electronic communications and ICT markets in Europe.

The rise of platforms in ICT markets that invites to **a reappraisal of regulatory frameworks and practices**. Besides inter-organizational collective action, formal law regulations and policies from government and/or regulatory authorities play an important role in enabling the vision of common service platforms.

- One relevant issue in this domain is that **sharing distributed service resources** (i.e. network infrastructure, service platform and devices) may not be in the interest of all involved actors only if there is strong added value or perhaps enforcement from market competition or regulations.
- Moreover, there is a lack of interest from actors to solve **the problem of interoperability** mainly because of related costs, complexity, and reliability or competition concerns.

The Deliverable 11.1.b- Market and Competition Analysis studied the main platform regulatory concerns and the platform typology regarding the different control and value configurations that platforms employ and linked them with regulations concerns regarding with questions such as; who has dominance within a complex ecosystem of actors, who possesses the strongest bargaining position, who may function as a competitive bottleneck, and who may lock-in users.

And in on the other side, **the main regulatory challenges from the technical chapters** and will identify those non-technical aspects that could influence FI-WARE exploitation in one way or another. In the first year the project will identify those channels that could help to this purpose. Thus, this document identifies interesting organizations/communities to talk to, defines actions and presents some of the contributions already made in the initial phase of the project.

As it was pointed out in the introduction, **this chapter covers those activities that have been carried out in the first part of the project in relation to policy issues.** It was not the intention of FI-WARE to devote most of its efforts at this stage, but to understand the context and organize the opportunities that could be tackled by the project in this domain in the next phases, especially when the interaction with the Use Case projects has taken place in practical terms (and FI-WARE gets feedback on the barriers to use the GE, the difficulties to maintain the operational aspects of the Testbed, etc). In this regard, the Open Innovation Lab will be a key piece of the puzzle that will also serve this project to define the needs of the third phase of the PPP when it comes to set up an innovation ecosystem where all types of organizations (including individuals/citizens) will make use of the technology, the so called expansion phase.

Along the first year of FI-WARE, however, some opportunities have emerged to provide contributions. Therefore, this document depicts the **policy context (summarized here by the Digital Agenda and the**

preparation of Horizon 2020) and summarizes main actions carried out by project partners in the context of several initiatives aiming to impact definition of long term objectives, strategies or the approaches to innovation in Europe. FI-WARE will take advantage of those opportunities as active stakeholders helping to shape the future European landscape.

4.1.1 European Context: Europe 2020

Europe 2020 [4] is the strategy that has been adopted by the EU with the main goal of ensuring growth for the coming decade. **Five ambitious objectives** have been set on to be reached by 2020 :

- Employment
- Innovation
- education
- social inclusion
- climate/energy

In order to acomplish these challenges **7 flagship** initiatives have been articulated:

1. Digital agenda for Europe
2. Innovation Union [5]aims to improve conditions and access to finance for research and innovation in Europe, to ensure that innovative ideas can be turned into products and services that create growth and jobs
3. Youth on the move [6]

   This flagship initiative is divided into three areas both at national and European level listed here:
   - Improving education and training systems at all levels
   - Stronger policy efforts for improving youth employment
   - More EU youth mobility for learning purposes and on the labour markets

4. Resource efficient [7]Europe supports the shift towards a resource-efficient, low-carbon economy to achieve sustainable growth.
5. An industrial policy for the globalisation era sets out a strategy that aims to boost growth and jobs by maintaining and supporting a strong, diversified and competitive industrial base in Europe offering well-paid jobs while becoming less carbon intensive.
6. An agenda for new skills and jobs [8]pursues the objetive of 75% of the working-age population **(20-64 years) in work**.
7. European platform against poverty [9]sets out actions to reach the EU target of reducing poverty and social exclusion by at least 20 million by 2020.

[4] http://ec.europa.eu/europe2020/index_en.htm
[5] http://ec.europa.eu/research/innovation-union/index_en.cfm
[6] http://ec.europa.eu/youthonthemove/about/policy-actions/index_en.htm
[7] http://ec.europa.eu/resource-efficient-europe/index_en.htm
[8] http://ec.europa.eu/social/main.jsp?langId=en&catId=958
[9] http://ec.europa.eu/social/main.jsp?catId=961&langId=en

Even though it could seem that these policy aspects are far from the technical developments performed by FI-WARE, all the elements are more connected than ever. For example, the objectives of reducting the CO2 carbon footprint will result in directives that companies will have to fulfill. As an example, this would call for cleaner solutions that will have to be adopted in some of the domains represented in the FI PPP. Let's imagine for example developments under the domains of Transport and mobility, logistics, energy and for sure environment.

4.1.2 Digital Agenda

The overall aim of the Digital Agenda is to deliver sustainable economic and social benefits from a digital single market based on fast and ultra fast internet and interoperable applications.

The Digital Agenda for Europe was formulated with the intention of improving the use of information and communication technologies (ICT), supporting the economic recovery and establishing a solid base for a sustainable digital future.**Under the new Digital Agenda ,Europe appears to move further towards regulating platforms in general**, i.e. the access to platforms, **the interoperability between platforms**, and so on. New European **interoperability rules** foreseen for the electronic communications industry, **based on antitrust rules related to the abuse of market position, referring to a significant position**. In this case, obligations will be imposed related to licensee interoperability information, **to ensure consumer choice in software as well as hardware.**

One striking aspect of the Digital Agenda is that it foresees new European **interoperability rules** for the electronic communications industry, **based on antitrust rules related to the abuse of market position**, referring in this case to a significant, instead of dominant, position. In this case, **obligations will be imposed related to license interoperability information, to ensure consumer choice in software as well as hardware**. Commissioner Kroes has recently expressed **concern over the market position and conduct of Apple**, in particular in relation to the interoperability between various smartphone platforms. Observers disagree about the extent to which a similar case can be built by the Commission as was done related to **the openness of the Microsoft platform**. Some also call for a further European **continuation of the US-originated net neutrality debate, on the merits of ex ante regulation of telecom operators' involvement** in, and treatment of, internet content and services. In any case, it is clear that there is a growing awareness of and **concern over the position and potential abuse of market power by platform owners in the electronic communications industry**.

However, the characteristics of platforms provide also a number of reasons to mitigate concerns and/or intervention. A platform coordinates interactions between two or more distinct groups of stakeholders and is able to internalize the externalities created by one group for the other group. **Business models in multi-sided platform markets, rather than to focus on profit maximization** in a single market, primarily deal with **getting the various stakeholder groups on board, balancing interests between these groups and with single- or multi-homing of customers** (i.e. whether customers are tied to one or more platforms) (Evans, 2003). This means that, in a multi-sided market, **a viable pricing strategy could consist of subsidizing one side to attract customers on the other**. This implies that **competition policy analysis cannot consider prices separatel**y, and should not regard a strategy based on cross subsidies as predatory in many instances (Cortade, 2006; Wright, 2004).

It has also been argued that **regulators, who impose price regulations and other restrictions on one specific** (type of) actor, seldom take into account **the impact of such regulation on the entire value network, which is especially relevant in the case of multi-sided platforms.** Policy makers and regulators ought to use a more holistic framework, which may shift the emphasis from traditional policy analysis based on **specific policy domains or isolated 'relevant markets'**, towards the relevant determinants **for successful platform models** (Poel et al, 2007

In electronic communications, **access operators are regulated in an ex ante fashion because they control essential facilities and because the prospects for competition are regarded as limited**. In other parts of the ICT industry, **dominant players are regulated ex post under competition law**. Under the **new Digital Agenda, Europe appears to move further towards regulating platforms in general,** i.e. the access to platforms, the interoperability between platforms, and so on.

The Digital Agenda for Europe identified the need to systematically tackle eigth problem areas, for which a strategy has been developed; it is composed of key actions in order to measure the progress against specific expected outcomes and to facilitate overcoming those challenges.

Successful delivery of this Agenda will spur **innovation**, **economic growth** and **improvements in daily life** for both citizens and businesses. With the only purpose of giving context to the reader of the document we include here a very brief overview of the pillars defined by the Digital Agenda.

Pillar I: Digital Single Market

Too many barriers still block the free flow of online services and entertainment across national borders. The Digital Agenda will update EU Single Market rules for the digital era. The aims are to boost the music download business, establish a single area for online payments, and further protect EU consumers in cyberspace.

Pillar II: Interoperability and Standards

The internet is a great example of interoperability – numerous devices and applications working together anywhere in the world. Europe must ensure that new IT devices, applications, data repositories and services interact seamlessly anywhere – just like the internet. The Digital Agenda identifies improved standard-setting procedures and increased interoperability as the keys to success.

Pillar III: Internet and security

Only 12% of European web users feel completely safe making online transactions. Threats such as malicious software and online fraud unsettle consumers and dog efforts to promote the online economy. The Digital Agenda proposes a number of practical solutions, including a coordinated European response to cyber-attacks and reinforced rules on personal data protection.

Pillar IV Very Fast Internet

New services such as high definition television or videoconferencing need much faster internet access than generally available in Europe. To match world leaders like South Korea and Japan, Europe needs download rates of 30 Mbps for all of its citizens and at least 50% of European households subscribing to internet

connections above 100 Mbps by 2020. The Digital Agenda aims to turn this ambition into reality by stimulating investments and proposing a comprehensive radio spectrum plan.

Pillar V Research and innovation

To attract Europe's best minds to research, world class infrastructure and adequate funding are crucial. The best research ideas must be turned into marketable products and services. Currently, EU investment in ICT research is still less than half US levels. The Digital Agenda seeks to maintain Europe's competitive edge through increased coordination and elimination of Europe's fragmented efforts.

Pillar VI Enhancing e-skills

Over 50% of Europeans use the internet daily – but 30% have never used it at all! Moreover, disabled persons face particular difficulties in benefiting fully from new electronic content and services. As ever more daily tasks are carried out online, all our people need enhanced digital skills to participate fully in society. The Digital Agenda tackles this unacceptable digital divide.

Pillar VII Social Challenges

Digital technologies have enormous potential to benefit our everyday lives and tackle social challenges. The Digital Agenda focuses on ICTs capability to reduce energy consumption, support ageing citizens' lives, revolutionize health services and deliver better public services. ICTs can also drive forward the digitization of Europe's cultural heritage providing online access for all.

Pillar VIII International

The European Digital Agenda aims to make Europe a powerhouse of smart, sustainable and inclusive growth on the global stage. The seven pillars in the Digital Agenda all have international dimensions.

In the following table the eight most significant obstacles identified by the Digital Agenda are listed together with the key actions proposed to overcome these obstacles. The table links the key actions proposed by the agenda with the works undertaken in FIWARE , showing how the project could, to some extent, contribute to the Digital agenda implementation.

1 Fragmented digital markets
Opening up access to content

Key Action 1: Simplify copyright clearance, management and cross-border licensing. • *Enhancing the governance, transparency and pan-European licensing for (online) rights management by proposing a framework Directive on collective rights management* • *Creating a legal framework to facilitate the digitisation and dissemination of cultural works in Europe by proposing a Directive on orphan works, to conduct a dialogue with stakeholders with a view to further measures on out-of print works, complemented by rights information databases* • *Reviewing the Directive on Re-Use of Public Sector Information, notably its scope and principles on charging for access and use*	This key action is out of FIWARE scope, although the activities devoted to "Reviewing the Directive on Re-Use of Public Sector Information, notably its scope and principles on charging for access and use" should give impetus to the developments in the chapter "Data/Context Management" in which the availability of advanced platform functionalities dealing with gathering, processing, interchange and exploitation of data on a large scale is going to be cornerstone in the development of intelligent, customized, personalized, context-aware and enriched application and services beyond those available on the current Internet. These functionalities will foster the creation of new business models and opportunities which FI-WARE should be able to capture. The availability of this enormous quantity of top quality data could provide the advances promoted by the agenda together with the advance proposed by FIWARE
Making online and cross border transactions straightforward	
Key Action 2: Ensure the completion of the Single Euro Payment Area (SEPA), eventually by binding legal measures fixing an end date for migration before 2010 and facilitate the emergence of an interoperable European eInvoicing framework through a Communication on eInvoicing and by establishing a multistakeholder forum	The chapter "Application and Services Ecosystem" will provide tools for Analysis and Business Tracking, and the establishment of the business framework that will support relationships and collaboration with third parties, such as payment and advertisement services. A set of generic enablers for creation, composition, delivery, monetization, and usage of applications and services on the Future Internet. It is clear that these applications will benefit from the completion of the Single Euro Payment Area.

Key Action 3: In 2011 propose a revision of the eSignature Directive with a view to provide a legal framework for cross-border recognition and interoperability of secure eAuthentication systems	This action is out of FI-WARE scope although the work developed in the chapter "Security, Privacy, Trust" is providing a set of Generic Enablers that will provide baseline identity, access control, privacy and authorization management that will be built-in in all FI-WARE instances and they will contribute to improving the current secure eAuthentication systems.
Building digital confidence	
Key Action 4 Review the EU **data protection regulatory framework** with a view to enhancing individuals' confidence and strengthening their rights, by the end of 2010	This action is out of FI-WARE scope, although the Commission will issue a Communication reporting in mid-2012 on the results of the public consultation and on the nature of any EU measures that may be required in order to reduce costs in telecom markets. The project should take into account this report.
2 Interoperability and standards	
Improving ICT standard-setting Promoting better use of standards Enhancing interoperability through coordination	
Key Action 5: As part of the review of EU standardisation policy, propose legal measures on ICT interoperability by 2010 to reform the rules on implementation of ICT standards in Europe to allow use of certain ICT fora and consortia standards	**FIWARE through the chapter Interface to Network and Devices and the standardization** task will provide: Components for standardised access to device features and support to the worldwide initiatives aiming to reduce complexity and tackling fragmentation in the evolution of devices features. Components that provide interfaces related to the cloud proxy or home hub, i. e., APIs that will give applications access to the cloud proxy middleware. Components enabling intelligent network connectivity by means of dynamic configuration and programming of network elements Components for the control and management of the access to heterogeneous network infrastructures. FI-WARE Project partners continually study the current standards and consider when/how to include FIWARE research in new standards/protocols in order to (a) avoid "re-inventing the wheel", (b) make the most efficient use of past developments, and (c) help educate/move technology state-of-the-art towards the advantages inherent in FI-WARE.

3 Trust and security	
Key Action 6: Present in 2010 measures aiming at a reinforced and high level Network and Information Security Policy, including legislative initiatives such as a modernised European Network and Information Security Agency (ENISA), and measures allowing faster reactions in the event of cyber attacks, including a CERT for the EU institutions;	Although the key actions are focused on policy, the chapter "Security, Privacy, Trust" is eager to demonstrate the Vision that a *secure by design* Internet is becoming a reality. The "secure by design" concept addresses the security properties of the FI-WARE platform itself and the applications that will be built on top of it. The basic security architecture will be designed to be extensible to meet additional security requirements coming from both the FI-WARE project and other FI-PPP projects, therefore the architecture and advances provided by FIWARE would be able to facilitate the implementation of high level Network and Information Security Policy, furthermore the technology developed should help.
Key Action 7: Present measures, including legislative initiatives, to combat cyber attacks against information systems by 2010, and related rules on jurisdiction in cyberspace at European and international levels by 2013	No specific issues have been defined at this stage in FI-WARE. However, this could be an area of work in the security chapter (based on what it was described above) and could have a place in the standardization efforts of the project too. The potential contributions of FI-WARE to the legal framework as such will depend on the availability of resources and how necessary is to tackle these issues in this specific environment.
4 Fast and ultra fast internet access	
Key Action 8: Adopt in 2010 a Broadband Communication that lays out a common framework for actions at EU and Member State to meet the Europe 2020 broadband targets	Out of FI-WARE scope although the development of this action will clearly give an advantage to FI-WARE implementation (and potential use of FI-WARE based applications and services)
5 Research and innovation	
Step up efforts and efficiency Driving ICT innovation by exploiting the single market Industry-led initiatives for open innovation	
Key action 9: Leverage more	FI-WARE initiative and the Future Internet Use Case projects are a

private investment through the strategic use of pre-commercial procurement[10] and public-private partnerships[11], by using structural funds for research and innovation and by maintaining a pace of 20% yearly increase of the ICT R&D budget at least for the duration of FP7	clear example of private and public investment. The FI-WARE Open Innovation Lab: It is going to implement a FIWARE Testbed, supporting community involvement beyond Use Case projects and it is defined as a space where future innovations on top of the generic enablers provided by FI-WARE can be nurtured. It is intended that the Open Innovation Lab will be available to third parties (especially SMEs) after the second year. The FI-WARE opens calls will also support this action due to the fact that the FI-WARE project has allocated 30% of the project budget for specific tasks to be carried out by a new beneficiary or beneficiaries which would join the consortium after start of the project.
6 Enhancing digital literacy, skills and inclusion	
Digital literacy and skills Inclusive digital services	
- **Key Action 10**: Propose **digital literacy and competences** as a priority for the **European Social Fund regulation** (2014-2020); - **Key Action 11**: By 2012, develop tools to **identify and recognise the competences of ICT practitioners and users**, linked to the European Qualifications Framework[12] and to EUROPASS[13] and develop a European Framework for ICT Professionalism to increase the competences and the mobility of ICT practitioners across	These actions will be leveraged through the FIWARE Open Innovation Lab around the FI-WARE Testbed supporting community involvement beyond Use Case projects: a space where future innovations on top of the generic enablers provided by FI-WARE can be nurtured. Cutting-edge technologies will be available for SMEs, user and students; the FI-WARE infrastructure will contribute to facilitating the acquisition of new digital skills.

[10] In 2011-13, the Commission will co-finance five new actions on pre-commercial procurement involving Member States.

[11] E.g. in 2011-13, the Commission will be supporting six public-private partnerships from ICT in FP7 for a total funding of €1 billion and leveraging around €2 billion of private spending.

[12] Cf. Recommendation of the European Council and the Parliament on the European Qualifications Framework for lifelong learning.
(http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF)

[13] Cf. Decision No 2241/2004/EC of the European Parliament and of the Council of 15 December 2004 on a single Community framework for the transparency of qualifications and competences (Europass).

Europe;	
7 ICT-enabled benefits for EU society	
ICT for environment Sustainable healthcare and ICT-based support for dignified and independent living Promoting cultural diversity and creative content eGovernment Intelligent Transport Systems for efficient transport and better mobility	
Key Action 12: Assess by 2011 whether the **ICT sector has complied with the timeline to adopt common measurement methodologies** for the sector's own energy performance and greenhouse gas emissions and propose legal measures if appropriate	Albeit indirectly, the chapter Internet of Things Service Enablement is paving the way with its technological contributions such as : Tools, middleware and standards to support communication to any type of device, including gateways. Components for global and uniform management and identification of IoT resources. Components for distributed analysis, filtering, processing and distribution of large amounts of data in highly distributed IoT networks. Tools for process automation and application integration in the highly-distributed environment linked to the Internet of Things. These cutting-edge technologies clearly are going to be the base for the development of common measurement methodologies.
Key Action 13: Undertake pilot actions to equip Europeans with secure online access to their medical health data by 2015 and to achieve by 2020 widespread deployment of telemedicine services;	The tools developed in the following chapters will support the achievement of this target. : Internet of Things Service Enablement Data/Context Management Security, Privacy, Trust
Key Action 14: Propose a recommendation defining a **minimum common set of patient data** for interoperability of patient records to be accessed or exchanged electronically across Member States by 2012	Not within FIWARE scope
Key action 15: By 2012 propose a	Not within FIWARE scope

sustainable model for financing the EU public digital library ***Europeana*** and digitisation of content	
Key Action 16: Propose by 2012 a Council and Parliament Decision to ensure mutual recognition of e-identification and e-authentication across the EU based on online 'authentication services' to be offered in all Member States (which may use the most appropriate official citizen documents – issued by the public or the private sector);	The tools developed in the following chapters will support the achievement of this target : Data/Context Management Security, Privacy, Trust

For every key action the commission has planned a series of sub actions. The following table gives a glimpse on the way FI-WARE has planned to get involved in these actions and collaborate in the development and implementation of the Digital Agenda. Many of them have not been considered a priority yet and we are confident that the developments made during the first year (that include the Open Specifications and some reference implementations) will set up the basis to contribute with concrete contents to these endeavours.

Potential Actions

Foreseen EU Actions	FIWARE actions
Action 20: Investigate the cost of non-Europe in the telecoms market	Follow the publication of 'Steps towards a truly internal market for electronic communications networks and services in the run-up to 2020', Follow the debate consultation (contact: giuseppe.abbamonte@ec.europa.eu)
Action 21: Propose legislation on ICT interoperability	This action is related to WP7 and Standardization. This specific activity of the project is being revisited because of the comments made by reviewers in the last remote review. Based on the new approach followed by the project we will define the concrete steps to be taken (contact: rainer.zimmermann@ec.europa.eu)
Action 22: Promote standard-setting rules	The same applies here (contact: rainer.zimmermann@ec.europa.eu)
Action 23: Provide guidance on ICT standardisation and public procurement	The same applies here (contact: rainer.zimmermann@ec.europa.eu)
Action 25: Analyse the consequences of requesting	To follow the analysis through WP7

significant market players to licence information	
Action 28: Reinforced Network and Information Security Policy In 2011 Publish a Communication containing the principles for internet resilience and stability at the European and global level. Ensure that the heads of the respective institutions will sign the agreement to establish the CERT for the EU institutions. In 2012 Ensure that the regulations on ENISA will be adopted at the EU level. Make sure that CERT becomes operational.	Expected contact from FI-WARE with Antoaneta.Angelova-Krasteva@ec.europa.eu to explain the potential FI-WARE contributions (in principle this action will fall under the security chapter of the project)
Action 54: Develop a new generation of web-based applications and services	Through the FI-WARE Open Innovation Lab FI-WARE plans to support a wide community of developers beyond Use Case projects. It will be a space where future innovations on top of the generic enablers provided by FI-WARE can be nurtured.
Action 69: Assess whether the ICT sector has complied with common energy and emission measures	Evaluate the conclusions of ITU-EC Workshop "Methodologies for Assessing the Environmental Impact of ICT" published on FI-WARE Web Follow the results of the pilot http://ec.europa.eu/information_society/activities/sustainable_growth/call_volunteers_pilot/index_en.htm Dec 2011 Jan 2012

As it has done along this document with all the possible contributions from FI-WARE, all these opportunities will be monitored and assessed against a specific action in the FI-WARE work plan.

Action 16 ⇨ Participate in Digital Agenda initiatives

At the moment of writing this report, FI-WARE has already provided some contributions in different channels. One of them is precisely the collaborative tools set up by the European Commission to get contributions from European citizens (including projects, organizations or individual views). FI-WARE as

project has used this to promote the concept of Open Innovation Lab and get some feedback from people that are neither involved in FI-WARE nor in the FI PPP as such.

An example of this is the OpenIDEO platform (http://www.openideo.com/open/web-start-up/brief.html). FI-WARE has specifically contributed to the following challenge: ***"How might we support web entrepreneurs in launching and growing sustainable global businesses?".***

In this challenge the European Commission is looking for ways to improve the environment for online start-ups. In FI-WARE we are convinced that the Open Innovation Lab will make a great impact on this support to entrepreneurs to develop web business. One may argue that technology is not enough for this. That is why we are relying on the experience of other networks that will help us in better shaping the innovation environment (soft part) on top of the technical infrastructure. Besides that we have initiated specific actions with ICT Labs on that specific topic.

What FI-WARE was expecting by participating in this OpenIDEO platform through the presentation of the Open Innovation Lab was:

- Show the outside world what we are doing so that coordination with other initiatives can take place
- Obtain feedback and "inspiration" from the crowd

For this goal we decided submit a candidature to the challenge mentioned before (in bold letters). The idea has progressed into OpenIdeo and has been well received.

People have provided the *Open Innovation lab proposal* with these comments:

- People appreciate that tools will be available free of charge and have the possibility to take full advantage of this .This means that they can deploy a solution lowering entry barriers (since most of the investments that were needed in the past and some SMEs could not afford will be diluted)
- Other opinions come to the point that putting developers together, and furthermore, putting developers together with the technology providers could foster innovation.
- Some people think that clear, complete and easy-to-use documentation and guides are crucial for the success of such ambitious plans.
- Others went further and said that the Open Innovation could be used as a place to increase development and IT skills, leading to the Education part of the game, which is an area that has been discussed at high level in FI-WARE and could be one of the specific working areas to be set up with ICT Labs
- Some people criticized the fact that other tools already exits and it was not so clear how different FI-WARE GE with respect to available tools and technology already available in the market
- The condition of providing the GE free of charge was extensively repeated. This is the approach followed by the project, even though in principle FI-WARE has committed to provide Open and Royalty free specifications and the implementations and use of the GE as such may have some associated costs. In the same way, while FI-WARE promotes Open Source SW and has proposed reference implementations released as OSS for many enablers, it is true that some specific GE may be released as proprietary SW. However, access to all GE will be provided in reasonable terms, and when the SW is proprietary, FRAND conditions will be a must.
- Others advise that the concept should be available out of Europe and they envisage the Open Innovation Lab populated by the young generation of experts.

- New challenges as neutrality and credibility were also pointed out by others.

To summarize, all these opinions are encouraging us to improve the initial conceptions of FI-WARE and be flexible enough as to adapt the work plan to the real needs of the market, since they are the stakeholders willing to use the Core Platform or its components and therefore willing to pay in the future for the access, the use or services developed around FI-WARE.

An extraction of a couple of comments is provided below as a matter of illustration-.

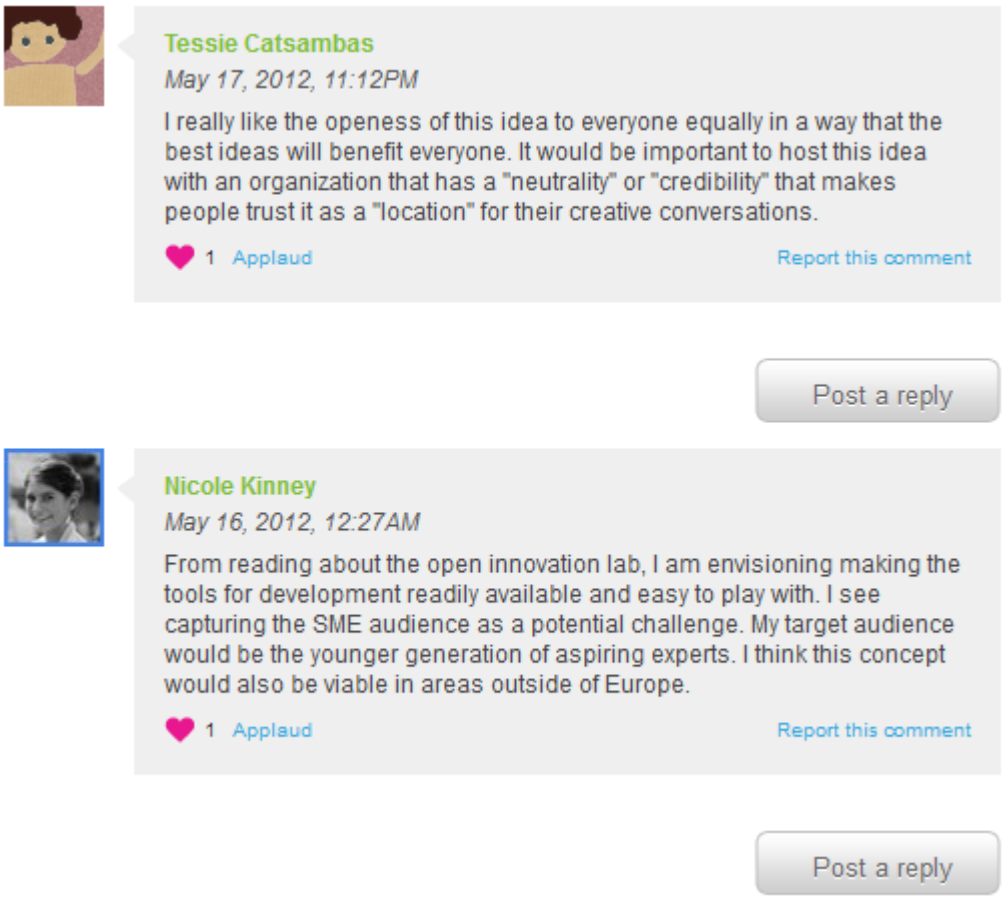

Figure 8 Comments in OpenIDeo about FI-WARE

4.2 Platform Regulatory concerns and Types

Given the fact that recognition of the specific nature of platforms and the associated regulatory concerns came only recently, it is unavoidable that European policy makers and regulators are uncertain about the necessity for intervention (i.e. ex ante or ex post), and a fortiori about the basis and methodology for potential intervention. This is partly a consequence of the fact that platform markets do not fit the relevant market scheme as defined in the European system, and partly the **consequence of the fact that very diverse types of companies may be involved**. Many, if not most of these companies do not have to comply so far with any sector-specific regulation. This also poses the question of **regulated access providers being confronted with non-regulated competitors**. In addition, platform companies operating in multi-sided

markets may offer product and service bundles, with prices set at each side that are often not cost-oriented, without this necessarily leading to a decrease in consumer surplus. **Both lawmakers and regulators therefore will have to display a high level of inventiveness in order to deal with these issues in the short term**.

As the emphasis of current European legislation and regulation of electronic communications currently **lies with competition issues in the access market, upstream market developments are largely ignored**. However, not only businesses with significant market power in access markets may abuse their position at the expense of their competitors and of end users, but increasingly, **these access providers are dependent upon service providers, content providers, software and hardware manufacturers that are also in the position to abuse their power.**

Under the new Digital Agenda (2010), Europe appears to move further towards regulating platforms in general, i.e. the access to platforms, **the interoperability between platforms**, and so on

- New European **interoperability rules** foreseen for the electronic communications industry, **based on antitrust rules related to the abuse of market position, referring to a significant position**. In this case, obligations will be imposed related to licensee interoperability information, **to ensure consumer choice in software as well as hardware.**

Traditionally, there have been reasons for regulating some platforms and not others

- In electronic communications, **access operators are regulated in an ex ante** fashion because **they control essential facilities and because the prospects for competition are regarded as limited**. **In other parts of the ICT industry**, dominant players are **regulated ex post under competition law**.

Nevertheless, traditional **regulatory analysis is not equipped to deal with platforms activity**

- Pricing and cross-subsidization strategies
- Bundling strategies
- Collaboration strategies
- For **platform regulation, it is indispensable to take into account the specific business models employed by those platforms**. e.g. criticisms of EU ruling of Microsoft server case (Pardolesi &Renda, 2004)

Additionally, platform regulation has to overcome the **following barriers**:

- Economic barriers Protectionism: national/regional exclusionary practices
- Incumbent dominance: regional, layer (telecoms, IT, platform, business service) monoliths
- Entry or interoperation barriers Includes technology, standards, business model, contractual barriers
- Demand side: Lock-in, attitudes to new technology, trust
- Language, resistance to social/business model change
- Legal barriers Legal or regulatory differences, inefficiencies and ineffectiveness, due to licensing, privacy/security, standards, or financial regulation
- Policy fragmentation

- Member state stovepipes, National protectionism, barriers to harmonization, divergent objectives, regulatory competition
- Sectorial stovepipes Lack of joined-up policy, regulatory capture, stovepipes
- Policy objective conflicts, Including economic recovery versus competition or environment

In the Deliverable 11.1 Market and Competition Analysis studied the main platform typology regarding the different control and value configurations that platforms employ and linked them with regulations concerns regarding with questions such as; who has dominance within a complex ecosystem of actors, who possesses the strongest bargaining position, who may function as a competitive bottleneck, and who may lock-in users.

	No Control over Customers	**Control over Customers**
No Control over Assets	Neutral Platform	Broker Platform
	The platform owner is strongly reliant on the assets of other actors to create the value proposition, and does not control the customer relationship	The platform owner is strongly reliant on the assets of other actors to create the value proposition, but does control the customer relationship
	Regulatory concerns: - *no specific concerns*	*Regulatory concerns:* - *Customer lock-in (raising switching costs)* - *Price squeeze of service / content providers*
Control over Assets	Enabler Platform	System Integrator Platform
	The platform owner controls many of the necessary assets to ensure the value proposition, but does not control the customer relationship	The platform owner controls many of the assets to ensure the value proposition, and establishes a relationship with end-users. Entry of 'third-party' service providers is actively encouraged
	Regulatory concerns: - *Refusal to deal* - *Strategic design of products (interoperability)* - *Lock-in of service/content providers*	*Regulatory concerns:* - *Customer lock-in (raising switching costs)* - *Price squeeze of service / content providers* - *Refusal to deal* - *Strategic design of products (interoperability)* - *Lock-in of service/content providers* - *Cross-subsidisation*

Figure 9 Platform Types and Regulatory Concerns

Depending on the business strategy of a particular FI-WARE instance provider all mentioned Platform Models can be realized with subsequent changes to the underlying platform and customization of the various platform parts.

In addition to the reappraisal of regulatory frameworks and practices that the rise of platforms in ICT markets invites FI-WARE have identified the main regulatory challenges from the technical chapters and those non-technical aspects that could influence FI-WARE exploitation in one way or another. In the first year the project will identify those channels that could help to this purpose. Thus, this document identifies interesting organizations/communities to talk to, defines actions and presents some of the contributions already made in the initial phase of the project.

4.2.1 FI-WARE chapters main technological regulatory challenges

The FI-WARE project has filled in the Matrix of policy, regulation and governance formulated by CONCORD. The main aim of this exercise is to highlight the main regulatory concerns, to establish the current situation and to formulate the expected situation

Issue	**Where we are**	**Where we need to be**
Online Identity, including anonymity, digital presence, rights to delete information, etc.	An important lot of national and European law and regulation: Directives & Framework Decisions • 25.01.2012. COM(2012) 10. Proposal for a Directive of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data by competent authorities for the purposes of prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and the free movement of such data. • Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws. • Council Framework Decision 2008/977/JHA of 27 November 2008 on the	An important work of compilation of the laws in Europe and in each State of European Union is to be undertaken. This preliminary work will assess the efforts needed to harmonize policies and regulations, particularly regarding privacy. This harmonization will promote the trust in electronic exchanges both for the commercial, industrial, cultural, medical and administrative domains. FIWARE can to contribute to these efforts by making some proposals in this direction.

	protection of personal data processed in the framework of police and judicial cooperation in criminal matters. • Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC. • Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector. • Application to the EFTA countries Norway, Iceland and Liechtenstein under the EEA AGREEMENT - Decision of the EEA Joint Committee No 83/1999 of 25 June 1999 amending Protocol 37 and Annex XI (Telecommunication services) to the EEA Agreement OJ L 296/41, of 23.11.2000. • Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. **Regulation** • 25.01.2012. COM(2012) 11. Proposal for a regulation of the European Parliament and of the Council on the protection of individuals with regards to the processing of personal data and on the free movement of such data (General Data Protection Regulation) • Regulation (EC) 45/2001 of the European Parliament and of the Council of 18. December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data. **Directives and regulations in France** • 25.01.2012. COM(2012) 11. Proposal for a regulation of the European Parliament and of	

	the Council on the protection of individuals with regards to the processing of personal data and on the free movement of such data (General Data Protection Regulation) • Regulation (EC) 45/2001 of the European Parliament and of the Council of 18. December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data.	
Cloud computing, including the risks and benefits of virtual access to information, etc.	To fully benefit from cloud computing, organizers must ensure that the data, applications and systems are properly secured so that their cloud infrastructure will not expose the organization to risk. Cloud computing has the usual requirements of traditional IT security, though it presents an added level of risk because of the "externalized" aspects of a cloud model. This can make it more difficult to maintain data integrity and privacy, support data and service availability, and demonstrate compliance. In effect, cloud computing shifts much of the control over data and operations from the client organization to their cloud providers, much in the same way organizations entrust part of their IT operations to outsourcing companies. Even basic tasks, such as applying patches and configuring firewalls, can become the responsibility of the cloud service provider, not the user. This means that users must establish trust relationships with their providers and understand the risk in terms of how these providers implement, deploy, and manage security on their behalf. This trust but verify relationship between cloud service providers and consumers is critical because the cloud service consumer is still ultimately responsible for compliance and protection of their critical data, even if that workload had moved to the cloud. In fact, some organizations choose private or hybrid models over public clouds because of the risks associated with	Assessing the risks associated with cloud computing, such as data integrity, recovery, privacy, and tenant isolation is critical to the adoption of cloud technologies. These risks call for automated end-to-end security with a heavier emphasis on strong isolation, integrity and resiliency in order to provide visibility, control and automation across the cloud computing infrastructure. Infrastructure sharing calls for a high degree of standardized and process automation, which can help improve security by eliminating the risk of operator error and oversight. However, the risks inherent with a massively shared infrastructure mean that cloud computing models must still place a strong emphasis on isolation, identity, and compliance.

	outsourcing services.	
Content regulation, including copyright, licenses, open access, etc.	General EU Data Protection Law (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:NOT). - EU Data Protection Directive (DIRECTIVE 2002/58/EC). - For Telcos and information services provider the e-Privacy Directive, Directive 2002/58/EC (modified by Directive 2009/136/EC). - For telcos DIRECTIVE 2006/24/EC on data Retention about specific data that need to be retained.	As long as BigData, Notifications and Context Events are related to different vertical applications, it comes down to the problem domain being worked on. Therefore more directives might be identified depending on the specific vertical areas and locations of application. For instance, in the collaboration with the Safecity UC project, a video surveillance related scenario in Spain was affected by the following directive on protection of personal data: http://www.agpd.es/portalwebAGPD/canaldocumentacion/legislacion/estatal/common/pdfs_ingles/Ley_Orgnica_15-99_ingles.pdf
Internet of things, and the connections between people and devices	Currently, regulation around Machine to Machine (M2M) services is not really a hot topic. Some countries as France are integrating some new laws to impose new M2M services more specifically in the utilities area (electric metering - October 2011). This approach raises many issues regarding privacy and data property. Based on our nowledge, except in Germany where a law establishes that data are the property of the own who produces the data, the other European countries do not have specific regulation approach. In many cases, actors who will deploy new sensors will claim the property of their own sensors. In the case of the privacy of people but also in B2B relationships, few contracts include strong commitments how the data collector (as the data owner is not defined) will manage and re-use collected data, as well as the rights of data producers to access their own data and to	Till Internet of Things is a dedicated topic for vertical areas where dominant players impose their views and would not share data, data property is the major concern that could provide consistent gap between European countries depending how National regulation processes would support the deployment of new technologies. As soon as cross-applications between several usage areas would appear, privacy and risk management would become the most important topic which could aim to a major risk for Internet of Things: stop the development. Rules and liability regarding the use of data and access to devices

	modify the potential use of their data. Dealing here with M2M services and raw data collected by specific actors could leave out that smart things would also consume data, this is typically the case of actuators. This other approach would introduce new regulation hot topic especially for risk management and potential viral attacks or trojans. Using more and more applications on their own mobile devices (mobile phone, tablets...) people are more and more interested by their data management and the rights they will give to applications as well as service providers offering these applications. The Data Protection Directive (officially Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data) is a European Union directive which regulates the processing of personal data within the European Union. This directive could be used or revised to include Internet of Things subject but in the opposite, European Union should be flexible to avoid any breakthrough with regulation on this topic in other areas around the world.	(smart things) should be clarified and well-known from users (people and companies) to support the emerging wave of Internet of Things. This regulation should not encompass all concerns but deal with the most relevant depending of the status of smart things and how data could be shared. This step by step approach should reassure all actors, supporting Internet of Things development.
Net Neutrality and Quality of Service	Net Neutrality: It is mainly discussed in http://berec.europa.eu/ and globally can be considered a thread unless all the technologies for controlling the network behaviour / class of QoS are not encompassed in the mare 'filtering' category. Quality of Service: In Italy and in other EU countries there is a NGN requirement, recently regulated by the authorities, called IP-Peering. It is related to the SLA and in particular on the assured quality inter carrier for voice services that will be migrated to the IP / Internet.	• This regulation is an enabler / opportunity for the technologies proposed in FI-WARE dealing with the QoS and open interfaces (device. network) . If the trend remain the same probably for data connections to/from OTT demanding premium services shall be regulated in the same manner
Relationships between consumers and suppliers online	The existing regulations are very much dependent upon the service provided online from the supplier to the consumer. The following Directives can for example	• Additional efforts are to be pursued to ensure secure transactions between customers and suppliers in online transactions. • FIWARE and European

	influence the relationship: • Directive 2011/83/EU of the European Parliament and the Council on consumer rights; • Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. • Directive 2001/29/EC of the European Parliament and of the Council on the harmonisation of certain aspects of copyright and related rights in the information society And its transitions into national law.	industrial enterprises should to develop solutions to ensure secure online transactions.
Cybercrime and Cyberlaw, including phishing, cracking, cyberterrorism, etc.	• Council of Europe – ETS N° 185 - Convention on Cybercrime Budapest, 23.XI.2001, ratified by the national authorities: Title 1 – Offences against the confidentiality, integrity and availability of computer data and systems addressing illegal access, illegal interception, data interference, system interference, misuse of devices Title 2 – Computer-related offences addressing Computer-related forgery, Computer-related fraud Title 3 – Content-related offences addressing Offences related to child pornography Title 4 – Offences related to infringements of copyright and related rights addressing Offences related to infringements of copyright and related rights • In France, the accessing or remain fraudulently, in whole or part of a "system of automated data processing" is an offense punishable by two years imprisonment and a 30,000 euro fine (cp. , s. 323-1, paragraph 1) and any attempt is punishable in the same (cp., art. 323-7. • The Belgian Parliament has in November	More needs are to be done to ensure effective cooperation between EU States' authorities, in particular on preventing cybercrime. In March 2012, the European Commission has proposed creating a dedicated Cybercrime Centre within Europol. We must to promote the development of specialized EU agencies, such as Europol, Eurojust and CEPOL. FIWARE and European industrial enterprises must to develop cybersecurity solutions and to promote interconnections between Cyber Operational Centres.

	2000 adopted new articles in the Criminal Code on computer crime, in effect from February 13, 2001 (COMPUTER HACKING - Article 550(b) of the Criminal Code) • In United Kingdom, the Police and Justice Act 2006 Chapter 48 amends the Computer Misuse Act, see Part 5 sections 35-38. The new amendments came into force on October 1, 2008, and reads as follows: Unauthorised access to computer material and Unauthorised acts with intent to impair operation of computer	

Given the first project-specific identification of issues, we may **identify the generic, overarching issues relevant for multiple projects within the FI PPP projects** (i.e.net neutrality, access to use of personal and business data in networks and privacy issues..) and constitute a linkage to current concerns of policy makers at various levels (EC, national regional etc). Behind these themes are actors and interests (telecom and ICT industry, software, ICT user industries, society at large).

4.3 Tools for regulatory intervention

After identifying the specific concerns, the question is in which way regulators may intervene, if necessary**, to ensure the development of the market and citizens' rights to pluriformity, choice, affordable tariffs, quality and innovation.** Moreover, it should be asked whether **such intervention ought to be ex ante,** i.e. by specifying up front a corpus of regulatory goals and measures with the aim of fixing a number of rights and obligations in an anticipative manner, as is the **typical approach for electronic communication**; **or whether ex post interventions,** essentially based upon classic competition rules, suffice.

Any typology used to characterize platform markets should be based on an analysis of the market situation, and provides an indication of competition issues that may be expected, or may not be ruled out. As with the market definitions of the European Recommendation, NRAs may then, using the principles of competition law, assess whether a company is able to behave independently of competitors, suppliers, and users. Furthermore, they may assess **whether a company is able to price goods or services above the competitive level**. Finally, they may analyze whether **a company can raise 'bottlenecks' against its competitors**. The level of competition is assessed by **analyzing substitutability on the demand as well as the supply side,** using the hypothetical monopolist test for groups of services that are used by consumers for the same purpose. **Article 14 (2) of the Framework Directive** states in this respect: "An undertaking shall be deemed to have significant market power if, **either individually or jointly with others, it enjoys a position equivalent to dominance**, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers". Market definitions necessarily also entail an investigation into the position of users. Instead of being involved merely as passive consumers, they determine, through their choices, **the market shares of the specific platforms**. Those choices are influenced by **several factors, including tariffs, technologies, service offerings, expectations about the success and durability of a specific platform**, usability, and so on. Also, there is the question of the extent to **which consumers themselves may develop** (e.g. content creation and/or distribution) platforms, or at least strongly influence them.

The second step in present regulation is that of market analysis. It is analyzed what the **relative weight (i.e. the market share) is of various businesses operating within a defined market**, and whether there **are sufficient opportunities for other companies to enter the market with chances of success, or to further develop themselves.** If this is not the case, **remedies are imposed** on businesses with significant Market Power. **This is the third step.** It can already be remarked that these remedies will probably have a different form in multisided markets, as they are not, or at **least not almost exclusively, targeted at access problems**, and do not strive towards the ladder of investment principle – even though they cannot be in contradiction with these principles. The assessment of whether a market functions well or not is again based on competition rules. **Three criteria are important in this respect**:

- High and non-temporary barriers to entry in a market;
- The dynamic state of competition behind these barriers to entry ;
- The question of whether existing competition law is sufficient or not. The recommendation on Relevant Markets (para 16) states: " ... **justifying ex ante regulation would depend on the persistence of high entry barriers**, ... the dynamic state of competitiveness and thirdly on the sufficiency of competition law (absent ex ante regulation) to address persistent market failures."

The European framework foresees a number of measures that can be taken ex ante. They are principally aimed at the wholesale market, and derive from the Access Directive and the Universal Service Directive. As they essentially pertain to the regulation of networks, they cannot be applied as such for regulating the platforms reviewed here. The most important remedies in the Access Directive in this context are: transparency, nondiscrimination, accounting separation, co-location and facility sharing, technical standards, price control, cost orientation, and publication and access to information (in the context of potential obligations to grant access to networks/platforms). NRAs can choose to enforce these remedies separately or in combination. An additional remark in this regard is that there is a package of remedies aimed at the protection of the consumer (i.e. the Universal Service Directive), that may also have positive effects on competition. One important element is included in article 3 of the Services Directive: "...that vertical integrated public undertakings which provide electronic Communications networks and which are in a dominant position do not discriminate in favor of their own activities." Reference is naturally also made in the Framework Directive (art. 14 (3)): "Where an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking."

While the competition issues can constitute an effective method for a theoretical and anticipatory analysis with regard to the types of platforms that pose most risks, it is far less evident that all the current remedies are useful in this new context (in this regard, see also the discussion in the section on policy concerns related to platforms in general). **In addition, the underlying markets are far more complex than mere access markets.** The bundling of services, the employment of cross subsidies, and **temporary selling below cost at one side of the market may all be acceptable**, as they may lead to consumer surplus in the longer term. Still, measures such as transparency, non-discrimination and the obligation to negotiate (if necessary under supervision), may be relevant in various cases. **And the more classical instruments of competition law, as translated into the measures of the Universal Access Directive**, will be appropriate in a number of instances. Yet it is **far from evident that these ought to be applied ex ante**

Therefore, **a thorough investigation can be recommended of potential risks as a consequence of multisidedness of markets**, inspired by the current regulation of access markets. Such investigation must lead to a framework to guide NCAs, NRAs, and the EC. It may also yield two positive and important results, i.e. a harmonized approach among the member states and substantial gains in time. It is up to the EC, and in first instance the European Regulatory Group (ERG)- **presently called BEREC, to conduct this investigation and assess whether ex ante regulation is required, or whether ex post intervention, if necessary at all, suffices.**

4.3.1 Coalition for Action on ICT in Regional Programmes (Cooperation with DG REGIO & DG AGRI)

The INFINITY project launched at the end of January 2012 an initiative with the main goal of establishing cooperation between DG INFSO (and soon DG CONNECT) and other DGs, specifically DG REGIO and DG AGRI. The availability of regional funds and the poor visibility of ICT as domain in that field makes us think that there could be opportunities to foster the Future Internet developments in a regional and local context contributing to the concept of Smart Specialization.

FI-WARE has attended the initial meeting and follow up discussions with the aim of understanding potential opportunities for deployment of FI-WARE infrastructure in different environments (we may think about additional Testbeds characterized by different FI-WARE instantiations according to specific needs of local communities). One of the ideas that could be further developed here could be the one of Smart Cities, but taking into consideration local aspects. The presentation of the initiative was based on two days: a first one moderated by INFINITY (and all presentations are available in www.ictregio.eu**)** and more focused on informing the constituency about Smart Specialization Strategies, and a second day addressing brainstorming sessions, from which an action plan has resulted. The developments of this CFA will be followed by FI-WARE to understand in a better way the context and opportunities for contributions. Once this is clear more concrete actions will be defined.

Action 17 ⇨ Participate in the CFA on ICT in Regional Programmes

4.3.2 Institutional Agenda Design Work Group (FI PPP level)

As it is described in the FI-WARE Description of work, one of the goals of T11.4 is the identification of those barriers (at regulatory, policy, legal level) that could prevent FI-WARE from being exploited as expected. This objective has been divided into sub-objectives that have been assigned to each of the FI-WARE technical chapters for the purpose of bringing detailed descriptions on those problems and potential solutions to them-. So far, the work has been purely organizational and a bit conceptual based on the first documents released by FI-WARE.

The purpose in the second year will be to use the new WG set up by CONCORD in the global context of the FI PPP and channel our contributions and findings through it.

The WG has already been presented and some discussions have taken place. First face-to-face meeting will happen in June 2012 and FI-WARE hopes that this mechanism will allow us not only to give information to

the FI PPP and scale it up to the right stakeholders (which is something that we expect indeed) but to get new knowledge that we may have missed along the way because of being more focused on technical aspects.

The challenge is to go more concretely into the direction of developing recommendations to policy makers and regulators, eventually resulting into a Future Internet Policy Roadmap. However, to that end we first should clarify and understand the policy and regulatory issues which are connected to the Future Internet. The approach will be both top down (policy and regulatory debates at national and EC levels and at the level of dedicated organizations such as OECD, ISOC, ITU, IETF etc) and bottom up (policy and regulatory issues in sectorial domains). The projects of FI PPP programme provide us with a good source of information concerning the "sectorial" policy and regulatory issues that are emerging around the Future Internet. These emerging issues in sectorial domains can be connected to the generic policy and regulatory issues addressed by policy and regulatory actors, both at national and EU level and in regions.

CONCORD proposes to revive and intensify these activities and work together among all FI PPP projects. Concretely we propose, on the short term (until early 2013), to concretize our views and positions:

1. Develop a Position Paper on "Future Internet and Policy, Regulatory and Governance Issues". This paper describes the Future Internet Policy, Regulation and Governance Landscape, describes the emerging policy and regulatory issues, and presents initial recommendations. We propose that such paper would be available in January 2013.
2. Organize a Workshop, inviting experts from different organizations such as national and EU policy actors, European Parliament, OECD, ITU, IETF etc, Cities and Regions, as well as interested persons within the FI PPP programme. The mentioned Position Paper will be input to the workshop and revised afterwards. The Workshop could be held early 2013, possibly in Paris at the OECD.
3. Develop an initial set of Recommendations and Action Plan to be offered to Policy and Regulatory actors, both at national and EU level, and proceed our consultations with these actors.
4. Continue community building activities, identifying interested parties and experts at different levels and the issues they are working on, and developing exchanges and linkages.

Available information on the WG (description and work plan) is provided in the form of annex to this document). Actions extracted for the specific work plan of FI-WARE are

Action 18 ⇨ Identify main barriers (of non-technical nature)

Action 19 ⇨ Participate in the WG activities (FI PPP level)

4.3.3 Collaboration with KIC ICT Labs

The overall objective of EIT is to establish a new, radically more responsive configuration of how Education, Research, and Business work together to create significant innovations. EIT builds on top of already existing instruments and uses its own resources to catalyse systemic and lasting changes in the Knowledge triangle encompassing Education-Research-Business.

EIT ICT Labs implements this by adopting and applying the catalyst-carrier model in focused Action Lines addressing selected societal challenges and driven by their needs and opportunities. The educational catalysts focus on robust entrepreneurship education to empower students and integrate them to innovation

ecosystems. Through research catalysts for experimental and living labs, ICT Labs embrace the users and engage them with research. The business catalysts give hands-on and timely help to new ventures or entrepreneurs in large companies. This combination of the three elements is represented by ICT Labs through the Knowledge Triangle.

Figure 10 The Knowledge Triangle (source: ICT Labs)

Based on that description, the collaboration with ICT Labs sounds very promising and it is one of the cornerstones for FI-WARE in terms of taking advantage of the work performed by other initiatives. FI-WARE has taken steps in two ways: a) through the FI PPP as a whole and b) as project directly with ICT Labs.

In the first case, and because of the potential of such collaboration, all projects have contributed through the Steering Board (and managed by CONCORD) to the signature of a Memorandum of Collaboration (MoC) that will set up the basis for joint actions between the two initiatives. The text of the MoC is included as Annex II of this document.

From a FI-WARE point of view we think that we can progress with ICT Labs in different action lines (the way they call their areas of work), but there is one that addresses specifically the challenges of Internet technologies and architecture. Within this action line they have defined three major sub-topics: muti-service networks, efficient networking, and Usable networks. As said, the spectrum of action lines for collaboration expand this specific topic and could be well extended to other action lines, like the one on Smart Cities, which is very relevant to FI-WARE for the purpose of exploitation and deployment of the Core Platform.

Partners that are common in FI-WARE and the ICT Labs (that applies to many of the current nodes of ICT Labs, such as Berlin, Trento, Paris and Stockholm) have already proposed new aspects related to FI-WARE, mainly looking at the third phase of the FI PPP and the sustainability of FI-WARE. We think that thanks to ICT Labs FI-WARE could elaborate a more ambitious roadmap of Testbed deployments, leading to instantiations of the Core Platform for contexts and environments with different characteristics. Besides the technical deployment we could benefit from the innovation ecosystems of the corresponding nodes to generate business on top of them.

Additionally, FI-WARE will explore those roots that have to do with the educational part. That will probably be part of the activities at the level of the FI PPP and may come up with the inclusion of some of the Future Internet activities in the programmes of future masters.

Action 20 ⇨ Define roadmap of joint activities: FI-WARE-ICT Labs and implement actions based on that action plan (this will include those activities defined in the overall context of the PPP too)

5 Roadmap

To undertake all the activities designed in the current strategy the following roadmap has been established.

The roadmap serves as a guide to the project and avoids too much abstraction in the definition of the activities, thus having a tool to monitor the progress and verify if actions are taking place.

It is splitted into two main lines:

ACTION LINE 1 Market Awareness

ACTION LINE 2 Policy and Regulation Analysis

Each action line is composed of actions extracted from the above developed strategy. To complete an action successfully several sub-actions may be required. The complexity of the sub-actions is marked by colours, red being the top difficulty, orange the average difficulty and green when no problems are foreseen.

Measurable results and metrics allow for an objective assessment with a quantifiable outcome.

Status provides the situation of the sub-action at this stage of the project.

ACTION LINE 1 Market awareness					
DESCRIPTION ACTION LINE					
ACTION Nº	**ACTION**	**SUB-ACTION**	**COMPLEXITY**	**MEASURABLE RESULTS AND METRICS**	**Status**
1	To involve Relevant Actors, Smart Cities and Companies	1.1 To involve 6 Smartcitites		To obtain the expression of interest of at least 6 Smartcities	Ongoing
		1.2 To involve large companies of at least 10 different sectors		To obtain the expression of interest of at least 20 large companies	Ongoing
		1.3 To involve ICT SME companies		To obtain the expression of interest of at least 50 SME	Ongoing
2	To Contact and to obtain the support			To collaborate with at least 10 bodies	Ongoing

	from business associations and other initiatives				
3	To assess IPR			To manage the IPR issues	This activity is carried out by the task Exploitation Strategy, FI-WARE sustainability and IPR management
4	To promote the Open Innovation Lab			To carry out dissemination activities in order to inform about the set up and availability of the lab	These activities will be carried together with the Dissemination tasks, the actions will be launched during the second year of the project. Not started
5	To elaborate marketing material for business impact			To design FIWARE business brochure	Completed
6	To organize National Events	Sub-action 6.1 To prepare a Spanish National event		Business event held in Spain	Started.
		Sub-action 6.2 To prepare a French National event		Business event held in France	
		Sub-action 6.3 To prepare a Italian National event		Business event held in Italy	

		Sub-action 6.4 To prepare a German National event		Business event held in Germany	
7	To organize European Event/s			At least to organize 1 event with European scope	Maturing
8	To get involved in sectorial Events			To attend and participate in vertical domain events	Some events already attended (ex. SmartAgrimatics 2012)
9	To obtain feedback from questionnaires			To undertake a global survey in order to obtain feedback of the project	Not started
10	To hold Open Calls events			At least 6 FI-WARE presentations in the open-call	Several presentations have been made related to the open calls
11	To validate the FI-WARE message			Ask for feedback of FI-WARE business activities	Started
12	To assess the FI-PPP programme			To analyse the FI-PPP project exploitation results	Started (ongoing)
13	To participate in workshops			To participate in all workshops called by the working group	Started
14	To submit contributions to public			To submit FI-WARE candidature to	Some initiatives already taken

	consultations			contest and open consultatons	
15	To organize a hackathon			One hackathon is planned	Maturing
16	To undertake surveys			Maximize potential channels, but at least 1 survey from the project website	Started
17	To analyse on-line comments and feedback				Started

ACTION LINE 2 Policy and Regulation Awareness					
DESCRIPTION ACTION LINE					
ACTION Nº	**ACTION**	**SUB-ACTION**	**COMPLEXITY**	**MEASURABLE RESULTS AND METRICS**	**Status**
16	To participate in Digital Agenda events	Participating in Digital Agenda events		To participate in Digital agenda related events and elaborate a FI-WARE vision	Ongoing
17	To participate in the CFA on ICT in Regional Programmes			To participate and contribute to the CfA and elaborate a FI-WARE vision	Ongoing
18	To identify the main barriers (of non technical nature)			List of barriers identified	Ongoing

19	To participate in the Institutional Design Agenda Work Group activities				Ongoing
20	To Define roadmap of joint activities: FI-WARE-ICT Labs and implement actions based on that action plan			Action plan available and monitoring exercise	Ongoing

6 Implemented actions

During the first year of the project several actions have been implemented according to the established roadmap. The following table shows the summary of those ones.

ACTION LINE 1 Market awareness			
DESCRIPTION ACTION LINE			
ACTION Nº	**ACTION**	**SUB-ACTION**	**ACHIEVEMENTS**
1	To involve Relevant Actors, Smart Cities and Companies	1.1 To involve 6 Smartcitites	Meeting held with the city of Málaga. Further information can be found on http://wiki.fi-ware.eu/Communication_activities The city of Málaga has offered its sensors. Informal discussions have happened with some other cities involved in the programme
2	To Contact and to obtain the support of business associations and other initiatives		Madrid Chamber of commerce has provided feedback to the FI-WARE strategy Discussions ongoing with EIT ICT Labs (MoC already signed)
3	IPR assessment		The IPR analysis of the generic enablers implementation of the Testbed 1st release has been provided.
4	To promote the Open Innovation Lab		The Open Innovation Lab has been presented in many events (see complet list in the dissemination section of the wiki) to different constituencies, including regions.
5	To elaborate marketing material		A dypthic and a tryptic have been designed.
6	To organize National Events	Sub-action 6.1 To prepare a Spanish National event	A national event together with the Madrid Chamber of commerce is under preparation. It is foreseen to be held end of the year or at the beginning of 2013
8	To become involved in vertical Events		Attendance by FI-WARE to all the Use Case meetings organized in the context of the PPP to understand their fields. Keynote speaker from FI-WARE in the SmartAgrimatics 2012 conference to understand the

			Agri-food value chain
10	To hold Open Calls events		Infoday on the 1st Open Call of FI-WARE held in the CDTI, Madrid Infoday on the 1st Open Call of FIWARE held in Málaga. There were also 2 related events in France. The open call has been presented in a huge number of events (not only designed for this purpose) but with a focus on the Open Call because of the timing (ex. FIA Aalborg. See the complete list in the dissemination part of the project wiki) Further information can be found on http://wiki.fi-ware.eu/Communication_activities#Infodays
11	To validate the FI-WARE message		The FI-WARE message was presented to CONCORD project in Málaga bilateral meeting.
12	To assess the FI-PPP projects		The information obtained about the FI-PPP Projects has been analysed in the task Market and Competition Analysis
13	To participate in workshops		See the complete list in the project wiki
14	To submit candidatures Action		FI-WARE has submitted the concept of the Open Innovation Lab to the collaboration tools set up for the Digital Agenda Assembly preparation and has followed the process, being one of the most voted ideas

ACTION LINE 2 Policy and Regulation Awareness		
DESCRIPTION ACTION LINE		
ACTION Nº	**ACTION**	**ACHIEVEMENTS**
16	To participate in Digital Agenda events	First Digital Agenda Assembly was attended in 2011 by some members of the consortium to get some context. The second GA Assembly will take place at the same time than the review meeting. However, FI-WARE has participated in the collaborative tools set up by the EC to help in the preparation of the contents. Our contribution has been based on the Open Innovation Lab, which got good support in the voting process; feedback from external people has been analyzed and inserted in

		the loop of FI-WARE development.
17	To participate in the CFA on ICT in Regional Programmes	Attendance by FI-WARE to the meeting held in Brussels on the 21-22 January, 2012 and follow up of the process. Special interest of our project could be the potential deployment of FI-WARE Testbeds adapted to regional needs in different places in Europe. Representative in CfA: Atos
18	To identify the main barriers (of non-technical nature)	FI-WARE has elaborated a list of barriers available in the exploitation part of the wiki. Nevertheless, this activity will be inserted in the context of the Institutional Design Agenda WG (at PPP level and managed by CONCORD), since the identification of these barriers and limitations is one of the goals of such a WG
19	To participate in the Institutional Design Agenda Work Group activities	FI-WARE has contributed to the definition of the WG and is following related mails, but the activity as such did not start yet. The first meeting (official presentation of the WG) took place in Brussels (april, 2012) and was attended by us. Representative in WG: Atos
20	To Define roadmap of joint activities: FI-WARE-ICT Labs and implement actions based on that action plan	MoC already signed by FI-WARE partners and activities proposed by the project in the context of the ICT Labs Steering Board. Some projects presented by partners (those with participation in current nodes) based on FI-WARE.

7 Conclusions

T11.3 is the task in WP11 responsible for those aspects that have to do with the policy, legal and regulatory environment of FI-WARE as well as the activities for creating market awareness. These activities are very much related to the overall activities of WP11, it is to say, to the exploitation and sustainability of the project, and that is why sometimes T11.3 works in a joint way with the other tasks T11.1 and T11.2. The work in this task and in the WP as such cannot be carried out in isolation, and that is why close collaboration happens at several levels: (a) at FI-WARE level (see the synergy with WP12 but also the elaboration of contents based on the input from leaders of technical chapters), and (b) at FI PPP level, since there are activities defined in the context of the CONCORD project that support precisely the same goals.

This document establishes the framework of work for T11.1 and explains in detail the objectives as well as the roadmap that will be followed in the next two years. The roadmap has been defined with the purpose of achieving concreteness in terms of operations. Since FI-WARE has been very active already in the first year we have also provided the implementation plan in M12 with major activities already developed.

In addition to the reappraisal of regulatory frameworks and practices that the rise of platforms in ICT markets invites FI-WARE have identified the main regulatory challenges from the technical chapters and those non-technical aspects that could influence FI-WARE exploitation in one way or another. In the first year the project will identify those channels that could help to this purpose. Thus, this document identifies interesting organizations/communities to talk to, defines actions and presents some of the contributions already made in the initial phase of the project.

The challenge is to go more concretely into the direction of developing recommendations to policy makers and regulators, eventually resulting into a Future Internet Policy Roadmap. However, to that end we first should clarify and understand the policy and regulatory issues which are connected to the Future Internet. The projects of FI PPP programme will provide us with a good source of information concerning the "sectorial" policy and regulatory issues that are emerging around the Future Internet. These emerging issues in sectorial domains can be connected to the generic policy and regulatory issues addressed by policy and regulatory actors, both at national and EU level and in regions.

We provide here some key words that summarize those areas that have received particular attention in this phase: collaboration with ICT Labs and signature of MoU, setting up of the FI PPP WG on Institutional Design Agenda, follow up and active participation in activities related to the Digital Agenda Implementation, participation in the Coalition for Action on ICT and Regional Funds, discussions with relevant stakeholders for the use of FI-WARE such as Chambers of Commerce, participation in many events, including those in synergy with Use Case projects to better understand the needs of the immediate potential customers of FI-WARE.

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Annex I: Institutional Design Agenda WG

INSTITUTIONAL AGENDA DESIGN

CONCORD Work Group Description Form

1. Objectives and introduction

The **main objective** of the Institutional Design Agenda Work Group (IAD WG) is to identify the policy; regulation and governance conditions that will assist the projects of the FI PPP Program achieve their individual objectives and collectively maximize the impact of the Program itself.

The IAD WG will:

- Identify key barriers/enablers ('gaps') related to policy, regulation and governance at EU and national levels that affect the achievement of the specific goals of the projects and the FI PPP Program as a whole;
- Report on leading trends in institutional, policy, regulation and governance design at international level (US, Asia, Latin America, etc.) and how they may affect the implementation of the FI PPP Program;
- Identify institutional, policy and regulatory actions needed to be taken in order to address existing barriers and put in place enablers that can facilitate the achievement of the FI PPP Program objectives;
- Position policy, regulation and governance issues in a policy 'matrix' that identifies the project-specific (domain) issues to be addressed through policy action and facilitates the implementation of the projects' and the Program's objectives;
- Elaborate proposals for decision-making bodies in order to prepare the policy, regulation, and governance changes that facilitate the uptake of projects' and FI PPP Program results.

The achievement of the IAD WG FI PPP Program-level objectives **requires** the participation and contribution of the individual FI-PPP projects (especially of FI-WARE). This participation is to be considered in addition to any policy, regulation and governance related activities the projects might have

scheduled individually as it is designed to make its impact on FI PPP Program level. This is why the IAD WG structure and agenda presented here is constructed as **a 'forum'** that seeks to enable each FI PPP project to articulate its individual perspective (domain-specific policy, regulation and governance barriers and enablers) in order to achieve its optimal impact on the design and implementation of the policy, regulation, and governance agenda of the FI PPP Program.

2. WG identity and differentiation: definition of terms

The IAD WG has a clearly defined and differentiated identity that is designed to demarcate its value-added for FI PPP Program level coordination and support activities without spilling over into other WGs' fields of work. The WG is designed not to duplicate or in any way 'parallel' the work on policy regulation and governance that might be already scheduled by the FI PPP projects themselves *[This demarcation needs to be fully explored with the projects so that we as a Program can maximize impact on specific objectives]*.

By way of drawing the 'profile' of this identity it is useful to define the terms and thematic parameters of IAD WG's work agenda. The term 'institutional agenda design' is fairly broad and it can include areas of interdependency across technology development, standardization, business modeling, security and privacy, among several others. Such interdependencies are openly acknowledged and sought after by the IAD WG in order to maximize cross-fertilization across the different project domains and the FI PPP Program itself.

However, the IAD WG has clearly demarcated work lines. Its identity is centered on a thematic 'triptych' that defines its conceptual and thematic horizon: policy, regulation, and governance. Below, we briefly outline their definitions in order to map the fields to be covered by the WG:

Policy: Policy, for the purposes of the IAD WG, is distinguished from 'regulation' or 'corporate policy'. Both these terms refer mainly to specific 'internal' requirements organizations (private or public) develop that their departments or employees must adhere to, or that they put into place to comply with external legislation. Policy, for the IAD WG, refers to legislation, that is an 'external' directive that sets specific requirements that must be met for an organization or an industry to be legally compliant. A policy typically denotes a principle or a rule to orient decisions and achieve optimal outcomes. Policy may also refer to the process that, based on external legislative constraint, affects organizational decisions, including the identification of different alternatives such as programs or spending priorities, and choosing among them on the basis of the impact they will have. Policy can be understood as a set of political, management, financial, and administrative mechanisms arranged to reach explicit goals.

Regulation: Regulation refers to sets of administrative requirements that constitute or constrain rights and allocate responsibilities. It can be distinguished from policy, or formal legislation and traditional law. Regulation can refer to actions of conduct that can result in imposing sanctions, such as a fine, to the extent permitted by prevailing law. Regulation mandated by a state might attempt to produce outcomes, for instance through incentives, that might not otherwise occur, produce/prevent outcomes in different places to what might otherwise occur, or produce/prevent outcomes in different timescales than would otherwise occur. In this way, regulation can be seen as an implementation support mechanism of policy. Common examples of regulation include controls on market entries, prices, wages, development approvals, pollution control, standards for goods and services, among others.

Governance: Governance is a concept that has been used in various contexts, including state governance, corporate governance, networks, and self-organizing networks, and democratic governance, global governance, among others. In general, it refers to rules, processes and procedures, and specific actions that impact the way in which power is exercised on a specific area of concern. The concept is broader than that of 'government', and extends beyond the institutional machinery that generates policy proper normally associated with the concept of 'state apparatus'. It includes a range of institutional mechanisms that apportion rights and responsibilities and involves different communities of stakeholders in the design and implementation of specific objectives. Policy, regulation and law are among these mechanisms. However, governance can operate through several other channels such as institutional agenda design, decision-making structures and processes, social norms, a well as technology.

3. Role of policy, regulation and governance in FI PPP

The rationale of the IAD WG is rooted in the official European Commission statement that spells out the objectives of the FI PPP Program as a whole:

> "The main goal is to advance a shared vision for harmonised European-scale technology platforms and their implementation, as well as the integration and harmonisation of the relevant policy, legal, political and regulatory frameworks. As set forth in the Digital Agenda for Europe, these are considered to be prerequisites for realizing a European online Digital Single Market (DSM) and, more broadly, an inclusive knowledge society".

The need for an institutional agenda design that addresses policy, regulation and governance aspects is related to the 'two pillared' approach of the Program: 'FI' (technology 'push') and the 'PPP' (technology 'pull'). Policy, regulation and governance play a central role in organizing the incentives structures that cement PPP models that function as the critical 'pulling' mechanisms of new and emerging technologies

(matching supply to demand) and in our case of the outcomes of the FI PPP projects. The same mechanisms play a key role in the valorization of the technological and business modeling outcomes of the projects as they provide the institutional infrastructure – the 'enabling frameworks' – for their implementation and realization of their full socio-economic impact.

The 'shared vision' in the quote above refers to what advanced policy approaches refer to as 'enabling framework'. An 'enabling framework' is focused on removing bottlenecks to FI PPP practices in ways that enhance economic and social dynamism and the innovation capacities of social, economic, and policy-making participants involved in FI PPP initiatives. It is driven by an underlying model of policy, regulation, and governance design that views FI PPP activities and processes as 'living systems' evolving over time depending on the composition of the political, social and economic environments in which they exist, and other factors rooted in location and history. Policy in this context is not the result of blueprint but rather a function of a non-deterministic assessment of the development trajectory of a given FI PPP initiative with the objective to optimize the conditions of its success.

Actions & method

The IAD WG shall first be formed and officially receive its mandate by the FI PPP Steering Board (date TBC). After its approval the WG will define its own actions and methods for achieving its objectives. These, in addition to those tentatively indicated below, are expected to be refined and calibrated through the participation of relevant partners of the projects.

The WG plans to achieve its objectives through the formation of a core team of CONCORD partners (EIIR / Aalto/ Tivit / IBBT/ ENoLL / ERRIN, DOCOMO). This core group will be flanked by a group composed of representatives of each FI PPP project, selected members of the FI PPP community (such as the Advisory Board), as well as relevant experts from without the FI PPP community.

The IAD WG actions are structured around four dimensions of the FI PPP Program: *vertical / horizontal* and *internal / external*:

Along the *vertical* dimension IAD WG will provide support to the implementation of individual FI PPP projects in terms of the domain-specific policy, regulation and governance 'gaps' they encounter. More specifically, it will provide support and insights into the policy, regulation and governance for addressing the challenges encountered in putting in place 'an open architecture and a reference implementation of a novel

service infrastructure' (FI-WARE) as well as the policy, regulation and governance challenges of putting together sustainable PPP arrangements that can drive the results of the use case projects.

The *horizontal* dimension addresses generic policy, regulation and governance issues that have effects in the implementation strategies across projects and the FI PPP Program in general. This dimension also provides the opportunity for knowledge transfer across projects on how individual projects have addressed, or intend to address specific challenges and what can be learnt from such experiences by other projects within the FI PPP Program.

The *internal* dimension generates insights from within the European Commission's research programs. These include policy, regulation and governance knowledge and practice of relevant Internet Framework Program 7 (FP7) research projects and Competitiveness and Innovation Framework Program (CIP) ICT-Policy Support Program (ICT-PSP), and smart city projects. For example, the European Platform for Intelligent Cities (EPIC) ICT-PSP project, which intends to create a scalable and flexible pan-European platform for innovative user-driven public service delivery. The WG will assess the transferability of insights gained from these projects to the FI-PPP Program.

Along the *external* dimension the WG draws on insights, experience and directions of national, EU, and international organs that are not directly linked to the FI PPP but which might have a critical impact on its implementation. It is based on the argument that if policy, regulation and governance are to be influenced during the FI PPP Program, it is important to engage with the relevant national, European and international policy and regulation-generating organizations, such as:

Governments:

Agencies/ministries that elaborate and implement Internet-related public policies and regulations

- Governmental Advisory Committee (GAC) ICANN https://gacweb.icann.org/display/gacweb/Governmental+Advisory+Committee

Private sector:

- European Telecommunications Standards Institute (ETSI) http://www.etsi.org/WebSite/homepage.aspx

Civil society:

- Civil Society Information Society Advisory Council (CSISAC) http://csisac.org/
- European Digital Rights Initiative http://www.edri.org/

International organizations:

- International Telecommunication Union (ITU) http://www.itu.int/en/Pages/default.aspx
- Internet Governance Forum http://www.intgovforum.org/cms/
- OECD, Committee for Information, Computer and Communication Policy www.oecd.org/sti/ict
- United Nations Development Program (UNDP) http://www.undp.org
- United Nations Education, Scientific and Cultural Organization www.unesco.org

Technical community:

- Internet Society (ISOC) http://www.internetsociety.org/
- Internet Engineering Task Force http://www.ietf.org/
- Internet Architecture Board http://www.iab.org/
- Internet Corporation for Assigned Names and Numbers (ICANN)

The IAD WG will assess the relevance and transferability of insights gained from the work of these organs to the FI-PPP Program and the projects themselves.

4. Deliverables, services, and platforms

The IAD WG's work streams are reflected in CONCORD's public deliverable *D3.6 White Paper and Roadmap: Policy, regulatory, and governance recommendations for national, EU and sectoral policies.* Integrating the action lines and method outlined above the deliverables of the WG are broadly organized at project/Program and Program/external levels.

The IAD WG is committed, but not limited, to provide the following deliverables, services, and platforms *[The set of deliverables, along with the possibility to define a platform for policy, regulation and governance services, is to be agreed upon and further refine by the WG after its formation]*:

At *project/Program* level the core contribution of the IAD WG is the development of a policy 'matrix' that will function as an analytical, prioritization, and action 'enabling framework' to orient policy, regulatory, and governance related actions of institutions of the EU and Member States. The 'matrix' will organize issues across FI PPP project and Program thematic lines in terms of the following priority, institutional, policy, regulation and governance related action domains across a spatio-temporal scale under the following headings:

- 'Reconnaissance du terrain' – *'where we are'* -
- FI PPP Program objectives – *'where we need to be'* -
- Prioritization – *'in what order of priority and when'*
- Enabling framework – *'how we get there'* -

In this 'matrix' the IAD WG will identify FI PPP policy, regulation and governance issues from two analytically distinct, but in reality interrelated perspectives that reflect the duality of the FI PPP Program itself, namely:

1. Policy, regulation and governance as seen from a 'technology perspective';
2. Technology as seen from a 'policy, regulation and governance perspective'.

Below we provide a schematic outline of the FI PPP policy, regulation and governance 'matrix' in two parallel phases (full background details are provided in the accompanying document 'D3.6 White Paper and Roadmap: Policy, regulatory, and governance recommendations for national, EU and sectoral policies'). *[The issues identified in the 'matrix' below are only indicative and based on our current knowledge of development of the FI PPP projects. It is expected that it will be further developed, contextualized, and refined to be in full alignment with the issues brought up by the projects and their implications for the development of the FI PPP Program]*

'Matrix' of policy, regulation and governance of the FI PPP

***Phase 1**: Policy, regulation and governance as seen from a 'technology perspective'*

FI PPP policy, regulation and governance issues	Where we are	Where we need to be	In what order/when	How we get there
Online Identity, including anonymity, digital presence, rights to delete information, etc.				
Security of communications, including legal implications				
Cloud computing, including the risks and benefits of virtual access to information, etc.				
Green Internet issues, including reducing the carbon footprint of the ICT sector, ewaste, etc.				
Content regulation, including copyright, licenses, open access, etc.				
E-democracy, including transparency, open government data, empowered citizenship, services to citizens, etc.				
Digital citizenship, including individual and corporate rights and responsibilities, etc.				
Digital inclusion, including access and use of Internet by vulnerable populations, etc.				
Trust, including risk drivers, actors at risk, risk management, etc.				
Online communities, including social networks, virtual relationships, etc.				
Internet of things, and the connections between people and devices				
Relationships between consumers and				

suppliers online				
Distributed knowledge production, including e-science, e-learning, etc.				
Cybercrime and Cyberlaw, including phishing, cracking, cyberterrorism, etc.				

***Phase 2**: Technology as seen from a 'policy, regulation and governance perspective'*

FI PPP policy, regulation and governance issues	Where we are	Where we need to be	In what order/when	How we get there
Socio-political dynamics: unification/fragmentation of the Internet				
Tendencies of reassertion of national sovereignty in the Internet 'space'				
Trends toward commercial 'territorialization' of the Internet				
Trends toward protection and challenges to 'net neutrality'				
Sets of political, legal, social and security reasons that act as drivers of potential fragmentation				
Future Internet and the role of cities and regions				
Scenaria of closed FI PPP systems and governance mechanisms across them				
Trends in the regulation of network operators (specifically regulatory variance regarding 'open access')				
Internet of Things and Internet of Doing Things				
FI PPP environment, energy and sustainability				
Internet-driven social impacts (social networks, fraud, piracy etc.)				
FI PPP trust, privacy and security				
Licensing, certification, regulations, policies				
Standardization and interoperability: policy/regulation vs. market dynamics				
Operational: trends in the design and delivery of clustered services				
Trends in user-centric service design and open innovation				
Policies, regulations and governance issues as they relate to emerging business models				
Internet-driven economic and business				

innovation and productivity impacts				
Dynamics of organizational decentralization/recentralization				
Access and social inclusion: demographic and minority dynamics				

At *Program/external* level the contribution of the IAD WG will take the following forms:

- Workshops involving relevant communities involved in policy, regulation and governance of the FI PPP;
- Position and discussion papers to be presented at relevant forums;
- White papers on topical issues that will support the White paper and Roadmap of the FI PPP;
- Academic publications and paper presentations at relevant international conferences;
- Participation in relevant communities and events.

[This list is indicative and open for further refinement]

5. WG members

The WG members are to be formally designated by their project managers and are empowered to take decisions related to policy, regulation and governance in the context of the WG's activities.

Project	Given Name	Surname	Tel	Email
CONCORD	Takis	Damaskopoulos	+33(0)170917407	takis.damaskopoulos@eiir.org
CONCORD	Laurent	De Clara		laurent.declara@eiir.org
CONCORD	Anna	Sadowska		anna.sadowska@eiir.org
CONCORD	Petra	Turkama		petra.turkama@aalto.fi
CONCORD	Jukka	Mattila		Jukka.Mattila@aalto.fi
CONCORD	Susanna	Avessta		susanna.avessta@tivit.fi
CONCORD	Hermann	Rucic		Herman.Rucic@vub.ac.be
CONCORD	Alvaro	Oliveira		mail@alfamicro.pt
CONCORD	Richard	Tuffs		director@errin.eu
INIFINITY				
FI-WARE				
ENVIROFI				
FINSENY				

Project	Given Name	Surname	Tel	Email
FI-CONTENT				
FINEST				
INSTANT MOBILITY				
OUTSMART				
SAFECITY				
SMARTAGRIFOOD				

Additionally, the following WG members are to be invited from outside the FI PPP Program due to their special expertise and willingness to contribute.

Institution	Given Name	Surname	Tel	Email
OECD	Rolf	Alter		rolf.alter@oecd.org
INTGOVFORUM				
ISOC				
IAB				
INTGOVFORUM				
EDRI				
ETSI	Gaby	Lenhart		gaby.lenhart@etsi.org
GAC (ICANN)				
UNDP				
UNESCO				

Roles (including interaction and communication with other Work Groups, Boards, FIA, Commission, etc.).

The CONCORD project will nominate an IAD WG Leader responsible for internal WG coordination and external WG representation. Each FI-PPP project will also nominate a representative to the IAD WG, who will be responsible for the communication between the WG and the projects participating in it.

The IAD WG shall work in close interaction with FIWARE, as well as the use case projects.

The WG will work in close collaboration with other FI-PPP WGs whose work relate to the policy, regulation and governance of the FI PP Program, especially the Standardisation (Std WG), the Dissemination Work Group (DWG), and the Exploitation & Business Modelling WG (EBM WG). For instance, both of these WGs are expected to generate insights into FI PPP standardization measures and business modeling that have direct implications for the design of policy, regulation and governance. Conversely, the IAD WG can provide insights that can assist both the processes of standardization as well as business modeling, as well as dissemination.

Based on such dialogue and knowledge transfer, in addition to its own specialized work, the WG will submit annual reports to the FI PPP Program Steering Committee detailing the policy, regulation and governance support and coordination actions undertaken, as well as actions to be followed.

Beyond the FI PPP community the IAD WG will engage with and contribute to relevant external communities, among which FInES relevant Task Forces and the Future Internet Socio Economics (FISE) community. In addition, the WG will exchanges knowledge and experience with other FP7 and CIP ICT-PSP research projects and initiatives such as the Future Internet Assemblies (FIAs).

6. Resources

Participation in the WG is not arbitrarily decided. It is based on the FI PPP Collaboration Agreement that forms the cornerstone of cross-project collaboration in the FI PPP program. However, no additional costs are expected from FI PPP projects than those already earmarked for FI PPP Program collaboration activities. Each project is kindly requested to indicate how much time they will be able to allocate to performing the tasks mentioned above. The **total annual PM allocations** for the WG are provisionally estimated as follows:

Project	Effort	Actions
CONCORD	08 PM	– WG start-up and coordination – Other actions
FI-WARE	01 PM	– Participation in WG activities – Other actions
Use Case projects	0,5 PM x 8 + 8 PM	– Participation in WG activities – Other actions

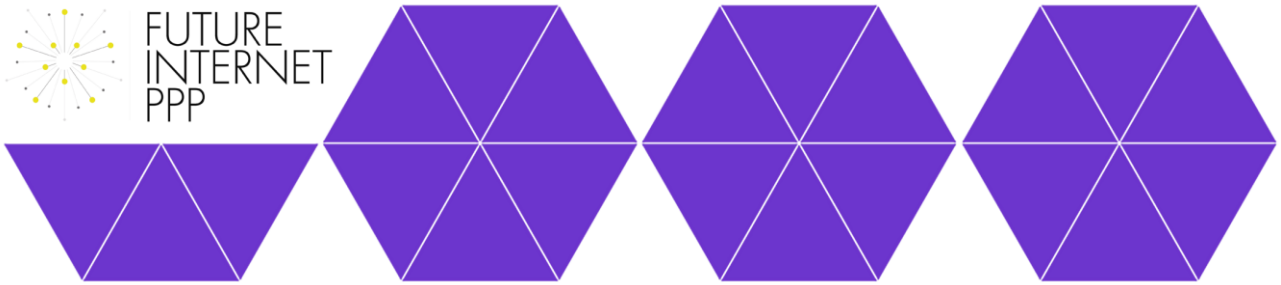
7. Short-term Schedule

Below we outline a tentative short-term schedule for the planned activities of the IAD WG.

Month	Action
March 2012	– Submission of WG Proposal to FI PPP SB - CONCORD
April/May 2012	– Establishment of WG – 1st Draft of FI-PPP Institutional Agenda Design WG program
May 2012	– First WG conference call
May/June 2012	– First WG face-2-face meeting
…	– WG IAD PRG event? – Additional actions to be decided with the WG members

8. Roadmap 2012-16

The IAD WG's long-term Roadmap will be defined in collaboration with the WG participants over the course of 2012 during the WG's quarterly virtual meetings and bi-annual face-to-face meetings.



Annex II: MoU FI PPP-ICT Labs

MEMORANDUM OF COLLABORATION

By and between

EIT ICT Labs IVZW, ("EIT ICT Labs"), an international not-for profit association under Belgian law, having its registered office at 22, Rue d'Arlon, 1050 Bruxelles, Belgium, herein represented by its Chief Executive Officer Prof. Dr. Willem Jonker, on one hand

and

the beneficiaries of the Future Internet Public-Private Partnership programme having acceded to the present Memorandum of Collaboration (hereinafter the "MoC") by June 30, 2012 (hereinafter collectively referred to as "FI PPP Partners" and each such individual FI PPP beneficiary hereinafter referred to as "FI PPP Partner"), on the other hand.

EIT ICT Labs and FI PPP Partners are hereinafter collectively referred to as "Parties".

PREAMBLE

Whereas,

- EIT ICT Labs and FI PPP Partners have certain shared goals by their statutes and by-laws or stated mandates;
- Certain EIT ICT Lab partners (hereinafter the "KIC Partners") are also participating in certain FI PPP projects;
- The FI PPP programme focuses on technology development on one hand and on development of vertical industry-specific applications on the other hand, but has little budget allocated to actual exploitation in terms of sales and marketing of the said technologies or concepts;
- EIT ICT Labs has a strong focus on the kind of exploitation that could also benefit FI PPP projects, FI PPP Partners and FI PPP programme as a whole;
- EIT ICT Labs and FI PPP are already performing thematically connected work in similar domains with often the same actors, and both parties agree that a certain degree of co-ordination would be beneficial;
- Both FI PPP and EIT ICT Labs are expected to be key players complementing each other in the advancement of the European ICT sector; and
- The Parties are in principle willing to advance their mutual interests by setting up common plans, dedicating certain resources, and in general by collaborating in a way that entails no risk of additional liabilities compared to those already signed in the contexts of FI PPP, namely the Collaboration Agreement of FI PPP (hereinafter the "CA"), the EC Grant Agreements (hereinafter the "EC-GAs"), and the respective Consortium Agreements as far as FI PPP is concerned, or the Partner Grant Agreements or other EIT ICT Labs related agreements as far as EIT ICT Labs is concerned.

Now, therefore, the Parties declare their willingness on the following for their mutual collaboration (hereinafter the "Collaboration")

DESIRED OBJECTIVES AND SCOPE OF THE COLLABORATION

The MoC expresses the intention for possible collaborations between EIT ICT Labs and the Future Internet PPP in the areas of Education, Research, and Business Development around technologies and applications developed in the FI PPP. In line with their long-term objective of advancing the innovation capability of Europe in ICT, EIT ICT Labs and FI PPP are interested in helping their partners to realise the benefits expected from the FI PPP programme.

Both EIT ICT Labs and FI PPP Partners are expected to benefit from a more efficient exploitation of FI PPP projects' results. The Parties agree to investigate concrete collaboration activities including activities with regard to the future stages of the FI PPP programme. This could mean collaboration e.g. in the following domains:

- ICT infrastructure – ICT infrastructure to be used as test-bed and trials (2012–2014 timeframe).
- Entrepreneurship – fostering entrepreneurship, combining EIT ICT Labs and FI-PPP resources to reach ICT developers and ICT entrepreneurs (2012–2015 timeframe).
- Education and training – combining EIT ICT Labs and FI-PPP resources to provide technological and entrepreneurship training initiatives (2013–2014 timeframe).

To promote these objectives the Parties hereby declare their intention to collaborate through the FI PPP Partners and KIC Partners. Such collaborations, if and when agreed, will be detailed in separate work plans, which shall be the subject of specific agreements between the parties involved, including FI PPP Partners or KIC Partners. In such specific agreements, the parties concerned will typically deal with aspects such as resources, security, confidentiality, intellectual property rights, liability, and any other aspects they deem to be appropriate.