FInest – **F**uture **In**ternet **e**nabled optimi**s**ation of **t**ransport and logistics networks

Deliverable D9.3

Report and Phase 2 Plan for FI PPP Alignment

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Project Title	Future Internet enabled optimisation of transport and logistics networks	
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Lead Beneficiary	SAP	
Editor(s)	Michael Stollberg	SAP
Contributors(s)	Michael Stollberg	SAP
	Andreas Metzger	UDE
	Rod Franklin	KN
	Guy Sharon	IBM
	Haluk Gökmen	ARC
	René Fleischhauer	SAP
	Stephan Heyne	SAP
	Marianne Hagaseth	MRTK
	Clarissa Marquezan	UDE

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	Fabiana Fourier	IBM
	Özgür Sönmezer	KOC
	Serdar Arslan	KOC
Reviewer	Evert-Jan van Harten	AFKL
	Bülent Erbaş	KOC
Dissemination Level	PU	
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Abstract

This report presents the third and final Deliverable of work package WP9 "FI PPP Alignment", providing the final report of the various activities concerned with contributions to and the alignment of the FInest Project with the FI PPP program conducted in the period M13-M24, and an outlook on the activities planned for continued and improved alignment of the program alignment in Phase 2 of the FI PPP. In accordance to the comprehensive strategy presented in the beginning of the project (see Deliverable D9.1), this provides the progress reports and achievements on tasks T9.1 – T9.4 as defined in the Description of Work (DoW).

The FI PPP is a program involving several projects, where FInest is the Phase 1 use case project on Transport and Logistics. To warrant the overall success of the FI PPP as a whole, and – in consequence – of the FInest project, it is necessary to properly align the R&D activities among the projects and foster constructive collaboration. In full awareness of this, and with the goal of pro-actively contributing to the success of FI PPP, work package WP9 in FInest is dedicated to the coordination of the several activities for prosperously aligning the project with the FI PPP, therewith facilitating achievement of both the program-level objectives of the FI PPP as well as the specific objectives of the FInest project.

The overall strategy for FI PPP alignment as defined in the beginning did not need to be changed, merely been amended with specific activities in accordance to the activities and procedures defined within the FI PPP. The main results on FI PPP alignment in the second year of the project (M13-M24) that are presented here in detail are:

- *The continued pro-active participation with the FI PPP global coordination activities (i.e.: Steering Board, Architecture Board, and the FI PPP Working Groups for program-wide Dissemination, Exploitation and Business Modelling)*
- *The coordinated assessment and validation of 24 out of the 30 Generic Enablers provided by FIWARE, conducted in the context of GE-enabled proof-of-concept implementations and detailed technical specifications in compliance to the procedures defined by FIWARE and the FI PPP Architecture Board*
- *The continued direct interaction with other FI PPP projects, which has resulted in the successful preparation of the Phase 2 use case project 'cSpace' as a merger of the Phase 1 UC-projects FInest and SmartAgriFood and defines detailed plans for implementation and experimentation in alignment with the FI PPP Core Platform project as well as the FI PPP support actions for program-level facilitation and capacity building*
- *An plan for continued FI PPP alignment in Phase 2, including and outlook towards the program-level coordination and cross-project interaction that appears to be necessary to reach the FI PPP objectives along with insights and lessons learned for this from the FInest project.*

Document History

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V0.2	23-02-2013	Revised TOC (from plenary meeting)
V0.3	24-02-2013	Initial Content
V0.5	03-03-2013	Integrated Inputs Section 2
V0.6	04-03-2013	Integrated Inputs Section 3
V0.7	15-03-2013	Added Introduction, Conclusion, Abstract
V0.8	18-03-2013	Added Appendix (GE Usage & Validation)
V0.9	20-03-2013	Prepared for internal review
V1.0	27-03.2013	Final editing, ready for submission

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Acronyms

Acronym	Explanation
ArchB	Architecture Board on the FI PPP
CONCORD	FI PPP Support Action for program-wide coordination and alignment
FI PPP	Future Internet Public Private Partnership (EU-funded research program on the Future Internet) wherein FInest is a Use Case project
FI-WARE	The FI-WARE project, developing the Future Internet Core Platform within the FI PPP
GE	'Generic Enabler', technical term for the technologies developed and provided by the FIWARE project as generic and reusable technical building blocks of Future Internet platforms and applications
INFINITY	FI PPP Support Action for capacity and infrastructure building
SB	Steering Board of the FI PPP
UC	Abbreviation used for the Use Case projects in the FI PPP context
XiFI	Phase 2 Support Action for Infrastructure & Capacity Building

1. Introduction

As the final deliverable of work package WP9 "FI PPP Alignment", this document reports on the activities undertaken in the second year (M13-M24) of the FInest project for alignment with the FI PPP in order to pro-actively contribute to the overall program-level objectives. In addition, it provides an outlook for the continuation on this planned for the cSpace project, a successfully prepared Phase 2 use case aiming at developing and validating a Future Internet enabled collaboration platform for business networks in Agri-Food, Transport and Logistics that has resulted from merging the Phase 1 Use Case projects SmartArgiFood and FInest.

One of the central aspects of the FI PPP is that the involved projects shall closely collaborate in form of a program in order to achieve more substantial impact. In full awareness of this and with full commitment for pro-actively contributing to the overall success of the FI PPP, in the FInest project work package WP9 is explicitly dedicated to manage all activities concerned with the alignment of the project with the FI PPP in a centralized manner. In the preceding reports, we have defined a detailed strategy (see Deliverable D9.1) and provided an interim report for the 1st year of the project duration (see D9.2).

The overall strategy as defined in the beginning did not need to be changed, but has merely been amended with specific activities in accordance to the activities and procedures defined within the FI PPP. In consequence, we here report on the following main achievements on FI PPP alignment from the 2nd year of the FInest project:

- The continued participation in the program-wide coordination activities, i.e. in the respective bodies (Steering Board, Architecture Board, FI PPP working groups) as well as pro-active contributions to several program-level activities leveraged therein
- The active alignment with other FI PPP projects, namely with FIWARE on the usage and validation of Generic Enablers, with other Phase 1 use case project out of which the successful preparation, and with the support actions CONCORD for program-level facilitation as well as with INFINITY and XiFI for infrastructure and capacity building
- An exhaustive assessment and validation of Generic Enablers, which has been done in form of prototypes and proof-of-concept implementations where the GEs available on the FIWARE test-bed have been actually used as well as in the context of the technical specification and conceptual design of various FInest and cSpace components.

The deliverable is structured accordingly: Section 2 reports on the activities and contributions to the FI PPP coordination activities, and Section 3 reports on the direct alignment with other FI PPP projects. Then, Section 4 provides outlook and plan for contributing to the FI PPP program-level objectives in Phase 2, and finally Section 5 concludes the deliverable. The Appendices provide supplementary material on (A) the people from the FInest team who have actively been involved in the alignment of the project with the FI PPP, (B) a detailed overview of the FI PPP alignment activities undertaken throughout the project, and (C) details on the Generic Enabler assessment and validation including executive overviews as well as detailed analysis and validation reports on each of the GEs exploited within the FInest project.

2. Global Coordination Activities (M13-M24 Report)

This section provides detailed reports on the alignment activities undertaken in M13-M24 of the FInest project in the context of the FI PPP global coordination activities, i.e. the bodies and working groups established in order to steer and coordinate the collaboration of the individual FI PPP projects in order to achieve the program-level goals and objectives. The following first recalls the FI PPP Governance Model established for Phase 1, and then reports on the FInest participation and contributions to this throughout the second year of the project.

2.1. FI PPP Governance Model (Phase 1)

With respect to self-containment of this report, we briefly recall the global Governance Model that has been established at the beginning and remained unchanged throughout Phase 1 of the program. Figure 1 shows the overall structure: the Steering Board is concerned with the strategy and overall progress of the FI PPP, the Architecture Board coordinates the alignment and collaboration of the projects on technical aspects, and several working groups are concerned with specific program-level activities such as e.g. dissemination, business models, and regulations. In addition, the Advisory Board consists of external senior-level experts that provide advice and recommendations to the program. The CONCORD Support Action (see http://www.fi-ppp.eu/projects/concord/) is commissioned to facilitate this, while the general structure and responsibilities are defined in the "FI PPP Collaboration Agreement".

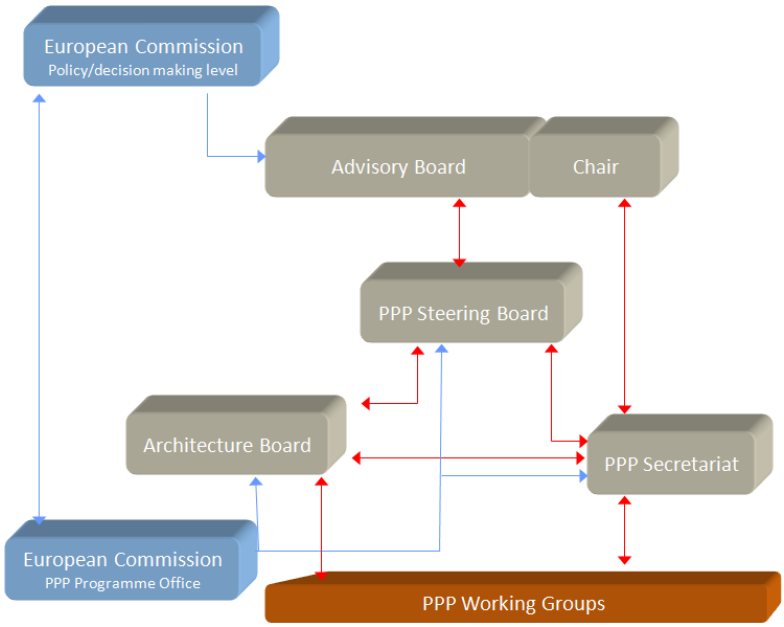


Figure 1: FI PPP Governance Model[1]

[1] Taken from 'FI PPP Working Groups' document provided by CONCORD, May 15, 2011.

2.2. FI PPP Steering Board

As already described in the preceding reports, the FI PPP Steering Board (SB) is concerned with overseeing and steering the overall progress of the FI PPP with respect to the program-level goals and objectives and coordinating the alignment of the participating projects. It is composed of two representatives of each on-going project (usually the Co-ordinator and another representative selected by the project), working with consensus-based decision making in accordance to the FI PPP Collaboration Agreement. Throughout Phase 1, the SB has being chaired by Patrick Gatellier (Coordinator of Instant Mobility Use Case project) with facilitation support by Mikko Riepula (CONCORD).

The SB is concerned with all (non-technical) managerial aspects concerning the FI PPP, ranging from vision building over coordinated alignment of projects and conflict handling towards decisions on program-level dissemination and impact generation. The FInest representatives – Rod Franklin (KN) and Michael Stollberg (SAP) have been participating in all Steering Board meetings throughout the project & program duration (see Table 1 below for a detailed overview), and have actively contributed to several of the program-level activities such as stakeholder involvement, alignment of use case projects, responses to the reviews of the FI PPP by external experts as well as the recommendations provided by the Advisory Board, and assistance in developing business model frameworks. Below, we revisit the most relevant topics and that have been addressed by the SB in M13-M24.

Table 1: Overview Steering Board Meetings (M13 – M24)

Date	Venue	FInest Participants
26-27 March 2012	Brussels, Belgium	Michael Stollberg Rod Franklin
27 April 2012	Virtual	Rod Franklin
30 May 2012	Virtual	Michael Stollberg Rod Franklin
20 June 2012	Brussels, Belgium	Rod Franklin
27 September 2012	Madrid, Spain	Michael Stollberg
25 October 2012	Virtual	Michael Stollberg Rod Franklin
22 November 2012	Brussels, Belgium	Michael Stollberg Haluk Gökmen
20 December 2012	Virtual	Rod Franklin
07 February 2013	Brussels, Belgium	Michael Stollberg
15 March 2013	Madrid, Spain	Rod Franklin

After completing the set-up and basic organization, the Steering Board has addressed a broad range of topics concerning the overall structure, progress, and impact generation of the FI PPP throughout the second year of the program. Primary amongst these has been:

- Actions and Responses to several reviews of the FI PPP: through the year of 2012, several reviews by independent experts (in January and in May 2012) and as well as by the Advisory Board have been conducted, and the SB has reviewed each one in detail and fostered actions where appropriate and necessary. Abstracting from the details, the reviews provided recommendations for the following areas: improved visibility and impact generation, stronger industrial engagement, and more efficient collaboration and decision making within the program. While the first aspect has been addressed by coordinated dissemination efforts (see Section 2.4), the latter two have become subject to extensive discussions. Especially the establishment of more effective decision making structures has occurred to be a non-trivial issue due to the legal frameworks under which the FI PPP program is running; this is still subject to discussion for the preparation and negotiations for Phase 2 (see also Section 4 on this)
- FI PPP Vision Building: also following the review recommendations, the overall vision building for the FI PPP has been re-enforced under the lead of CONCORD; this has resulted in a revised and more detailed overall vision (presented in Q4/2012) and the definition of concrete program-level objectives for the FI PPP along with KPI-based measurements which have been positively regarded by the SB and external stakeholders
- Alignment and collaboration of projects: next to introducing regular status reports and demonstrations from the FI PPP projects as parts of the SB meetings, the SB decided to share the DoWs of the projects among the FI PPP community (except financial information) and gather the results and non-restricted deliverables at a central place (the online system ‘condolence’ where all FI PPP information are gathered, facilitated by CONCORD). As a continuation of the very positively received use case projects alignment meetings commenced in Q1/2012, this allowed a closer and direct interaction among several projects, thereby exploiting the commonalities and possibilities for alignment and exchange.
- Phase 2 preparation: aside from the preparation of the proposals for Phase 2 of the FI PPP (call deadline was October 25th, 2012), the alignment and collaboration mode between FIWARE (resp. the follow-up core platform project), INFINITY / XiFI (infrastructure and capability building support actions), and the use case projects has been discussed in the SB, resulting in the clarification of expectations, responsibilities, and time lines that shall help for a smooth execution of Phase 2 of the FI PPP.

2.3. FI PPP Architecture Board

The Architecture Board (ArchB) is concerned with coordinating the alignment and collaboration of the FI PPP project for what concerns technical aspects, in particular the usage and validation of the Generic Enablers provided by FIWARE by the Use Case projects. It is composed of the technical leads of the UC projects, FI-WARE and INFINITY, and has been headed by the chief architect of FIWARE (Juanjo Hierro) throughout Phase 1 of the FI PPP.

The ArchB now works together for almost two years, and several technical aspects have been addressed and coordinated among the projects, including primarily the provisioning and usage of the Generic Enablers provided by FIWARE along with establishing the necessary procedures for their validation by the UC projects. Each technical member of the ArchB contributes in a

very open, collaborative and constructive way. Still, it appears rather unfortunate that the significant progress and outcomes of the ArchB team to a large degree goes unnoticed in the setting of the wider FI PPP programme. This situation – with the help of facilitating projects – cold be improved while moving from Phase 1 to Phase 2 of the programme.

The ArchB meets monthly, where each 2nd meeting is a full 2-day face-2-face meeting. The table below reports on the meetings and FInest participation during the reporting period.

Table 2: Overview Architecture Board Meetings (M13-M24)

Date	Venue	FInest Participants
12.04.2012	Virtual	Andreas Metzger
14.06.2012	Virtual	Andreas Metzger
11.07.2012	Vienna, Austria	Andreas Metzger
12.09.2012	Tel Aviv, Israel	Guy Sharon
18.10.2012	Virtual	Andreas Metzger
21.11.2012	Saarbrücken, Germany	Andreas Metzger
20.12.2012	Virtual	Andreas Metzger
06.02.2013	Brussels, Belgium	Andreas Metzger
14.03.2013	Virtual	Andreas Metzger

The main contributions of FInest members to the ArchB in the reporting period were

- FInest continued to chair the Task Force on "Data Uncertainty". The aim of the task force is to better understand the UC projects' needs for GEs to specify, measure and reason on uncertain information and to identify in how far those requirements towards uncertainty handling are addressed by FI-WARE GEs and/or the roadmap. Specifically, the "Data Uncertainty" has broadened its scope, welcome additional members from other UCs on board, as well has started to better structure the requirements towards handling uncertainty[2], which are discussed in the following three clusters:
  - Documenting and specifying Data Uncertainty
  - Measuring Uncertainty of Data
  - Reasoning in the Presence of Uncertain Data
- FInest has continued to collaborate along strong interactions with the technical leads of related UC projects. Specifically, jointly with SmartAgriFood a joint Phase 2

[2] The public working document is available from
https://docs.google.com/document/d/1eqdtZQNOkSf0xVh6cmmhqZ4TIZxTRq4XUGhnmEdiFY8

architecture for a collaboration platform has been realized. This platform brings together domain-specific capabilities of FInest and SmartAgriFood with generic capabilities offered by FI-WARE. As a key outcome, this work has led to shaping the technical foundation for cSpace, a phase 2 Trial project currently under negotiation with the EC.

- In general, there have been intense interactions between FInest and FI-WARE concerning feature requests and understanding of the GEs. At the time of writing the FInest technical team has used 7 GEs in order to implement the Mo24 prototypes, where the GEs either have been used as available from the FI-WARE Testbed, or been locally deployed.

2.4. FI PPP Working Groups

In Phase 1 of the FI PPP, the following working groups have been established: (1) the 'Dissemination Work Group (DWG)', established around M4, is concerned with the program-level dissemination activities in order to generate awareness and outreach to relevant stakeholders; (2) the 'FI PPP Exploitation and Business Models Working Group' (EBM), established around M12, that address program-level and exploitation as well as business modelling; it is run under the umbrella of the DWG, due to the close relationship of concerns and the representatives' expertise; (3) the 'FI PPP Standardization Working Group' (Std WG) established in M15 that aims at identifying standardization opportunities with particular focus on technology standardization; (4) the 'FI PPP Policy and Regulatory Working Group' (PolReg-WG) that is currently being established and shall cover (inter)national policies and regulation aspects which affect FI PPP results. The participation to the working groups by the individual projects is not mandatory but of course highly appreciated. With respect to this, the FInest project decided to participate in the DWG (and henceforth in the EBM) since its establishment, but not in the Std-WG because substantial contributions to technical standardization – the primary focus of the working group – have not been planned by the FInest project. This may certainly change for follow-up projects in Phases 2 and 3 of the FI PPP.

The objective of the Dissemination Work Group (DWG) is to align the dissemination strategies and activities of all FI PPP projects to achieve a broad diffusion of information and the uptake of the developed platforms and tools. The FI PPP aims to support this process, working together towards a vision where by 2016 the FI PPP is seen as a single, multi-faceted effort carried forward by a broad partnership of stakeholders bringing Europe to the forefront of Future Internet developments and their implementation to support a competitive and sustainable society. This occurs through all participating projects contributing to programme-level dissemination in addition to their project-specific dissemination efforts.

Continuing the contributions from the previous period, the FInest project has contributed to DWG activities and participated respective meetings and program-level dissemination events as enlisted below in Table 3 also in period M13-M24. All activities are mainly coordinated by FInest Dissemination and Exploitation manager Haluk Gökmen (ARC, also WP10 lead) who is the FInest representative and member of the FI PPP DWG and EBM. The FInest feedbacks and suggestions were mainly provided through teleconferences and e-mails. There was also a face to face meeting in Aalborg to discuss the DWG, EBM and SEWG (Stakeholder Engagement Workstream) issues.

Table 3: Overview of Dissemination, Exploitation and Business Modelling Working Groups Meetings (M13-M24)

30.04.2012	Virtual	Haluk GOKMEN
09.05.2012	Aalborg, Denmark	Haluk GOKMEN Bulent ERBAS (KOC)
10.05.2012	Aalborg, Denmark	Haluk GOKMEN
12.09.2012	Brussels, Belgium	Haluk GOKMEN
27.09.2012	Warsaw, Poland	Haluk GOKMEN
03.12.2012	Virtual	Haluk GOKMEN
06.02.2013	Virtual	Haluk GOKMEN
26.02-01.03.2013	Barcelona, Spain	Haluk GOKMEN Idan Ben-Harrush (IBM)

The 1st face-to-face EBM WG meeting was held in conjunction with FIA Aalborg on the 9th of May in Aalborg. The EBM Working Group has collected all Business Models and Exploitation strategies of FI PPP projects and prepared a draft working paper to outline

- FI-PPP Technical and Business Architecture,
- Innovative Business Models for FI-PPP Services and Applications and
- Societal Benefits and Economic Impact of the FI-PPP

All these work is documented in the internal working group wiki pages. The final EBM meeting in the first phase of the FI PPP is planned to be held on the 19th of March in Brussels.

The DWG has not changed the existing strategy document in this period, but continuously updated the relevant upcoming events and participated in these (also see final reports of FInest WP10 for further details). The DWG has formed an FI-PPP Large Event Task Force in this period to prepare the FI PPP Large Event. Haluk Gokmen from Finest has joined the group and contributed to the activities to prepare FI-PPP Exhibition at the Mobile World Congress 2013 and FI PPP dedicated event in Barcelona. Haluk has participated in both events presenting FInest and cSpace projects. Idan Ben-Harrus from IBM have participated in FInest exhibition at the MWC 2013 as well.

3. FI PPP Projects Direct Alignment (M13-M24 Report)

Based on the positive experiences of direct interaction with other FI PPP projects that have been undertaken by the FInest project team already very early in the program[3], this has been established as permanent activity throughout the project to foster cross-project alignment. The following reports on the specific activities and main achievements on the direct alignment activities with FIWARE (Section 3.1), other Use Case projects (Section 3.2), and the INFINITY support action (Section 3.3). Besides this, the FInest representatives have continuously advocated such direct interactions with the FI PPP global coordination bodies, therewith influencing the SB decision to establish regular alignment meetings for all UC projects that have been taking place Q1-Q2 / 2012 as well as demanding the provisioning of the education sessions and webinars on Generic Enablers that have been driven by FIWARE in 2012.

3.1. Alignment with FI-WARE

As mentioned previously, the interaction with the FI-WARE project is conducted via three channels: (1) by issuing tickets via the online ticketing system using FusionForge (see: https://forge.fi-ware.eu/), (2) by direct interaction with FI-WARE Chapters and Generic Enabler owners (as well as caretakers, see below), (3) and the FI PPP Architecture Board that is presided by the FI-WARE Chief Architect (see Section 2.3).

Concerning (1) and (2), the interaction of FInest with FI-WARE has been streamlined and made more effective based on experience from the first year of the project and based on interactions and exchange of experiences in the FI PPP Architecture Board. Specifically, we follow the model that is nicely described by the SmartAgriFood project in Deliverable D500.4 ("Specification on protocols between domain networks of stakeholders and Core Platform") and is thus recalled here with specific amplifications for FInest.

As a general observation, the collaboration between FI-WARE and the UC projects has shifted to a phase where close contact and direct interaction becomes even more imperative. The availability of instances of GEs in the FI-WARE TestBed, the release and continuous update of specifications, the presentation of a GE catalogue and accompanying documentation mandates fine-tuning the interaction between FInest and FI-WARE.

In order to make sure the interaction and collaboration between UC projects and the FI-WARE team becomes efficient and can be done with low latency, FI-WARE has started to appoint two people dedicated to take care of any issues related to the interaction. They may be consulted for questions regarding persons to contact with regard to GEs, availability of FI-WARE documentation or any generic question related to matters concerning the FI-WARE TestBed.

At the same time, FInest has appointed dedicated caretakers of its own. Those caretakers have been recruited from the FInest technical team. They act as counterparts of the FI-WARE representatives, either directly interacting with FI-WARE to better understand GE capabilities and pose UC requirements, or to channel questions on behalf of FInest towards FI-WARE. As visible success stories of this interaction is the one between the FInest BCM and the FI-WARE

[3] e.g. bi-lateral meetings with other UC projects as well as bi-lateral interaction with the providers of relevant GEs from FIWARE, see D9.2 for further details.

IoS Chapter (see WP8 Deliverables for details) and , as well as between the FInest SPT framework and the FI-WARE IDM and Security GEs (see esp. D3.4, Section 7.5).

In order not to be bottlenecks for communications, these caretakers are people outside of the regular FI-PPP Architecture Board, but are member of the technical team that develop the FInest solutions, specification and prototypes (aka. proof-of-concepts). The task of caretakers is mainly to make sure that collaboration is fluent. This entails pushing for a meeting or conference call whenever it is deemed necessary to unblock an issue and to make sure no request re-mains pending or gets lost. Furthermore, they may meet to monitor progress of tickets or specific action points or raise a yellow/red flag at FI-PPP Architecture Board level when deemed necessary.

Complementing those bilateral interactions between caretakers, the dedicate FI-WARE Training Events and Webinars have been very much appreciated by the FInest technical teams. This allowed presenting the FInest architecture and aims, as well as getting technical insights into what FI-WARE has to offer. Those Training Events and Webinars have fostered the implementation of the proof-of-concepts exploiting FI-WARE GEs as widely as possible.

Based on this, the FInest project has assessed an validated 24 out of the 30 Generic Enablers that have been provided within the first release of the FIWARE, whereof 6 GE are used within the proof-of-concept implementations, for 8 GE have been taken into consideration for the technical design and specifications, and another 10 are considered within the phase 2 implementation plans. Figure 2 provides an executive overview for this, while detailed validation reports are provided in Appendix C.

Figure 2: Executive Overview on GE Usage & Validation by FInest[4]

FI-WARE Catalogue: http://catalogue.fi-ware.eu
Last upate (FI-WARE): 22-Okt-12
Status: **02.11.2012**

FI-WARE GEs (see note 1)	GE implementation product(s) name(s) (see note 4) / owner	Planned/Actual 1st Deployment	**Finest**	Total (i.e. aggregated usage from all UC projects)
data updated on (UC):			01.03.2013	
Cloud Chapter - I2ND				
Allocation of VMs (see note 2)	N.A.	22-Okt-12		5
Allocation of Object Storage (see note 2)	N.A.	22-Okt-12	**U**	7
Cloud Proxy (see note 3)	- / Technicolor	31-Aug-12	**E**	4
Data Chapter				
Complex Event Processing (CEP)	IBM Proactive Technology Online / IBM	23-Aug-12	**D**	6
Publish/Subscribe Broker	Context Awareness Platform / Telecom Italia	26-Okt-12	**U**	8

[4] Excerpt from material of Architecture Board Meeting on March 14th, 2013.

Publish/Subscribe Broker (see note 5)	SAMSON Broker / Telefonica	8-Nov-12	U	8
BigData Analysis	SAMSON / Telefonica	10-Aug-12	D	6
Compressed Domain Video Analysis	Codoan / Siemens	31-Aug-12		2
Media-enhanced Query Broker	QueryBroker / Siemens	1-Okt-12		7
Location	LOCS / Thales Alenia Space	10-Aug-12		5
Semantic Application Support	- / ATOS	23-Aug-12	E	4
Semantic Annotation	SANr / Telecom Italia	8-Okt-12	E	5
Apps Chapter				
Service Description Repository	Service Description Repository / SAP	10-Aug-12	D	5
Marketplace	Marketplace / SAP	10-Aug-12	D	6
Composition Editor/Execution	Light Semantic Composition Editor - COMPEL/ ATOS	31-Aug-12	E	5
Composition Editor/Execution	Mashup Factory / DT	23-Aug-12	E	6
Composition Editor/Execution	Ericsson Composition Editor (ECE) / Ericsson	15-Sep-12	E	6
Composition Editor/Execution	WireCloud / UPM	23-Aug-12	U	5
Mediator	Mediator_TI / Telecom Italia	10-Aug-12	D	4
Mediator	SETHA2 / Thales		E	3
IoT Chapter				
(Backend) Things Management GE	Things Management GE - TID/NEC	31-Aug-12	E	8
(Backend) Device Management GE	N.A.	(2nd release)		7
(Gateway) Data Handling GE	CEP Mobile Manager / Orange, SOL-CEP / ATOS	26-Okt-12	E	6
(Gateway) Protocol Adapter GE	ZPA / Telecom Italia	5-Nov-12		3
(Gateway) Device Management GE	Ericsson Gateway / Ericsson	26-Okt-12		6
Security Chapter				
Security Monitoring GE	Service Level SIEM (SLS) / ATOS; Attack Path Engine/Thales	15-Okt-12	U	6
Identity Management	GCP / DT	31-Aug-12	U	8
Identity Management	One-IDM / NSN	31-Aug-12	D	8
Data Handling	PPL / SAP	23-Aug-12	U	6
DB Anonymizer	DBA / SAP	10-Aug-12	E	3
Secure Storage	SSS / Thales	end november	U	5
Total		7	24	173
				173

1 - The functionality provided by each FI-WARE GE is the one described in the FI-WARE Technical Roadmap: http://forge.fi-ware.eu/plugins/mediawiki/wiki/fiware/index.php/FI-WARE_Technical_Roadmap

2 - Despite there are multiple GEs, what matters is what are you planning to use the FI-WARE Cloud for

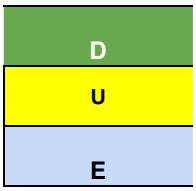
3 - The Cloud Proxy GE is shared between the Cloud and I2ND chapter, therefore merged here

4 - Some implementations have a name but others not, in which case '-' is used

5 - Alternative implementation of the FI-WARE Pub/Sub Context Broker GE

6 - UC Projects should document planned/actual usage of FI-WARE GEs by marking each cell as follows:

- cell meaning you have already taken the GE into your Demo PoC:
- cell meaning you have already taken the GE into consideration in your design:
- cell meaning you plan to experiment with it and consider it based on results:



3.2. Alignment with Use Case Projects

The second area of direct interactions with other FI PPP projects is concerned with the alignment among the 8 Use Case projects that have been run during Phase 1 of the FI PPP. Here, the aim is to identify commonalities and potential for synergies between the addressed application domains for Future Internet technologies and the specific pilots applications build for trials and large scale experiments trails in order to achieve greater impact and market relevance.

As already depicted in detail in the intermediate report at M12 (see Deliverable D9.2), such commonalities have been particularly identified between the three Phase 1 use case projects FInest that addresses the domain of transport and logistics operations in general, Instant Mobility that focuses on urban mobility including city logistics, and SmartAgriFood that addresses the whole food supply chain ('from farm to fork'). Resulting from an open dialog and a series of face-2-face meetings between these three projects that was established around M9 of the program, it has been decided to merge the results of FInest and SmartAgriFood from Phase 1 and extend it towards joint use case project for Phase 2 of the FI PPP called 'cSpace', which aims at developing Future Internet enabled cross-domain collaboration platform for business networks with concrete pilots and trails in the domains of Agri-Food, Transport and Logistics. While referring to other M24 deliverables (mainly from work packages WP1 – WP8) for details on the Phase 2 implementation, experimentation, and commercialization plans, the explains the cross-domain requirements and needs for novel business collaboration solutions which has served as the basis for setting up the cSpace project.

Marriage of FInest and SmartAgriFood (FI PPP Phase 1) towards cSpace (Phase 2)

At first blush the two domains of agri-food and transport and logistics do not appear to have much in common. Yes, one does need to move agricultural products from the greenhouse, farm, or ranch to processing locations and retailers so there is an element of transport and logistics embedded in the domain. However, this would seem to be a peripheral element of the domain where more central activities of growing, harvesting and selling must assuredly differ extensively from the conduct of operations in the transport and logistics domain.

When looked at on the micro level all businesses are different. What integrates them into a comprehensible whole is the application of a logical framework that provides useful abstractions from the particular to the general. Such a framework allows seemingly disparate activities, such as terminal management, farm operations and greenhouse operations, to be seen as similar production activities that can be supported by general purpose Future Internet services and, more particular to this proposal, collaboration services.

A framework that provides an integrative metaphor for this project is that of production. In a production operation one must source materials so that they can be converted by the "production" process into finished items that can be distributed and consumed. In performing all of these functional activities, the business person (whether farmer or logistics service provider) creates plans, contracts with third parties, manages financial flows, provides information to regulatory and consumer bodies, and controls their operations. This business person, using personal contacts and contacts recommended by trusted partners, collaborates with other product and service providers to bring their products to market as efficiently and effectively as possible. Figure 3 outlines this general framework for a generic business.

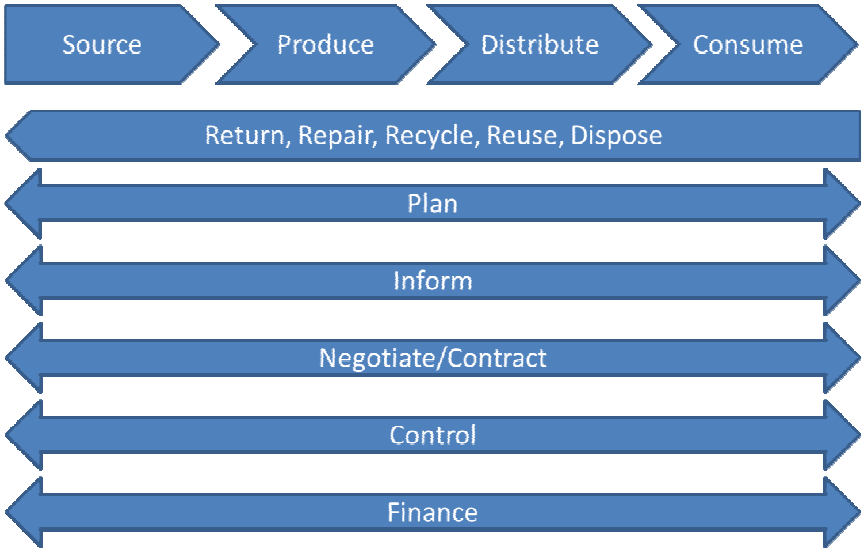


Figure 3: A stylized cross-domain operations framework

Using this production metaphor allows one to see how transport and logistics operations integrate and support the operation of agri-food businesses, and how different agri-food operations actually fit within a total production chain. The general nature of the framework also demonstrates how producers in other domains, such as consumer goods, actually operate in a manner similar to that of an agri-foods producer. This framework provides the basis for the integration of the FInest and SmartAgriFood use case projects from Phase I of the FI PPP.

Problem statement and research questions

Today's market landscape in the agri-food and transport and logistics sectors is highly fragmented creating information dis-economies that require significant investments to overcome. The investments necessary to establish the appropriate relationships to bring products to market tilts the playing field to the advantage of large, international players who have the necessary resources to create the networks required to produce and transport products on a global basis. Because of the time and effort required to develop these networks, these networks are usually "closed" in the sense that once established, there is limited opportunity for new partners to enter to replace established partners.

The lack of a level playing field results in market inefficiencies harming consumers and society through higher costs for agricultural products and transport and logistics services. In addition, society is disadvantaged because socially desirable outcomes, such as reduced environmental impacts, improved food production and innovative supply chain services are not realized because a large segment of competitors, SMEs, do not have sufficient voice in the market to bring their innovative ideas to the attention of consumers.

To address this state of affairs in an effective and sustainable manner requires the application of new business models, enabled through advanced ICT and the Future Internet, that allow all players, small or large, to collaborate and compete on an equal footing. The cSpace project aims at answering the following three key research questions resulting from this:

1. Can a novel business model be developed using emerging Future Internet services that allow SMEs and large enterprises in the agri-food and transport and logistics domains to collaborate and compete for business on an equal basis?
2. Can novel applications of ICT, enabled through Future Internet services, be implemented that improve the production and distribution activities of organizations competing in the agri-foods and transport and logistics domains?
3. Can the bi-directional integration of information generated during the production and distribution of agri-food (and other) products be used to improve both producer and consumer capabilities for managing their production/consumption activities?

This requires innovative ICT solutions that are capable of addressing the business challenges. Examining the industrial needs with respect to business efficiency and socio-ecological impact reveals two central requirements that future ICT technologies in the agri-foods and transport and logistics sectors must address if these questions are to be answered:

1. Efficient support for partner discovery, trust development and inter-organizational collaboration in business networks that operate in agile and dynamic environments and involve a multitude of stakeholders.
2. Seamless integration of information and data in heterogeneous IT landscapes along with embedded facilities for real-world data acquisition and integration.

These requirements can most suitably be realized on the basis of a Future Internet Core Platform that effectively integrates emerging Internet technologies, as envisioned to be developed within the FI-PPP. For the first requirement, sophisticated integration and collaboration support should build upon service-based infrastructures with embedded security mechanisms in order to allow interoperability and information exchange across business networks in a trusted and reliable manner. The second requirement demands a technical infrastructure for the acquisition of real time operational information from real-world sensor networks and their integration into IT systems. The basic facilities for these requirements are planned to be provided by the FI-PPP Core Platform, upon which domain specific capabilities can be developed for satisfying the particular business needs. For the agri-food and transport and logistics domains, the most relevant capabilities are advanced techniques for coordinating complex inter-organizational processes, real-world integration of sensor data to enable operational monitoring of key parameters to improve production and facilitate tracking and tracking, end-to-end visibility for customers, handling of expected and unexpected events as the basis for agile planning and re-planning, and support for (semi-) automated contracting and marketplace interaction.

Apart from facilitating the optimization of existing operational procedures, a Future Internet enabled collaboration platform and surrounding business ecosystem will allow novel business opportunities to be developed that leverage new and more transparent operational processes, enabling a substantial technological leap for triggering radical improvements and innovation in both domains. Because of the outlined similarities, the agri-food and international transport and logistics industries appear to be highly eligible use case domains for the Future Internet: all of its central technical building blocks are required for facilitating substantial business improvements; in turn, testing the capabilities of the both the emerging Future Internet technologies and the collaboration services specifically being developed as an outcome of this proposal through trials from these domains will allow a comprehensive demonstration and evaluation of the holistic view of the Future Internet as envisioned within the FI PPP.

3.3. Alignment with INFINITY

Throughout the second year of the project FINEST continued its collaboration and alignment with the INFINITY project which included participation and contribution at the concertation boards, analysis of the content in XIPI of which results are documented in WP4 deliverables, feedback on XIPI itself and contributing to the phase 2 plan of the project and the positioning and collaboration with the capacity building project XIFI.

Following are details of the various alignment activities conducted during the second year of the project:

1. FINEST participated at the 2nd concertation board workshop held in Zurich in March 2012 with the focus on security, identity and privacy. The project's main focus and contribution at the workshop was in the discussions on Network Support and Service Provisioning in securing the end-to-end movement of data, including integration of clouds and more specifically between FIWARE and public clouds or private enterprise clouds. This becomes very relevant in phase 2 where KOC cloud will be used in combination with the FIWARE testbed and as planned with instantiations by XIFI and a major concern is security and more specifically the movement of data in this constellation.
2. The 3rd concertation board workshop held in Brussels in November 2012 was also attended by FINEST. The focus of this workshop was on the capacity building and lifecycle of test infrastructure relevant to phase 2 and beyond. FINEST main input to the discussions was on the need to identify sensor based infrastructures in particular for transport and logistics (e.g. airports, harbors). XIPI tool and questionnaires don't currently cover such information and changed would need to be made. Moving on to phase 2 with the cSpace project it was therefore planned for the project to provide the infrastructure by itself, and not to solely rely on identifying infrastructures through XIPI. Discussions were later conducted at a FI-PPP architecture board meeting and the negotiation workshop in February 2013 in Brussels on the willingness and benefits to include cSpace infrastructure for capacity building. This will be further investigated in phase 2.

Based on the needs of phase 2 of the project (mainly domain specific infrastructures with sensors and actuators and existing operation systems) and based on the availabilities of the identified infrastructures and plans of capacity building in phase 2, the strategy taken for phase 2 is for the project to run its own infrastructure. While the infrastructure is being setup and deployed with the project deliverables, FIWARE testbed will be used for development and testing and by the time infrastructures would be available by the capacity building project, XIFI, the project deliverables should be able to be migrated to those FIWARE instances or even have XIFI incorporate the project's infrastructure and setup.

Fortunately, during the latest discussions since February (architecture boards, negotiation workshops and others) where all the projects from phase 1 and 2 took part, the observation is that the strategy for phase 2 is correct from the point of view of meeting the goals and supporting schedules for deliverables as well as benefiting the FI-PPP program as a whole. This approach will allow not only testing Generic Enablers in FIWARE testbed but also testing and experiencing their deployment with some of them on another infrastructure in parallel to the activity in capacity building project. This will also allow working very closely with the capacity building project in aligning additional infrastructures to be incorporated by XIFI.

4. Plan for Phase 2

The following provides an outlook and preliminary plan for the FI PPP alignment in Phase 2. This will take place in the context of the cSpace project, a Phase 2 use case project that aims at developing and validating a Future Internet enabled collaboration platform for business networks in Agri-Food, Transport and Logistics and has been successfully prepared as a merged continuation of the Phase 1 use case projects SmartAgriFood and FInest (see esp. D3.4 for details on this, and also the M24 deliverables from WP1-WP8). As the preparations for Phase 2 at still on-going at the time of writing – especially regarding the program-level coordination and interaction of participating projects – we here provide an outlook for the program-wide alignment within the Phase 2 from the perspective of a use case project in the FI PPP.

Firstly, it is important to recognize that Phase 2 of the FI PPP will be of a very different nature. In Phase 1, the eight use case projects have mostly focussed on designing novel value-adding solutions for various application domains with an initial usability assessment of the Generic Enablers developed by FIWARE and investigating the experimentation infrastructures gathered by INFINITY. During Phase 2, the five Phase 2 use case projects will actually implement and validate concrete Future Internet enabled applications and platforms for several areas by using and therewith validating the Generic Enablers provided by FIWARE and the option to utilize the hosting and experimentation infrastructures provided by XIFI (the Phase 2 CSA for Infrastructure and Capacity Building, see Section 3.3). After one year, i.e. at M36 of the program and therewith in parallel to the second year of the Phase 2 use case projects, the Phase 3 projects shall start wherein the results from the Phases 1 and 2 shall be exploited in order to achieve large-scale expansion and industrial uptake of the FI PPP results.

In order to ensure the achievability of the target outcomes of the FI PPP as a whole, a close and efficient alignment of the participating projects is necessary. This encompasses various aspects, including in particular:

- The availability of the Generic Enabler implementations to allow for their usage, validation, and requirements-driven refinement; this involves the FI PPP Technology Foundation projects (FIWARE and the continuation project scheduled for M36-M60), the five Phase 2 use case projects, and the XIFI project
- An aligned, program-level strategy for stakeholder engagement and preparation for the large-scale expansion planned for Phase 3, which demands compelling dissemination and awareness generation activities with pro-active stakeholder engagement (including both potential users and solution providers) as well as business and usage models for re-use and uptake of FI PPP results in Phase 3 projects and beyond; this shall be driven by the CONCORD support action with pro-active contributions of the participating projects in form of respective working groups
- An effective coordination of the necessary interaction and alignment of the FI PPP projects, which shall be ensured by the FI PPP global coordination bodies (a revision of the Phase 1 Governance Model as explained in Section 2.1 is on-going at the time of writing).

Based on the positive experiences from FInest where WP9 has coordinated the various FI PPP alignment activities in a centralized manner – as well as based on similar experiences that have been made in the SmartAgriFood project – the cSpace project plan includes a dedicated tasks for FI PPP alignment (namely: Task 130, allocated in WP100 ‘Project Management’). Similar to WP9 in FInest, this shall coordinate the FI PPP alignment on all relevant aspects as outlined

above, including the pro-active participation in the revised FI PPP global coordination bodies (mainly in WP100 of the cSpace project) and the coherent alignment of project activities with the FI PPP of the respective cSpace work packages that are concerned with development and validation of GEs (mainly WP200 and WP300), pilot application design and experimental validation in trails (WP400), and ecosystem incubation and dissemination (WP500).

The FInest project team has been actively involved in the FI PPP wide preparation of Phase2. This started with the reviews and preparation activities on the program-level undertaken in the FI PPP global governance bodies since summer 2012 (see Section 2 for details), and continued with the successful preparation of the cSpace project as a result of the direct interaction with other FI PPP projects (see esp. Section 3.2). On the behalf of the cSpace project, representatives from FInest participated in the Phase 2 negotiation workshop that took place on February 04-05 as well as the meetings of the FI PPP Steering Board and the Architecture Board in Q1/2013 that have been particularly dedicated to the detailed program-level preparation and cross-project alignment in order to allow for a flying start into Phase 2 with improvements on the effectiveness and visibility of the FI PPP on the program-level.

A very positive observation throughout these Phase 2 preparation activities is the strong commitment and willingness for cooperation which each of the participating projects has shown. Also, several decisions have been made and actions triggered in order to improve the deficiencies of the FI PPP that have been revealed in Phase 1, both within the program as well as by external reviews. This includes specific plans for enhanced program-wide dissemination for awareness generation, stakeholder engagement and impact generation, refined procedures and timelines for GE usage and validation as well as for experimentation infrastructure, and a refined overall vision for the FI PPP along with revised procedures and responsibilities for improving the consolidated work towards the program-level goals. Still in negotiation at the time of writing is a revision of the FI PPP Governance Model: while the aim of improving the project collaboration and decision making appears to be opportune to all FI PPP participants, the legal structures of the ICT Framework 7 disallows establishing central decision bodies for the program; however, the latest negotiation results appear to be promising for reaching a consensus, and most FI PPP participants consider the existing decision making structures and the positive attitude among the participants to be sufficient for making the FI PPP become successful as a program-wide and cross-project activity.

5. Conclusions

This deliverable has presented the final report on the FI PPP alignment of the FInest project that have been coordinated within WP9 in a centralized manner, and provided an outlook towards the continuation in Phase 2 that is planned to take place in the context of the cSpace project.

The overall strategy of FI PPP alignment as defined in the beginning of the FInest project (see Deliverable D9.1) did not need to be changed, but merely extended with the specific action items in accordance to the activities and procedures agreed within the FI PPP. The main achievements on FI PPP alignment in the second year of the FInest project (M13-M19) have been firstly the continuation of the pro-active participation in and the contributions to the FI PPP global coordination activities, including in particular the program-level alignment of projects and actions on external reviews in preparation for Phase 2 addressed in the Steering Board, the improvement technical alignment and GE validation procedures coordinated by the Architecture Board, and the program-level dissemination and awareness generation activities with the Dissemination, Exploitation and Business Modelling Working Groups (see Section 2). Secondly, the FInest project continued on the direct interaction with other FI PPP projects, which was planned in the overall strategy and starting already in the first year of the project (see the interim report in Deliverable D9.2). The main achievements on this are the comprehensive usage and validation of 24 out of the 30 Generic Enablers provided by FIWARE, the successful preparation of the cSpace project as a merger with the SmartAgriFood project, and the continued interaction with the infrastructure & capacity building CSAs that have determined the implementation and experimentation plans for Phase (see Section 3).

Summarizing, with this the objectives of WP9 are considered to be achieved. With the active involvement of FInest project team members across several work packages, we have assessed and validated the relevant Generic Enablers provided by FIWARE in form of proof-of-concept prototype implementations and detailed technical specifications (*cf.* task T9.1 'Alignment with FI PPP Core Platform Project'); pro-actively contributed to the FI PPP program-level coordination facilitated by CONCORD and aligned with the infrastructure building services provided by INFINITY (*cf.* task T9.2 'Contributions to FI PPP Support Actions'); driven the direct interaction with related Phase 1 use case projects, resulting in the successful preparation of the Phase 2 use case project 'cSpace' (*cf.* task T9.3 'FI PPP Use Case Alignment'); and pro-actively contributed to FI PPP program-level activities that , including e.g. the participation in the UC-project alignment workshops, the vision building for the FI PPP as a whole, participation in FIWARE education sessions and webinars, and in joint dissemination activities of the FI PPP (*cf.* task T9.4 'Participation in other FI PPP Activities').

As a closing remark, we conclude with the following insights and lessons learned during the FInest project for the effective alignment and contributions to the program-level goals of the FI PPP, which are already taken up within the cSpace project work plan and might be relevant for other FI PPP projects as well:

- Establishing a dedicated task / work package for coordinating the FI PPP alignment in a centralized manner allows for efficiency and coordinated involvement of people
- Enabling direct interaction among the FIPPP projects – particularly between the experts working e.g. on GEs, pilots, business models, etc. – is very effective for cross-project alignment, complementing the program-level coordination in the governance bodies
- Extending the overall FI PPP vision towards multiple dimensions including novel business models for various industries can substantially strengthen its market relevance and prospects for industrial uptake.

Appendix

(A) FI PPP Alignment Responsibilities

The following enlists the responsibilities for the distinct FI PPP alignment activities. There have not been any changes on this from the initial plan that has been presented in Deliverable D9.1.

Overall FI PPP Alignment Coordination:

- Dr. Michael Stollberg (SAP), FI PPP Alignment Coordinator

FInest Representatives in FI PPP Global Coordination Activities

1) **FI PPP Steering Board**
    - Dr. J. Rod Franklin (KN), Project Coordinator
    - Dr. Michael Stollberg (SAP), FI PPP Alignment Coordinator
2) **FI PPP Architecture Board**
    - Dr. Andreas Metzger (UDE), Technical Coordinator
    - Dr. Michael Stollberg (SAP), FI PPP Alignment Coordinator (deputy)
3) **Dissemination Working Group:** Haluk Gökmen (ARC), WP 10 Lead

FInest Leads for Additional FI PPP Alignment Activities

1) **FI-WARE Alignment:** Dr. Andreas Metzger (UDE), Technical Coordinator
2) **INFINITY Alignment:** Guy Sharon (IBM)
3) **FI PPP Use Case Project Alignment**
    - Dr. J. Rod Franklin (KN), Project Coordinator
    - Dr. Michael Stollberg (SAP), FI PPP Alignment Coordinator

In addition, the following people from the **FInest Technical Team** have been actively involved in **assessing and validating the Generic Enablers** provided by FIWARE (see details in Appendix C and in the report of work packages WP3 and WP5-WP8), organized by partner:

- SAP: Stephan Heyne, René Fleischhauer
- IBM: Fabiana Fournier, Sarit Arcushin
- KOC: Özgur Sonmezer, Dinçer Alkaç, Alihan Arcan, Gökhan İşleyen, Volkan Verim
- MRTK: Kay Fjortoft, Lone Sletbakk Ramstad, Christian Steinebach, Marianne Hagaseth, Åsmund Tjora
- UDE: Clarissa Marquezan

(B) FI PPP Alignment Tracker

Throughout the project, all activities undertaken for FI PPP alignment have been tracked in the so-called 'FI PPP Alignment Tracker' within the eRoom, the online project management and document sharing system used by the FInest project. This includes the attendance meetings (esp. for the FI PPP global coordination activities, *cf.* Section 2), FI PPP related activities such as attendance of FIWARE education sessions, direct interactions for alignment with other FI PPP projects, and contributions to program-wide dissemination and exploitation activities.

For the sake of completeness and self-containment of the final report, we here enlist the FI PPP alignment activities throughout the whole project duration: Table 4 provides the overview for the first year (M1-M12) that has already been reported before in D9.2, and Table 5 provides the detailed overview of all FI PPP alignment activities untaken in the second year (M13-M24).

Table 4: Detailed Overview on FI PPP Alignment Activities (M1-M12)

Date	Activity	Involved People	Venue	Comments
19 May 2011	Steering Board f2f meeting	Michael Stollberg (SAP)	Budapest	
19 May 2011	Architecture Board Meeting	Andreas Metzger (UDE), Michael Stollberg (SAP)	Budapest	
19 May 2011	FI PPP Dissemination Working Group Meeting	Haluk Gökmen	Budapest	
20 Jun 2011	Establishment of CONCORD Liaison Partner for Finest (Jani Kaarlejärvi)	Michael Stollberg (SAP)		following the request from CONCORD to established direct links
29 Jun 2011	FI-PPP projects / INFINITY Meeting	Fabiana Fournier and Guy Sharon	Brussels - IBM joined by phone	Agenda - Requirements Gathering from the FI-PPP projects
4 Jul 2011	Provisioning of FInest Plan for FI PPP to CONCORD liaison partner	Michael Stollberg (SAP)		
25 Jul 2011	Provisioning of 'FInest Generic Presentation' to FI PPP Dissemination Working Group	Haluk Gökmen (ARC), Andreas Metzger (UDE), Rod Franklin (KN), Michael Stollberg (SAP),		on request of CONCORD for program-level dissemination
7 Sep 2011	f2f meeting of technical WPs for identifying initial GEs and preparation of Requests	Technical WP Leads + contributors	Istanbul	
15 Sep 2011	Steering Board Meeting	Rod Franklin (KN)	Brussels	
20 Sep 2011	online document with M& GE Requests	all technical WP leads + contributors	virtual	online document on FInest website: http://www.finest-ppp.eu/index.php/project-results/generic-enablers
20 Sep 2011	FI-PPP Dissemination Work Group monthly	Haluk Gökmen (Arcelik)	Virtual	Taking place regularly on a monthly basis starting in September 2011

Date	Activity	Involved People	Venue	Comments
	Concalls			
21 Sep 2011	FI PPP AB Meeting	Michael Stollberg	Paris	presentation of FInest HLA + initial GE Requests
22 Sep 2011	Architecture Board Meeting	Michael Stollberg (SAP)	Paris, FR	
11 Oct 2011	Added FInest GE Requests to FI-WARE Wiki	All 'owners' of GE Requests; UDE & SAP for coordination	virtual	see FI-WARE Wiki: https://forge.fi-ware.eu/plugins/mediawiki/wiki/fiware/index.php/Unclassified_Enablers#FINEST
24 Oct 2011	1. Tri-lateral Use Case Project Meeting (FInest, SmartAgriFood, Instant Mobility)	Krijn Poppe (SmartAgriFood); FInest: Rod, Andreas, Bülent, Haluk, Michael S.	Poznan, Poland	determined complementarity of projects, agreed on 4 actions for alignment (GE Requests, Joint Early Prototypes, Business Opportunities, Joint Diss / Expl / Stakeholder Engagement)
25 Oct 2011	Steering Board Meeting	Rod Franklin (KN), Michael Stollberg (SAP)	Poznan, PL	
25 Oct 2011	Architecture Board Meeting	Andreas Metzger (UDE), Michael Stollberg (SAP)	Poznan, PL	
25 Oct 2011	FI PPP AB meeting	A. Metzger, M. Stollberg	Poznan, PL	
25 Oct 2011	FI PPP DWG Meeting	Haluk Gökmen, Bülent Erbaş	Poznan, PL	
27 Oct 2011	First Concertation Board workshop with INFINITY and the UC projects	Guy Sharon - IBM	Poznan, Poland	[additional remarks or comments, if any]
18 Jan 2012	Architecture Board f2f	Andreas Metzger	Sophia Antipolis, France	2 days (18.-19.01.)
23 Jan 2012	INFINITY Pilot Survey	Guy Sharon	Brussels, Belgium	Feedback on questionnaire
23 Jan 2012	Smart city applications and services workshop setup (FI PPP Session at Aalborg FIA Week)	Andreas METZGER (UDE) and Haluk GOKMEN(ARCelik)	Virtual	Telcos and e-mails
24 Jan 2012	L-USDL: Technical discussion Concall	Stephan Heyne (SAP), Christan Klauss (SAP)	virtual	Technical discussions about Linked USDL modeling
25 Jan 2012	meeting	Rod Franklin	Brussels, Belgium	FI PPP Use Case Workshop
26 Jan 2012	meeting	Rod Franklin	Brussels, Belgium	FI PPP Use Case Workshop
26 Jan 2012	meeting	Rod Franklin	Brussels, Belgium	Steering Board Meeting
30 Jan 2012	L-USDL: Technical discussion Concall	Stephan Heyne (SAP), Christan Klauss (SAP), Michael Stollberg (SAP)	virtual	Technical discussions about Linked USDL modeling
3 Feb 2012	Feedback for CONOCRD's Dissemination Plan	Haluk GOKMEN(ARCelik)	e-mail / phone call	DWG Activity
22 Feb 2012	concall with INFINITY	INFINITY (Chris Folley), Guy and Fabiana	virtual	Discussed responsibilities of INFINITY, understanding what it could provide to FINEST and how FINEST can direct INFINITY (through

Date	Activity	Involved People	Venue	Comments
				the surveys)
27 Feb 2012	FI-PPP Dissemination Work Group monthly Concalls	Haluk Gökmen (ARCelik)	Virtual	Taking place regularly on a monthly basis starting in September 2011
2 Mar 2012	FInest Planned Dissemination Events to DWG	Haluk GOKMEN (ARCelik)	e-mail / phone call	DWG Collects all use-case planned events
9 Mar 2012	1st face-to-face EBM WG meeting	Haluk Gokmen (ARC), Bulent Erbas (KS)	Aalborg, FIA Event	EBM WG activity
26 Mar 2012	Use Case Meeting	Rod Franklin, Michael Stollberg	Brussels, Belgium	
27 Mar 2012	Steering Board F2F	Rod Franklin, Michael Stollberg	Brussels, Belgium	
27 Mar 2012	meeting	Özgür Sönmezer	Winterthur / Sweetzerland	Project Infinity 2nd Concertation Board Security, Idendity and Privacy Workshop
28 Mar 2012	Architecture Board f2f	Andreas Metzger	Zurich, CH	2 days (28.-29.03.)
	FI PPP Steering Board monthly concalls	Rod Franklin (KN), Michael Stollberg	virtual	taking place regularly on a monthly basis, starting in May 2011
	FI PPP AB monthly concalls	Andreas Metzger, M. Stollberg (deputy)	'virtual'	regular, schedule for 2012 defined in Poznan Meetings (10/2011)

Table 5: Detailed Overview on FI PPP Alignment Activities (M13-M24)

Date	Activity	Involved People	Venue	Comments
12 Apr 2012	FI PPP ArchB concall	Andreas Metzger	virtual	[additional remarks or comments, if any]
26 Apr 2012	L-USDL + Marketplace GE: Design Thinking Workshop Concall	Stephan Heyne (SAP), Michael Stollberg (SAP)	virtual	Workshop
30 Apr 2012	1st virtual EBM WG meeting	Haluk Gokmen (ARC)	Virtual	EBM Workgroup activity
3 May 2012	Use Case Alignment Meeting	Rod Franklin, Michael Stollberg, Andreas Metzger	Amsterdam, NL	tri-lateral f2f meeting with SmartAfriFood and Instant Mobility
9 May 2012	FIA + FI PPP Sessions	Haluk Gökmen, Andreas Metzger	Aalborg, DN	participation in FIA + FI PPP Sessions, presenting FINEST and FI PPP, meeting of EBM working group
9 May 2012	Future Internet PPP - Call 2 Information Day	Haluk Gökmen (ARC)	FIA Week in Aalborg (Denmark)	FInest presentation
10 May 2012	FI PPP Session - Smart city applications and services	Haluk Gökmen (ARC)	FIA Week in Aalborg (Denmark)	FInest presentation
15 May 2012	L-USDL: Technical discussion Concall	Stephan Heyne (SAP)	virtual	Technical discussions about Linked USDL modeling
16 May 2012	L-USDL + Marketplace GE: Design Thinking	Stephan Heyne (SAP), Michael Stollberg (SAP)	virtual	Workshop

Date	Activity	Involved People	Venue	Comments
	Workshop Concall			
30 May 2012	L-USDL: Technical discussion Concall	Stephan Heyne (SAP)	virtual	Technical discussions about Linked USDL modeling
31 May 2012	L-USDL + Marketplace GE: Design Thinking Workshop Concall	Stephan Heyne (SAP), Michael Stollberg (SAP)	virtual	Workshop
4 Jun 2012	FIWARE Education Sessions	Rene Fleischhauer, Clarissa Marquezan, Volkan Verim, Ozgur Sönmezer, Marianne Hagaseth	Madrid, ES	participation in FIWARE Education Events to foster alignment
14 Jun 2012	FI PPP ArchB concall	Andreas Metzger	virtual	[additional remarks or comments, if any]
4 Jul 2012	L-USDL: Technical discussion Concall	Stephan Heyne (SAP)	virtual	Technical discussions about TSD as baseline for Linked USDL 4 T&L
11 Jul 2012	ArchB Meeting (running until 12.07.)	Andreas Metzger	Vienna	Presentation of FInest technical design approach and findings of Data Uncertainty task force
13 Aug 2012	ECM Architecture Presentation concall	Clarissa Marquezan (UDE), Stephan Heyne (SAP), Michael Stollberg (SAP)	virtual	Concal to present & discuss ECM Architecture to FI-Ware
3 Sep 2012	Concall: clarifying question on Marketplace GE	Clarissa Marquezan (UDE), Stephan Heyne (SAP)	virtual	Discussed a list of questions about the Marketplace GE
12 Sep 2012	FI PPP Architecture Board meeting (12-13 Sept)	Guy Sharon	Holon, Israel at Athena premise	Finest updates, CEP and Cloud GE presentations, Phase 2 and Capacity Building impact discussion
20 Sep 2012	L-USDL: Technical discussion Concall	Stephan Heyne (SAP)	virtual	Technical discussions about Linked USDL modeling
26 Sep 2012	Phase II Alignment Meeting with ATOS	Michael Stollberg (SAP)	Madrid (ES), ATOS HQ	alignment of Finest and SmartAgriFood
27 Sep 2012	Steering Board F2F Meeting	Michael Stollberg (SAP)	Madrid (ES) @ Telefonica	
18 Oct 2012	FI PPP ArchB concall	Andreas Metzger	virtual	[additional remarks or comments, if any]
14 Nov 2012	Participation on FIWARE Webinar: Service Description Language, Repository, Registry and Marketplace	Yigit Egilmez(KOC), Stephan Heyne (SAP), Benjamin Bromberger (SAP)	virtual	Linked USDL 4 T&L developed in FInest has been showed as example
15 Nov 2012	Webinar	Gökhan Isleyen , Özgür Sönmezer, Dincer Alkaç	Virtual	FI-WARE , Webinar on Identity Management
16 Nov 2012	Participation on FIWARE Webinar: WireCloud	Yigit Egilmez(KOC), M. Stollberg (SAP), Stephan Heyne (SAP)	virtual	
21 Nov 2012	INFINITY Concertation Board Meeting	Haluk Gökmen, Michael Stollberg	Brussels	
21 Nov 2012	FI PPP Architecture Board (face-2-face meeting)	Andreas Metzger	Saarbrücken, Germany	
22 Nov 2012	Steering Board f2f	Haluk Gökmen, Michael Stollberg	Brussels	

Date	Activity	Involved People	Venue	Comments
22 Nov 2012	FI-WARE IDM concall	Özgür Sönmezer, Gökhan İşleyen, Dinçer Alkaç	virtual	FI-WARE IDM Protoype integration
26 Nov 2012	Webinar	Gökhan İsleyen,Dincer Alkac,Günay Bülbül	virtual	FI-WARE , Webinar on Identity Management(Second Part)
3 Dec 2012	concall	Marianne Hagaseth, MARINTEK	webinar	Webinar: Big Data GE. training
3 Dec 2012	webiner	Özgür Sönmezer	virtual	FI-WARE DB Anonymizer GE
5 Dec 2012	concall	Marianne Hagaseth, MARINTEK	webinar	Webinar : Query Broker: webinar
6 Dec 2012	Participation on FIWARE Mediator Webinar	Rene Fleischhauer (SAP)	virtual	
12 Dec 2012	concall	Marianne Hagaseth, Marintek	webinar	Webinar: FI-WARE Data/Context CDVA GE - Details
20 Dec 2012	Steering Board Meeting	Michael Stollberg	virtual	
20 Dec 2012	FI PPP Architecture Board (confcall)	Andreas Metzger	confcall	-
21 Dec 2012	webiner	Özgür Sönmezer	virtual	FI-WARE Security Monitoring GE
4 Feb 2013	FI PPP Phase 2 Negotiations Workshop	Michael Stollberg, Andreas Metzger	Brussels	as representatives for cSpace (Phase 2 Use Case project follow-up of FINEST and SmartAgriFood)
5 Feb 2013	concall Marketplace Overview	Andreas Klein (SAP, FI-WARE), Stephan Heyne (SAP, FInest), Theodor Förster (SAP, LoFIP)	virtual	LoFIP wanted to get an overview about existing Marketplaces for reuse in LoFIP.
6 Feb 2013	FI PPP Architecture Board F2F	Andreas Metzger	Brussels	1.5 days (06.-07. Feb 2013)
7 Feb 2013	Steering Board F2F	Michael Stollberg	Brussels	
25 Feb 2013	MWC 2013 conference 25/2-28/2	IBM (Idan), Arcelik (Haluk)	Barcelona	FINEST presentation (demonstrator) at the FI-PPP booth
14 Mar 2013	FI PPP ArchB concall	Andreas Metzger	-	
15 Mar 2013	Steering Board (physical meeting)	Rod Franklin	Madrid, Spain	
	FI PPP Steering Board monthly concalls	Rod Franklin (KN), Michael Stollberg	virtual	taking place regularly on a monthly basis, starting in May 2011
	FI PPP AB monthly concalls	Andreas Metzger, M. Stollberg (deputy)	'virtual'	regular, schedule for 2012 defined in Poznan Meetings (10/2011)

(C) Generic Enabler Usage & Validation

The following provides the detailed assessment of the Generic Enablers (GE) used and validated within the FInest Project. For this, we follow the procedures and templates for GE validation that have between provided by FIWARE and are collectively gathered and analyzed in the context of the FI PPP Architecture Board (see Section 2.3)

GE validation in FInest has occurred as part of designing and prototypically implementing FInest platform components and core modules. Thus, in contrast to the initial validation template, which was organized along specific scenarios, we provide this assessment along those FInest elements. An introduction and detailed description of the FInest architecture and its elements can be found elsewhere[5]. In particular, GE usage for the following elements of the FInest solution has been validated, as those elements have been prototypically been implemented (in the form of proof-of-concepts):

- BCM (Business Collaboration Module, *cf.* WP5)
- EPM (Event Processing Module, *cf.* WP6)
- ECM (E-Contracting Module, *cf.* WP7)
- Security Privacy and Trust Layer, of which we specifically focused on the FInest Login component (*cf.* WP3)
- System and Data Integration (*cf.* WP3)

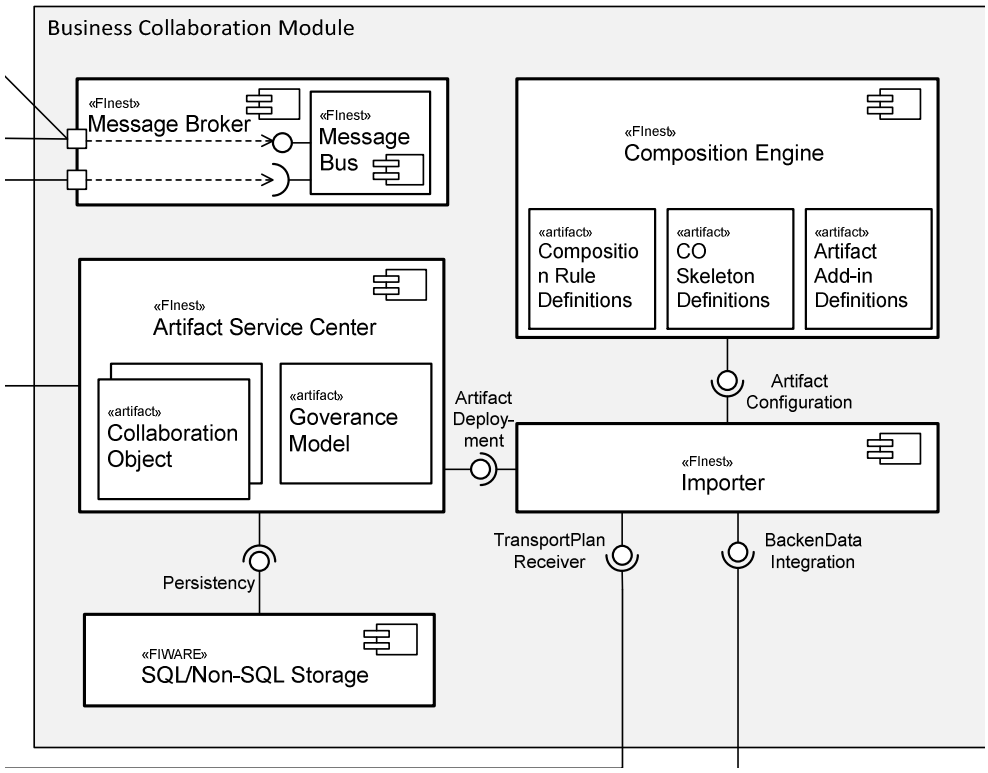
Note that TPM (Transport Planning Module, cf. WP7) does not require any GE for implementation.

(C.1) Validation Context

Business Collaboration Module (BCM)

The BCM aims at the introduction of an infrastructure to manage the end-to-end networks of transport and logistics partners. It integrates information from different external sources as well as other modules of the FInest platform and makes this available for end-users of the system. In order to store this data the BCM uses the SQL/Non-SQL Storage provided by the FIWARE **BigData Analysis GE**, as shown in the figure below. For future developments in Phase 2, the BCM also shall make use of the analysis capabilities of the BigData Analysis GE. However, for the current version of the BCM this is out of scope. For that reason we only integrated the GE on a conceptual level and used common database for the BCM's prototype.

[5] E.g., in A. Metzger, R. Franklin, and Y. Engel, "Predictive monitoring of heterogeneous service-oriented business networks: The transport and logistics case (best paper award: service engineering innovation & quality)," in Service Research and Innovation Institute Global Conference (SRII 2012), ser. Conference Publishing Service (CPS), R. Badinelli, F. Bodendorf, S. Towers, S. Singhal, and M. Gupta, Eds. IEEE Computer Society, 2012. and in deliverable D-3.3 (http://www.finest-ppp.eu/files/deliverables/d03/finest_d3_3_v1.pdf)



Question VC.1. When did the evaluation actually take place?

The evaluation took place in project months 1 – 18 and was mainly conducted by the information provided by Architecture Description of the GE.

Question VC.2. Who (role and skill of the person(s)) and how many people did the actual evaluation?

The evaluation was conducted by the work package lead for the BCM, who was also overseeing the BCM prototype development.

Question VC.3. What went good, what went bad during the evaluation? (free text)

Documentation: Very detailed documentation on the analysis capabilities of the Big Data GE is provided. However, there is only little information about the necessary configuration of the underlying data stores (Hadoop, SQL/Non-SQL), so that it was difficult and time-consuming to determine the operating requirements for the GE.

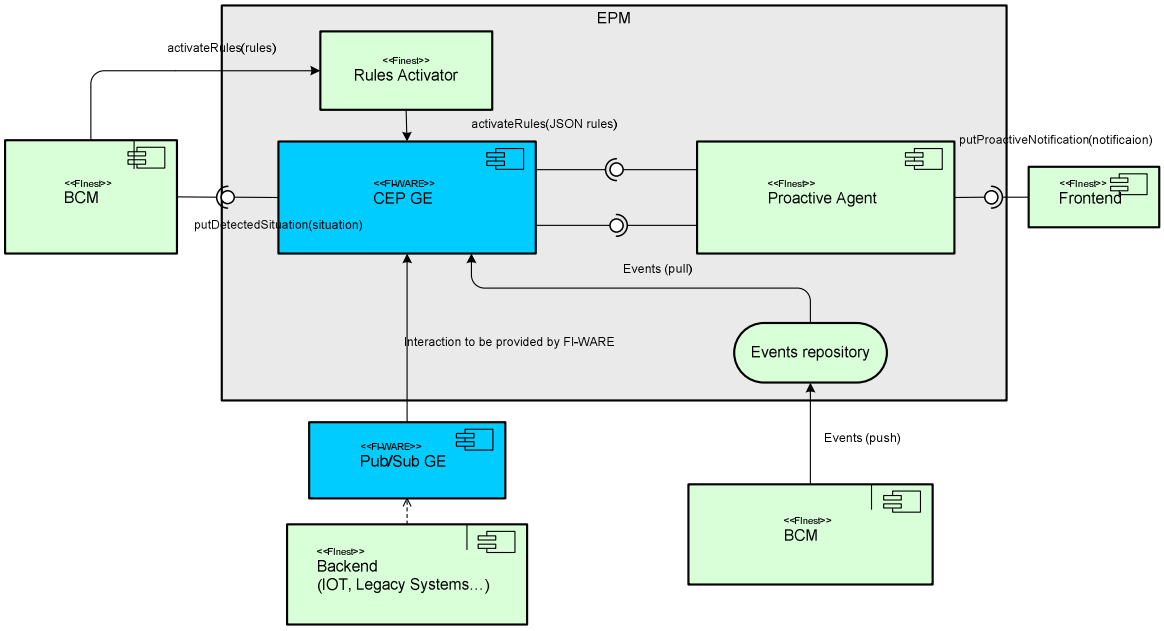
No other kinds of information were used.

Question VC.4. How did the communication channels work for the scenario (if not scenario specific, please answer only once)

Communication through the ticketing systems was unfortunately very slow. Sometimes answers took months and were obsolete after an answer was finally provided. The webinar was full of information about the analysis capabilities but (similarly to the documentation) lacked more detailed information about the setup and use of the underlying data stores.

Event Processing Module (EPM)

FInest EPM's role is to collect events from various sources and perform complex event processing on them in order to detect situations of interest; that is, of relevant meaning to the consumer of the event enabling them to react or make use of the event appropriately. In essence, the FInest EPM builds on top of the **CEP GE** and extends it to deal with proactive, that is, to future probabilistic events (see below figure).



Question VC.1. When did the evaluation actually take place?

The evaluation took place while implementing the EPM proof-of-concept in FInest. This proof-of-concept includes the event processing implementation of one of the FInest use cases (i.e., the FISH use case).

Question VC.2. Who (role and skill of the person(s)) and how many people did the actual evaluation?

Two people were involved in the evaluation: The WP lead and a technical person, both experts in event processing.

Question VC.3. What went good, what went bad during the evaluation? (free text)

As we are familiar with the tool, we haven't encountered any difficulties.

Question VC.4. How did the communication channels work for the scenario (if not scenario specific, please answer only once)

N/A - Again, as we are familiar with the tool

E-Contracting Module (ECM)

The E-Contracting Module (ECM) is a core module of the FInest platform. The role of this module is to support the online and real-time establishment and management of transport and logistics contracts, as well as operations in marketplaces. There are four main characteristics that make the ECM innovative with respect to contracting activities (establishment, negotiation, execution). (i) Explicit connection between operations in the Marketplace and the contract management. (ii) With the ECM, transport and logistics planners can utilize real, precise and agreed terms of their contracts, and not on interpreted terms, to define the SLAs for execution service bookings. (iii) The ECM is designed to explicitly connect to different marketplaces, and not to replace them. (iv) The ECM has operations explicitly defined to conduct different types of consistencies checks between ongoing/planned transportation service versus the SLAs established in the contract.

The component diagram of the ECM module is presented below. The ECM module is subdivided in four main components: Contract Operations; Contract Analytics; Marketplace Operations; and Connection to UI. The contract operations and marketplace operations are the components in the ECM build upon the FI-WARE GEs as follows.

Contract Operations & GEs - The contract information stored in FInest is a subset of the legal contract. This subset is related to the service requirements and service level agreements necessary to drive the daily activities of transport and logistics service execution. The repository for storing such information is built on top of the **Repository GE** and we developed a specific Linked-USDL vocabulary to be used and stored inside the Repository GE.

Marketplace Operations & GEs - This component is associated with multiple activities before and during the establishment of a connection between a transport and logistics service provider and the transport and logistics client within the scope of marketplaces. In addition, it is also within the scope of this component to enable the integration of information from external marketplaces into the ECM module. This component heavily exploits many GEs offered by the Application Chapter of FI-WARE. FI-WARE has already defined many of the operations that need to be executed in a marketplace, such as uploading offers, searching for offers, inserting new stores, defining roles of participants, etc. For the prototype implementation of the ECM, we directly used the operations provided by the **Repository GE**, and we aimed at using the API from the **Marketplace GE**.

Question VC.1. When did the evaluation actually take place?

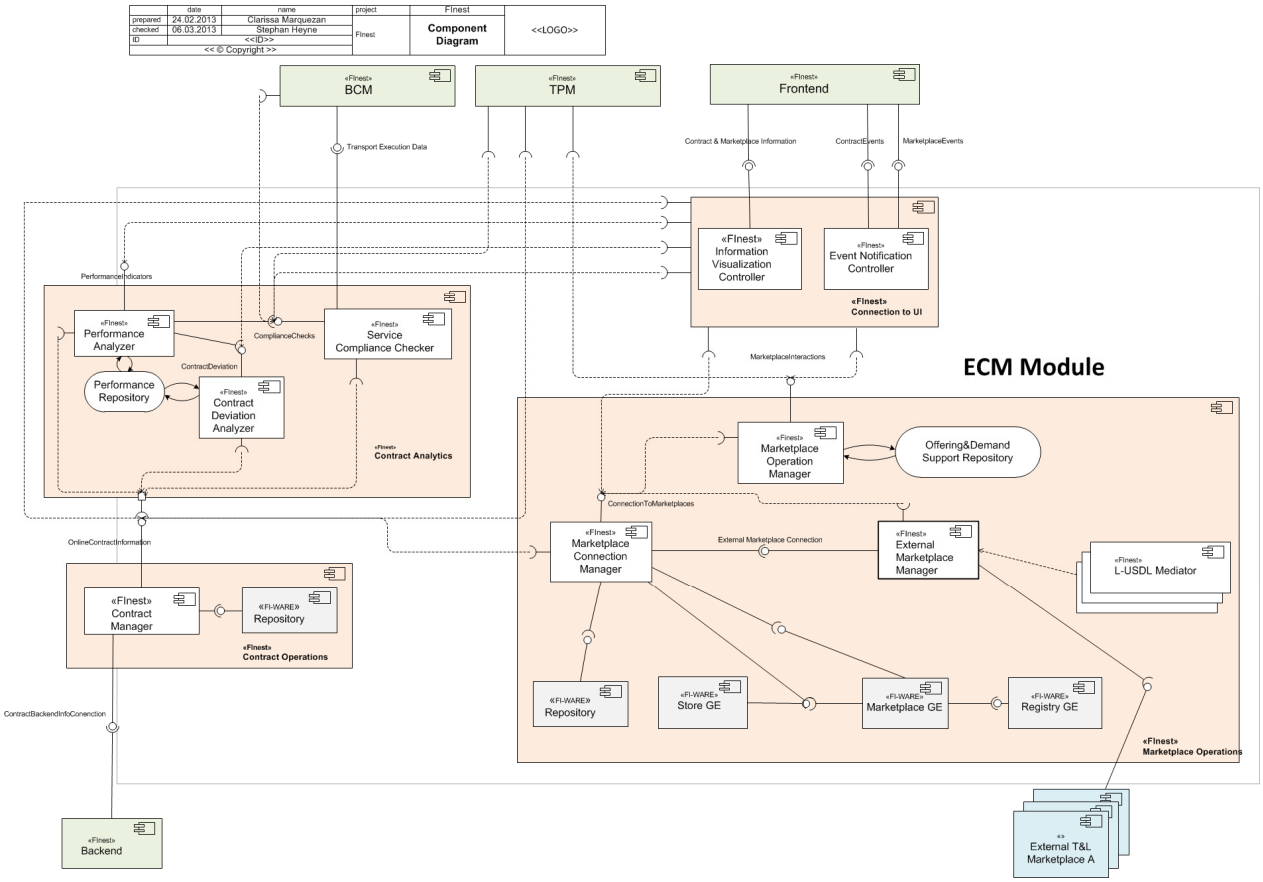
The evaluation took place between month 6 and month 18 of FInest project. It consisted mainly of the study of different documentations and conversations with the responsible FI-WARE members. The latest evaluation was executed in Month 18 that means end of summer 2012.

Question VC.2. Who (role and skill of the person(s)) and how many people did the actual evaluation?

The evaluation was executed by one software developer respectively researchers with a university degree in business information technology and two years of work experience.

Question VC.3. What went good, what went bad during the evaluation? (free text)

The testbed white list was the major hurdle while development. The presence of it made it difficult to start development under use of the running GEs. Additionally, it was complicated to gather feedback about the ECM prototype (relying on the Repository running on the testbed) from the FInest domain experts because they had no access to the repository and had to request access first.



Question VC.4. How did the communication channels work for the scenario (if not scenario specific, please answer only once)

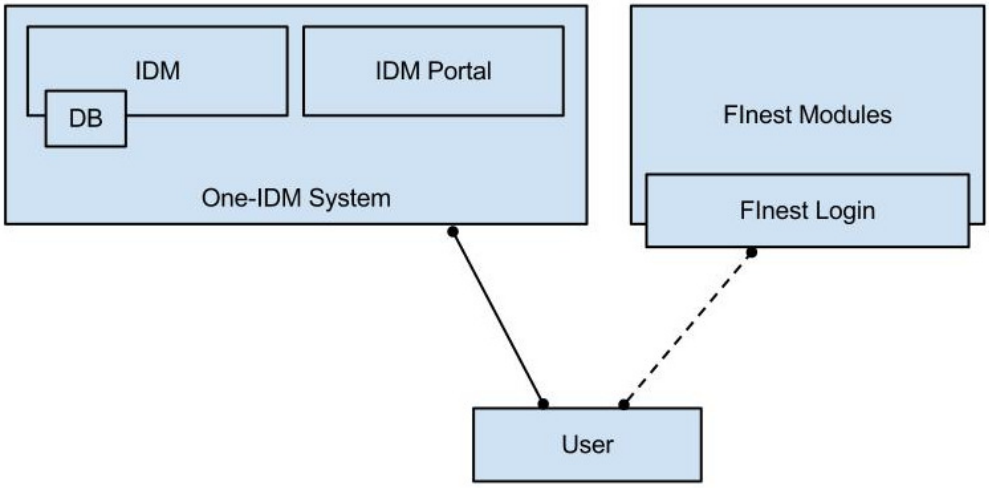
Direct contact via e-mail and phone was very positive. Issues could be resolved very fast and easy. Contact via the issue tracker and the wiki was very slow and sometimes complicated. For example the white list or the testbed required a wiki page to be updated by FInest users but the edit rights were not provided, so a FI-WARE member had to update the page, afterwards it took one to two weeks until the changes on the page had effect on the actual white list (it seemed as if manual efforts were still required). Processing of tickets in the FI-WARE Issue Tracker was very slow and took mostly weeks or months. Especially, the initial GE requests are mentioned here. It was always necessary to send separate emails to ensure a fast processing. Additionally, FInest users had not the right to assign a priority to an issue.

The attended webinars (wire cloud, mediator and Linked USDL) gave a good initial overview about the technologies and capabilities. This format should be kept.

FInest Login (Single Sign on with SAML Authentication)

The purpose of the FInest Login component is let the modules gain Single Sign-on capability. Our focus, Single sign-on (SSO), is a property of access control of multiple related, but independent systems. This property allows user log in once and gains access to all modules

without being prompted to log in again at each of them. To accomplish this feature, the **FI-WARE Identity Management GE** (One-IDM) is used. One-IDM provides secure authentication infrastructure as well as the Single Sign On capability. Role-based access control (RBAC) is currently being developed under same structure.



Question VC.1. When did the evaluation actually take place?

Evaluation took place during prototype development up to February 2013.

Question VC.2. Who (role and skill of the person(s)) and how many people did the actual evaluation?

Development was done by software developers with over 10 years' experience on web application projects.

Question VC.3. What went good, what went bad during the evaluation? (free text)

During the implementation most of the time everything went as expected. The GE documentation provided us with necessary information and sample codes at the beginning of the implementation process. During our implementation GE test servers were up 95% of the time and this helped us a lot since we have never needed to stall the implementation.

As it might happen in any project we encountered some obstacles during our work. GE support was always helpful and they spent significant effort to come up with an answer. And they managed to provide us solution to help our ongoing project. Prototype implementation was completed on schedule thanks to support from IDM GE people.

Question VC.4. How did the communication channels work for the scenario (if not scenario specific, please answer only once)

During the evaluation of the GE implementation in our design, each webinar was really well-planned and comprehensible on the given information what GE focuses with the included features and the presentations were consist of significant use-case scenarios for us to get which features of GE could be provided in short-term and long-term requirements of our prototype. During experiments and especially on the prototype preparations, we can also say, direct communication worked so well that whenever we need an answer, there was actually dedicated support on our case and GE owner always proposed to provide a web-conference to clarify the issues. On the other hand, websites and documents were not up to date with the relevant

information but lately GE support covered that via private notification mails, trackers etc. to the related responsible people.

System and Data Integration

As FInest is primarily providing a novel infrastructure for allowing efficient and automated interactions between business partners to overcome current limitations in inter-organizational collaborations, such as manual efforts with fax or email and proprietary, peer-to-peer and costly IT integration setups, there is still a need to be able to interact, access and communicate with the existing IT landscape, such as companies' ERP systems, booking systems and domain specific systems such as port and cargo management systems. Furthermore, a major capability of FInest, the online tracking and updating of the execution of a transport plan, requires continuous access to and notifications by various external systems and mainly IoT.

For this, FInest is to provide a technology framework to allow service and application developers to implement concrete integrations for their services to external services, systems and the IoT.

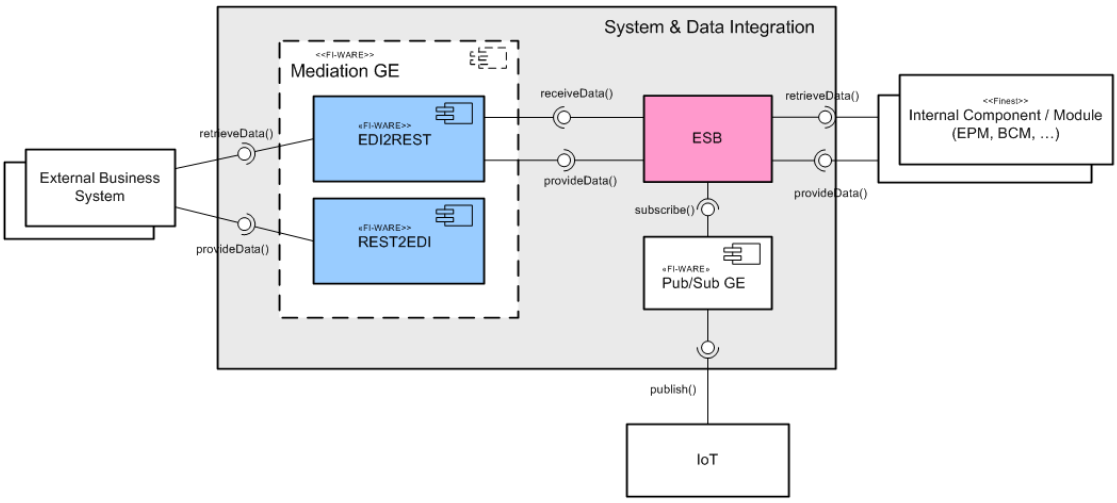
The below figure depicts the technical specification of the framework based on a study and understanding of the current published FIWARE GEs.

First and foremost, the design allows for the retrieval of data from external business systems but also allows for providing data from FInest to these systems. The means of interactions may vary, for example, the retrieval may be via posting a query onto the external system or by subscribing to a topic that the external system publishes to. These means are encapsulated by the retrieveData() and provideData() interactions between the External Business System blocks and the **Mediation GE** component.

As the core modules and the expected services and applications to be developed in FInest shall support REST interfaces, and as there is need to support domain specific interactions such as EDIFACT, the design includes specific mediations depicted as EDI2REST and REST2EDI to be developed and supported by the Mediation GE. This is depicted in a dotted line as not all integration may require these mediations and therefore may include direct connection between the ESB and the external systems.

Finally, the ability to capture information from devices and sensors is provided via the **Pub/Sub GE**. The abstraction of notifications of context from devices through Pub/Sub GE allows FInest to adopt IoT GEs as a black box interfacing with them via the GE.

During the study, evaluation and validation, it was identified that the technology that the Mediation GE is built upon, WSO2 Enterprise Service Bus, is meeting some of the ESB requirements as depicted in the below figure. In addition, from preliminary information available on the **Middleware GE** stemmed from one of the open calls in FI-WARE, this GE should be evaluated and considered as well. More information is required to perform this task and this is expected in phase 2.



Question VC.1. When did the evaluation actually take place?

Throughout the FInest project (last 2 years)

Question VC.2. Who (role and skill of the person(s)) and how many people did the actual evaluation?

One person was involved with advanced skills in software integration responsible for the middleware specification in FInest.

Question VC.3. What went good, what went bad during the evaluation? (free text)

The validation was focused on the Mediation GE. The validation included the ability to proxy to a service provided by a FInest domain partner to his own test environment system. Following the instructions on the catalogue site of the generic enabler and the quite intuitive user interface of the underlying technology, there was no need for user guides and further reading to accomplish the task. Initially the service to proxy required SSL and this didn't work with the Mediation GE. Once the GE owner, listed in the catalogue, was approached they immediately responded and within a day fixed the problem and the service was accessible securely.

Question VC.4. How did the communication channels work for the scenario (if not scenario specific, please answer only once)

There was a very good webinar session on the GE which increased FInest confidence to rely on it. During the evaluation the communication was conducted in email and response was fast.

(C.2) GE Coverage

Business Collaboration Module (BCM)

BigData Analysis

Question VC.5. How much did the GE cover the requirements of your envisioned module/component/prototype? (Star-rating – one star = "no to little coverage", six stars="completely covered")

***

Question VC.6. Please provide your (positive and negative) comments on GE usefulness (answer to this question is mandatory if your score is less equal than three stars)

The capabilities of the Big Data Analysis GE seem to be powerful and promising. However, it was difficult for us to define the requirements for the underlying data model in order to avoid the custom development of analysis modules in C++. Furthermore, the development of data analysis modules is considered as too complex. A simplified API would be great to ease the usage of this GE.

Event Processing Module (EPM)

Complex Event Processing (CEP)

Question VC.5. How much did the GE cover the requirements of your envisioned module/component/prototype? (Star-rating – one star = "no to little coverage", six stars="completely covered")

*****

Question VC.6. Please provide your (positive and negative) comments on GE usefulness (answer to this question is mandatory if your score is less equal than three stars)

See Validation Context for EPM above

E-Contracting Module (ECM)

Service Description Repository GE

Question VC.5. How much did the GE cover the requirements of your envisioned module/component/prototype? (Star-rating – one star = "no to little coverage", six stars="completely covered")

***

Question VC.6. Please provide your (positive and negative) comments on GE usefulness (answer to this question is mandatory if your score is less equal than three stars)

Good coverage in the sense of a file store. However, it lacks features which are expected from a repository dedicated for service descriptions respectively which would make it much more useful; e.g., SPARQL interface is missing. Collections do not expose **any** of the service description data (like the service title).

Marketplace GE

Question VC.5. How much did the GE cover the requirements of your envisioned module/component/prototype? (Star-rating – one star = "no to little coverage", six stars="completely covered")

**

Question VC.6. Please provide your (positive and negative) comments on GE usefulness (answer to this question is mandatory if your score is less equal than three stars)

The marketplace provides necessary features. However, it does not provide any UI which makes it less useful. Additionally, it outsources the responsibility to update its data to the connected stores which might be the wrong approach to connect to established logistic service stores.

FInest Login / SSO with SAML Authentication

Identity Management (OneIDM/NSN) GE

Our plan was to implement SAML Single Sign-on for FInest users. For the PoC, authentication page is **Question VC.5. How much did the GE cover the requirements of your envisioned module/component/prototype? (Star-rating – one star = "no to little coverage", six stars="completely covered")**

*****

Question VC.6. Please provide your (positive and negative) comments on GE usefulness (answer to this question is mandatory if your score is less equal than three stars)

GE provides good service quite above the architecture of IdM systems since it supports variety of conceptual authentication and authorization mechanisms. GE also makes use of SAML which covers the advantages of exchanging data between security domains, Single-Sing On feature, security features such as digital signatures for certified exchanged data and standardized, non-proprietary protocol.

System and Data Integration

Mediation GE

The evaluation will continue in phase 2 to understand the ESB requirement coverage as well as enable dedicated mediations both protocol and content such as transforming calls and data from EDIFACT to REST calls and back.

Question VC.5. How much did the GE cover the requirements of your envisioned module/component/prototype? (Star-rating – one star = "no to little coverage", six stars="completely covered")

****

Question VC.6. Please provide your (positive and negative) comments on GE usefulness (answer to this question is mandatory if your score is less equal than three stars)

There were some issues with accessing secure web services, retrieving certificates. The problem was not clearly stated in the tool but when the owner was approached they came back with the problem fixed within a day.