1.1.1 WP 11: Exploitation and Standardisation

Once the deadline for contributions is long passed this document was ported to the draft version of the 3rd Yearly report that will be kept in word format for now on.

The snapshot was taken on March, 26 and this document is closed for edition now.

If you need a copy the current 3rd Report or need to ask for changes, please contact Telefónica adding these 3 people to the loop:

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1. Progress towards objectives and details for each task

WP Objectives:

This work package had been focused on a series of activities to identify, create and work towards the exploitation and standardization opportunities of the FIWARE project results.

This work package have approached exploitation of the FIWARE results from the point of view of the partners of the FIWARE consortium, both individually and as a project. The exploitation of FIWARE results will not be based on apurely technological approach (technology-push) but on the needs and requirements of the future “customers” and “users” of FIWARE enablers.

Exploitation activities are the responsibility of this WP with the involvement of all relevant partners. It will be broken down into the following activities.

- The first one will deal with Market and Competition Analysis in order to position the FI-WARE platform in the market.
- Second, based on the previous market analysis the Exploitation Strategy will be developed. The exploitation strategy will document and identify results that may be exploited by the consortia partners or other stakeholders of the targeted sectors. Limitations and issues related to IPR management will be roughly analysed and taken care of during the lifetime of the project.
- In order to facilitate a successful introduction on the market of the project’s results, specific activities devoted to the stimulation of Market Awareness will be carried out through a dedicated task.Besides the internal characteristics of the consortium and the results of FI-WARE, partners in this project are conscious that some regulatory and policy issues may prevent FI-WARE from reaching its full potential in the market. As a result, these elements will be analysed in the project and suggestions will be made to overcome existing problems. This will be provided as input to relevant policy documents (for ex. To facilitate the implementation of the Digital Agenda)
- In addition to the technology provided by FI-WARE, the project will work towards the establishment of an Open Innovation Lab around the FIWARE testbed that may help third parties and not just the Use Case projects, to test how innovative applications may be developed on top of FIWARE GEs.

- A specific Standardization task will deal with transferring the developed technologies (interfaces, languages, models, protocols etc.) from the FIWARE project to the related standardisation bodies, a critical step in creating the right conditions for wide-spread uptake and achievement of FIWARE's overall objectives.

The main objectives of WP11 are:

- Systematic analysis and continuous monitoring of market situation and trends
- Give due and sufficient business consideration to the competitiveness of the GEs with respect to their market benchmarking, innovation potential and attractiveness for both business and development communities.
- Analysis and target promising business ecosystems for GE uptake.
- Definition of overall exploitation plan of the FIWARE LAB as the key vehicle to "pave the way for a successful exploitation and sustainability of its FIWARE project results
- Expand the footprint of FIWARE Lab in other countries
- Definition of a framework for IPR and licensing management. Work on an accurate analysis of license compatibility and to provide well founded legal argumentation
- Systematic analysis and continuous monitoring of Policy and Regulation Considerations
- First set of sustainability strategies are presented together with some indication that should inform the action to develop a working community around FIWARE.
- To define the business oriented communications and training activities to increase market awareness and impact
- Definition and implementation of a standardization strategy that will enable adoption and achievement of the project goals and ambitions
- To further evolve Campuse.ro platform to make sure it fulfils the requirements for building the envisioned innovation ecosystem for FIWARE.

Main Progress in the period:

The main progress made during this period in the WP is:

- A complete 3rd Platform analysis and Ecosystem modeling has been provided in deliverable D11.1.3.
- Build a strong value proposition around FIWARE and to define the main exploitation pillars. This value proposition has shown to be particularly strong in the vertical domain of Smart Cities and also in the IoT (Internet of Things) space. FIWARE is actually experiencing a great momentum in both areas.
- Industrial partners delivered consolidated updates of its individual exploitation plan. A first update was delivered confidentially (to PO) and second update also final update addressing latest review recommendation (especially R21).
- Industrial partners participated to the discussions for the Use Terms & Conditions for the GEis to be set also shared among consortium members.
- Expansion in Europe has started but also when countries beyond Europe have arrive to us willing to join and expand the footprint of FIWARE Lab in their countries
- FIWARE Acceleration Programme was launched last September.
- Total deployment of the Campuse.ro platform as a Community Platform for FIWARE and many more aspects indirectly related to FIWARE like talent search, jobs, open source innovation, ICT-related content recommendation and trust recognition, all of them for a number of different profiles and roles (individuals, SMEs and institutional actors). Commercial platform launched by the end of the project's lifespan.

1.1.1.1 *Task 11.1: Market and Competition Analysis*

Task Objectives:

The objective of this task 11.1 is to provide an overall analysis of the ICT market situation that justifies the introduction of the FIWARE concept, as well as its main technological elements according to market demand. Additionally this task is about provide new insights to broaden and deepen the analysis of FIWARE's own business ecosystem, and relates the present high level view of this ecosystem to the more specific analysis within the GE chapters.

Task Activities during the period:

- Continue to analyze ICT Market situation and what is next for European App Economy:
  - In relation with Cloud, IoT, Open Data, Smart Device, Security, Open Source.
- Deepen on how to deliver a platform for rapid application development and how to create an ecosystem.
- Analysis of the Platform Market Positioning and of the Platform sustainability: Foundation and Building a Community
- Analysis of the exploitation of FI technologies in the main potential market sectors
  - Smart Cities, Smart Industry and Public Sector, Smart Home and Smart Social
- European Policy Opportunity: The policy and regulatory analysis in relation to the specific themes (Data protection, Cloud computing, etc.) and the description of the conditions to create a successful EU App ecosystem.

1.1.1.2 *Task 11.2: Exploitation Strategy, FI-WARE sustainability and IPR management*

Task Objectives:

The objective of this task 11.2 is to define the most promising GEs and Instances, to settle the basis to prepare an initial overall Go to Market plan through the initial definition of the FIWARE LAB. The final objective is to provide sufficient business consideration to the competitiveness of the GEs with respect to their market benchmarking, innovation potential and attractiveness for both business and development communities.

This deliverable, and the final iteration of the Market Analysis D11.1.3, fit the full roadmap for FIWARE sustainability development and together with the Third Party Innovation and the State of the Art will represent our **blueprint to make FIWARE a sustainable service with a thriving community.** Deliverable 11.2.3 Exploitation Plan elaborates on discussion among partners regarding exploitation and sustainability plan of FIWARE and on the Market Analysis main outputs or conclusions.

Task Activities during the period:

- Firstly, based on the State of the Art described in D11.1.3 we described the main features and advantages that reinforce FIWARE Value Proposition::
  - Per building block that FIWARE brings.
  - As a whole, platform positioning.
- Secondly, FIWARE Exploitation Strategy Definition based on Market Analysis inputs
  - Definition of the main pillars
  - Ecosystem creation: the desired ecosystems described in the Market Analysis
  - Community Building: attract a large community of developers and users

    - Useful Tools: feedback (JIRA), involvement through Social Networks (Campuseros)
- Third, FIWARE LAB modus operandi:
    - Industrial partners participated to the discussions for the Use Terms & Conditions for the GEis to be set also shared among consortium members.
    - Open Source Business models, which might fit with FIWARE, have been evaluated and a discussion has been initiated within the consortium to share a common view on FIWARE exploitation plans.
- Finally, a first set of sustainability strategies are presented together with some indication that should inform the action to develop a working community around FIWARE. A very successful and proven model is the concept of a Foundation

Furthermore, we provide the individual exploitation plans from the partners focusing on commercial launch, trying to reflect the more tangible business view of the industrial partner and a lot more substantive in describing the planned integration of the FIWARE outcomes into the mainstream business of the industrial partners.

- Industrial partners delivered consolidated updates of its individual exploitation plan. A first update was delivered confidentially (to PO) and second update also final update addressing latest review recommendation (especially R21).

1.1.1.3 *Task 11.3: Establishing Market and Policy Regulation Awareness*

Task Objectives:

The objective of this task 11.3 is dual, on one side it is about establishing channels that could be a useful tool to promote business and innovation concepts coined by FIWARE and to obtain feedback from external communities and on the other side it is to identify barriers at policy and regulatory level that could prevent FIWARE from a successful exploitation.

FIWARE aims to achieve a great impact on the Internet community, mainly targeting third party developers and companies willing to exploit its Future Internet core-platform through the FIWARE LAB enabling entrepreneurs to develop and test Future Internet applications with FIWARE technologies.

The experiments and use trials, and the involvement of European cities, Industry, as potential ecosystems, –and other communities (SMEs, entrepreneurs...) in the experiments will be crucial.

Activity in the Task was limited during the reporting period, and mainly focused on preparing preliminary inputs to be later used for the update of the Policy and Regulation analysis

Task Activities during the period:

- The **involvement of European cities,** Industry, as potential ecosystems, –and other communities (SMEs, entrepreneurs...) in the experiments will be crucial
- One essential factor that can determine the successful adoption of FIWARE by customers and is the **establishment of FIWARE as a standard in any given sector of application (i.e Smart Cities).**
- To identify the **reference use cases** highlighting the positive impact achieved by using the FIWARE platform.
- To promote the a**doption of FIWARE in Europe and other regions** where the take-up of Internet innovation can occur quickly and impact local markets FIWARE Mundus
- The reappraisal of regulatory frameworks and practices that the rise of platforms in ICT

markets invites, **FIWARE have identified the main regulatory challenges from the technical chapters and those non-technical aspects that could influence** FI-WARE exploitation in one way or another.

- **Developing a comprehensive approach towards regulatory and policy issues** such as interoperability, openness, standards, data security and privacy within the context of the Future Internet complex and 'smart' usage scenarios
- Therefore we **analyze the European Context to the expansion of the service economy within the EC**, main European policies, regarding Future Internet, involvement of SMEs and entrepreneurs, Smart Cities…as well as the main regulatory barriers to overcome. The main objective of this analysis is to **present the landscape of such issues and challenges and define the advances so far and formulate the concrete activities** to be undertaken next years

1.1.1.4 *Task 11.4: Contribution to Standardisation*

Task Objectives:

The objective of this task 11.4 is to monitor standards/specifications important to FIWARE work, to promote in the SDOs awareness of FIWARE activities, to encourage collaboration, and to encourage adoption of FIWARE specifications so as to benefit the widest community, especially emphasizing support of Open Specifications (including reference implementations by the FIWARE technical WPs).

The responsible partners in WP11.4 are: TID, SAP, IBM-IL, THALES, TI, FT, DT, ALU-I, ALU-D, SIEMENS, INTEL, NEC (leader), DFKI, EPROS, iMinds

Task Activities during the period:

During the final stage of the FIWARE project, the complete platform became available. FIWARE began building a community of users/developers, after extensive code had become available. Many Open Call partners were added to the project to conduct trials and hackathons.

At the same time, there was a developing awareness within the standardization communities, and indeed within the EC, that "coding instead of paper-ware" was a more agile and ultimately more interoperable/testable approach to (software) standardization. As a reaction, relatively more effort was put into the coding and popularization of the code.

The code-based approach has materialized itself in the open-source availability of nearly all Generic Enabler reference implementations in well-established open-source communities, and the presence of FIWARE in various hackathons taking place all over the world.

The detailed standardization activities of the individual partner can be found in Section 5 below; please also see the FIWARE wiki pages for details:

(https://forge.fiware.org/plugins/mediawiki/wiki/fiware/index.php/Standardization_Activities).

1.1.1.5 *Task 11.5: Community Building and Engagement Platform*

Task Objectives:

The objective of T11.5 is to create a web-based social networking platform that will enable the active engagement of the full range of FI-WARE stakeholders in the take-up of the project's technical results. This platform must include features for the registration of a variety of roles

(developer, community, etc), system recommendations and for setting-up a series of activities (workshops, meetings) that can foster inter-collaboration among those roles in the framework of FI-WARE.

The task will leverage on the existing Campuse.ro platform and further evolve it to make sure it fulfils the requirements for building the envisioned innovation ecosystem.

Task Activities during the period:

Task 11.5 is arranged as three consecutive sub-tasks. Each one of them has the ultimate goal of enriching the platform with new modules and functionalities, as follows:

- T11.5.1: To develop a registration and management system for the users and to define relevant roles, such as Developers, Entrepreneurs, Venture Capitalists, Small and Medium Enterprises.
- T11.5.2: To create tools and modules that allow the users to interact through the planning of meetings, conferences, challenges, talent search and other similar activities.
- T11.5.3: To develop backend systems that deliver recommendations of content based on the interest of each user and encourage the use of the Digital Platform through awards and recognitions.

The breakdown of the contribution of each partner in this task 11.5 is:

40-FNE: 120.65 pm's

Out of which partner 40a contributed with 37.18 pm's and partner 40b (FNC) contributed with 83.47 pm's

Let us now describe the main progress, main results, main deviations and main proposed corrective actions.

Main progress for T11.5, including all three sub-tasks:

The first public deployment of Campuse.ro took place by the end of June 2013. The initial requirements and functionalities (user profile, home page, search) had already been conceived prior to the enrolment in the project, but it was FIWARE the real impulse that accelerated the design, development and real deployment of this very first version of Campuse.ro (June 2013).

The software architecture was developed in three tiers, following low coupling and modularity conventions. Spring and Java Enterprise Edition 6 were used, which ease the applications' maintenance, horizontal scalability and reuse.

New requirements and functionalities were conceived in Summer 2013, these included:

- Registration for non-campuseros
- Activities (meetings, workshops and conferences)
- Conversations
- Collective users – companies (as a plus)

In September 2013, a new version including these features was deployed. This time the system was migrated to AWS (Amazon Web Services). This version was up and running during the Campus Party Europe in London. A short user guide was also prepared. This information was included in an accompanying report to the prototype (D11.5.1). The report was sent to the EC on Monday the 21st of October 2013. The expected date as indicated in the

DoW was M29.

January 2014 saw a big attempt at trying to redirect the majority of the R&D work from FNC to FNE in Spain. There was a huge renewal of human resources in this regard, always trying to limit costs without sacrificing results. There were a number of technical meetings between the Spanish and the Colombian R&D teams - effectively starting in the Campus Party Brazil in Jan-Feb 2014 (Sao Paulo). This yielded two big groups of updates to the previous version: (1) non-individual profiles - for organizations, including companies, universities, governments – and (2) modules that allow these entities to relate with the already significant community of individuals, more specifically modules about Talent search and the execution of Challenges. A short user guide was also prepared. This information was included in an accompanying report to the prototype, which was much more detailed than D11.5.1, too. The D11.5.2 included UML diagrams for all new functionalities and a thorough description of the new architecture, servers and set of libraries used. This report was sent to the EC on the 16th of June 2014. The expected date as indicated in the DoW was M37.

Part of the R&D team in Spain left the company and a new balance between existing R&D resources in Spain and Colombia had to be found. This was eventually done and work for the third and latest set of improvements in the platform could thus begin, but the initial delay could not be fully compensated. This had the effect of having to deliver the third report outside the limits of the project (beyond M44). This, however, did not caused any anomalies in the work. Actually, a fully-fledged commercial version of the platform was launched in December 2014 (See http://campuse.ro/). It was only the written report what had to be postponed.

New backend rearrangements have made possible the recommendation of content based on the interest of each user. This has enabled a new (actually, based on the Challenges idea) section called Business. Another new feature is the ability of the platform to award different grades of reputation and recognition. A third prototype was created and finally deployed as a commercial and fully open version in December 2014. The expected date for D11.5.3, as indicated in the DoW, was M44.

Main results:

Main results for sub-task 11.5.1:

- First prototype of Campuse.ro up and running
- Focused on capacities for individuals (developers): from registration to interaction tools
- Tested during the Campus Party Europe in London, September 2013.
- Short accompanying user guide created

Main results for sub-task 11.5.2:

- Second prototype of Campuse.ro up and running
- New modules exclusively designed for this version: “Organization User”, “Challenges” and “Talent”. For the first time allowing individuals and organizations to interact in a productive way, stimulating innovation, creativity and the creation of jobs.
- Short accompanying user guide created

Main results for sub-task 11.5.3:

- Third prototype of the platform up and running. Commercial version of the platform up and running
- Recommendations module ready
- Improved profile for both individual and group users
- System for Badges and Recognition

- Business module as a plus
- FIWARE's Hackathon for CPBR8 (Campus Party Brazil in Sao Paulo, February 2015) fully launched and managed through the commercial version of Campuse.ro

Main deviation for T11.5, including all three sub-tasks:

There has not been any severe deviation in the work performed during T11.5, besides:

1) A short delay in the delivery of the first written report – though not in the case of the prototype.
2) As indicated in the Description of Work document, D11.5.1 (September 2013) covered "user profile functionalities for the individuals and the creation of activities"; so it included part of the two first main updates, as it focused on the individuals. See again the first paragraph of the above "Task Activities during the period" section.
3) D11.5.2 covered the remaining features of the two first main updates, focusing on profiling companies and delivering activities for such non-individual profiles (e.g. Challenges).
4) The delivery date for D11.5.2 was rearranged in Amendment 6.
5) The delivery date for D11.5.3 was rearranged in Amendment 7.
6) A short delay in the delivery of the third written report – though not in the case of the application.

Efforts and cost for T11.5, including all three sub-tasks:

As explained during the negotiation phase of the project, the FNC (Futura Networks Colombia) team initially had the most implication in the Campuse.ro platform. This implication was to be progressively balanced between Colombia and Spain. For this reason the vast majority of efforts for D11.5.1 were marked as FNC's. It was expected that, for D11.5.2 and D11.5.3, the R&D team in Spain could grow and take up an important part of the developments. This was only a partial success, and D11.5.3 needed again collaboration from the human resources in FNC.

Furthermore, junior staff was incorporated to the work (front- and back-end designers) ever since the beginning, largely lowering the personnel costs for M25-M44 even when there has been an excess of person months. This has not had any effect on the quality of the work, as the reader will be able to see when visiting http://campuse.ro/

Main proposed corrective action:

As indicated in the previous points.

2. Significant results

The main results of WP11 are:

- A complete 3rd Platform analysis and Ecosystem modeling has been provided in deliverable D11.1.3.
- Build a strong value proposition around FIWARE and to define the main exploitation pillars. This value proposition has shown to be particularly strong in the vertical domain of Smart

Cities and also in the IoT (Internet of Things) space. FIWARE is actually experiencing a great momentum in both areas.

- Industrial partners delivered consolidated updates of its individual exploitation plan. A first update was delivered confidentially (to PO) and second update also final update addressing latest review recommendation (especially R21).
- Industrial partners participated to the discussions for the Use Terms & Conditions for the GEis to be set also shared among consortium members.
- Expansion in Europe has started but also when countries beyond Europe have arrive to us willing to join and expand the footprint of FIWARE Lab in their countries
- FIWARE Acceleration Programme was launched last September.
- The first public deployment of Campuse.ro took place by the end of June 2013. The initial requirements and functionalities (user profile, home page, search) had already been conceived prior to the enrolment in the project, but it was FIWARE the real impulse that accelerated the design, development and real deployment of this very first version of Campuse.ro (June 2013).

3. Deviations from Annex I and impact on other tasks, available resources and planning (if applicable)

<N/A>

4. Reasoning for failing to achieve critical objectives and/or not being on schedule (if applicable)

The deviation in deliver of D 11.2.3 (30th of January) and D11.3.3 (16th of January) was due to the late contribution from WPLs regarding each chapter contribution and regarding individual exploitation plans

About one month of delay in delivery of D11.4.4 due to difficulties to receive input from all work packages in time. Final delivery date was February 3rd, 2015.

There is a substantial delay with regards to the delivery of D11.5.3. Although the community platform was fully delivered on time, the accompanying report has taken more than expected. See T11.5 for more information.

5. Use of resources

The breakdown of the **contribution, results, deviation and proposed corrective action** of each partner in the WP are:

- **01-TID:**

  Contribution and results:
  - Task 11.1:
    - Telefonica did continue to analyze Market and Competition in relation with Data Chapter
  - Task 11.2:
    - Delivered the individual exploitation plan reflecting potential important changes to the corporate strategy that would have impact on the exploitation scheme.
    - TID described the main features and advantages that FIWARE brings regarding Data Chapter.
    - TID has led the process leading to the consensus of a set of Terms & Conditions for the GEis that resulted suitable for all the consortium members.
    - TID in its coordinator role, helped outline, align and define the Strategic Vision of FIWARE project as a whole, and furthermore it helped promote the key role within FIWARE programme.
    - TID promoted, as coordinator, the launch of FIWARE LAB launch and outlined the Modus Operandi to be followed.
    - TID participated in the promotion of FIWARE LAB as a key element of the Exploitation Strategy, creating many of the FIWARE LAB video tutorials available at the FIWARE LAB site.
    - TID supported the communication of the exploitation strategy to the relevant stakeholders in the regions and countries adopting FIWARE as a reference standard.
    - TID has adopted FIWARE as a reference technology for the development of its Smart Cities platform, and promoted the vision and strategic outlines of FIWARE platform among its target customers, therefore fostering the adoption of FIWARE principles by municipalities and regions, while incorporating their feedback and requirements.
  - Task 11.3:
    - Telefonica did continue to identify the main regulatory barriers in relation with Data Chapter
  - Task 11.4:
    - TID is working mainly in WP5 (Internet of Things) and WP6 (Data/Context Management Services), where we consider the key standards we can contribute to are OMA NGSI, ETSI M2M and CoRE/CoAP. The main items worked out on this regard are:
    - OMA NGSI evolution (REST XML binding). We have made the first full implementation of OMA NGSI making it the core of our core signalling element to coordinate GEs (Context Broker GE). As a result it has been communicated to the corresponding OMA WG in cooperation with NEC.
    - OMA NGSI JSON binding. In order to make our technology easier for today's developers (hackathons, entrepreneurs, start-ups) we started to adapt our NGSI REST binding by implementing JSON messages, at least for those GEs exposed to developers (such as the Context Broker GE). After evaluation, steps inside OMA will be considered.
    - Implementation and potential evolution of new M2M standards such as ETSI M2M and IETF CoRE/CoAP are under consideration. We are currently implementing parts of those standards in order to evaluate them and provide

feedback to the SDOs. This may impact FIWARE evolution.

Deviation and proposed corrective action:

- XXX.
- XXX.

There is no deviation nor proposed corrective action regarding the activities of this partner in this WP. (to be deleted if not applied)

- **02-SAP:**

Contribution and results:

- Task 11.1
  - SAP has continuously monitored the market and competition with respect to areas relevant for SAP. This was also used in the context of WP3 to update and finalize the SAP Business Exploitation strategy until M36 and the report of the SAP activities to realize results according to this strategy.
  - SAP has contributed and carefully reviewed the deliverable during the reporting period and provided feedback on this review result.
- Task 11.2
  - As a main result, an updated SAP business exploitation plan and result report was delivered to the PO for the M30 Review. This plan was updated and finalized for M36 when SAP stopped its activities in the Appendix of the Exploitation Plan deliverable.
  - SAP analyzed in the reporting period until M30, if the software documentation for the Simulation-based Pricing Decision Support Tool could be published, following a review report recommendation. We have decided to release the documentation and the tool was fully included as new feature set of the Marketplace GE. This activity is reported in WP3 in this periodic report, but nevertheless mentioned here.
  - Discussions about Terms and Conditions for Open Specifications in WPL/WPA and a task force for it have been supported in the period until M30.
  - The Usage Terms and Conditions for the FIWARE Open Innovation Lab (now FIWARE LAB) have been significantly improved by SAP (see also WP1).
- Task 11.4
  - SAP contributions w.r.t. standardization are mainly in WP3 (Applications and Services Ecosystem), WP5 (Internet of Things), WP8 (Security) and WP9 (Tools), where SAP considers the key standards where SAP can contribute to be the Linked USDL vocabularies for description of applications and services ecosystem including
    - Core vocabulary - for describing fundamental aspects of service business, which is released since the beginning of 2013 and in an updated version thereafter.
    - Pricing vocabulary - for describing pricing models of business services including powerful dynamic pricing models
    - Security vocabulary - for describing security and trust aspects of business services
    - IPR vocabulary - for describing IPR related aspects of business services
    - SLA vocabulary - for describing service level objectives
  - Accordingly SAP has been collaborating during the project with partners

involved in various national and international research projects and initiatives (namely MSEE, Broker@Cloud, Trusted Cloud, University of Coimbra, Open University UK and others).
    - The main results so far have been the specification of various Linked USDL vocabularies together with sample descriptions for specific use cases. Some main contributions and meetings attended are shown in the FI-WARE wiki.
    - SAP is satisfied with the progress, however SAP sees a need for further partners and adoption of these vocabularies in broader industrial environments

Deviation and proposed corrective action:

- There is no deviation nor proposed corrective action regarding the activities of this partner in this WP

- **03-IBM-IL:**

Contribution and results:

- Task 11.1:
    - IBM did continue to analyze Market and Competition in relation with Cloud Chapter
- Task 11.2:
    - IBM described the main features and advantages that FIWARE brings regarding Cloud Chapter.
    - Promoted exploitation of GEs provided by IBM-IL as part of IBM's products and offerings, as well as with relevant open source communities (focusing on Open Stack)
    - Delivered individual exploitation plan
- Task 11.3:
    - IBM did continue to identify the main regulatory barriers in relation with Cloud Chapter
- Task 11.4:
    - IBM's involvement in the SDOs includes and goes beyond direct contributions from IBM's FI-WARE project members:
        - Several standardization initiatives have emerged focusing on different aspects of the cloud hosting layer. In particular, IBM has been involved with the following SDOs and standards: OASIS TOSCA, DMTF OVF, DMTF CIMI, SNIA CDMI, and OpenStack.
    - In FIWARE IBM is involved with activities concerning Cloud Hosting (WP4) and Privacy (WP8). The former workpackage is responsibility of IBM Research Haifa while IBM-Zurich is involved with the latter and working on International Driver License standards.
    - For IBM Research Haifa (IBM HRL):
        - Openstack has become the de-facto standard for Private Cloud computing and cloud computing management interfaces
        - IBM HRL is actively involved in the OpenStack community effort to drive its adoption and shape the standard
        - IBM HRL contributions include participating in OpenStack summits, producing design blueprints and participating in the design voting and decision process, contributing software implementations that have been evaluated and merged in the OpenStack component releases and reviewing third party contributions.
          IBM (and in particular IBM HRL) is one of the main software

contributors to the Openstack community: http://stackalytics.com/
- A short list of the main SDO contributions is shown in the corresponding wiki page: https://forge.fiware.org/plugins/mediawiki/wiki/fiware/index.php/Mapping_Cloud_Hosting
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- For IBM Zurich:
  - The key WP8.2 standard we are contributing to is ISO/IEC 18013 on the international driver's license, coming in 4 parts. This is closely aligned with our project work on the Privacy GE with the goal of bringing (parts of) it into an international standard of ISO/IEC with large-scale adoption potential. In this context, our efforts during the last reporting period have been to progress our work on use cases and functional requirements with the Privacy Task Force of ISO/IEC JTC 1/SC 17/WG 10. The main result so far has been the document WG10 N 1092/1093 which is a stable use case collection for future driving licenses as well as a first discussion on derived requirements and applicable technologies. The document has evolved through multiple versions over the past reporting period. Some main contributions and meetings attended are shown on the corresponding FIWARE Wiki page.
  - The Privacy Task Force of ISO/IEC JTC 1/SC 17/WG 10 has decided that our efforts are crucial for WG 10 and will be driven ahead further in the coming year, driven by IBM, the Task Force leader. The focus will first be put on further refining the use cases and detailing the functional requirements derived from them

Deviation and proposed corrective action:
There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **05-THALES:**
  Contribution and results:
  - Task 11.1:
    - Thales (TCS and its third parties) did continue to analyze Market and Competition in relation with first Security Chapter (TS leading) but also other technical chapters in which it was involved and more specifically Cloud Chapter (TCS) and Data Chapter (TAS). TS did organize the overall Security Chapter contribution to Market & Competition deliverables (D11.1.2, D11.1.3)
  - Task 11.2:
    - Thales (TCS and its third parties) delivered consolidated updates of its individual exploitation plan. A first update was delivered confidentially (to PO) and second update also final update addressing latest review recommendation (especially R21). As such Thales contributed to D11.2.2 and D11.2.3 Exploitation & IPR Management
    - Thales participated to the discussions for the Use Terms & Conditions for the GEis to be set also shared among consortium members.
    - In complement of Strategic Vision of FI-WARE project and FI-LAB launched, raised awareness on FI-WARE & FI-LAB beyond FI-PPP and also called for technologies and possibly enablers to come from other projects to be encouraged but also be accompanied by a clearly stated process. Apart from encouraging this to happen, Thales (TS & TCS) did also accompany

projects (e.g. OPTET, ATTPS, …) in gettings hands in FI-WARE & FI-LAB for them to use but possibly also contribute. This is even important that we have already some projects ready to deliver (e.g. OPTET Project committed to deliver enablers to flagships platforms among which FI-WARE).

- TAS-F (Thales Alenia Space, in charge of the development and implementation, of the Location Platform GE) has updated its exploitation plan for the location platform GE. As other Thales entities did for the GEs they owned

- Task 11.3:
  - Thales did continue to identify the main regulatory barriers in relation with Secuirty Chapter
- Task 11.4:
  - Thales continued work on SDOs of interest. This as per Chapter where Thales was involved and on a per GEs owned basis. This as refected in http://forge.fiware.org/plugins/mediawiki/wiki/fiware/index.php/Standardization_Activities.
  - Thales Services (TS) as Security Chapter lead did organize and deliver consolidated contribution to D11.4.c. As participant it continued to focus its work/activites on NIS standards (i.e.. CVE, CVSS, SCAP) and OASIS standard (XACML) since the ones relevant respectively for Security Monitoring GE and Access Control GE. input hales Services SAS is working mainly in WP8.1 Security Monitoring, where we consider the key standards where we can contribute to be:
    - SCAP protocol (Security Content Automation Protocol) including:
      - Addressing impact business thanks to the extension of the score assessment at the attack path levels;
      - Using network topology to compute which firewall rules could be deployed.
    - CVSS (Common Vulnerability Scoring System) including:
      - An extension of the score assessment at the attack path level.;
      - Improvement of .the scoring capacity again, taking account the business impact.
    - The main results contributed into the community standardisation process have been:
      - automatic remediation processing based on the FI-WARE MulVAL Attack Paths engine, to verify the impact of countermeasures from remediation;
      - input of the concept of Scored Attack Paths so that, for a
      - given target network node, each attack path leading to that node is given a score and the score of each path reflects the risk associated to the path as a whole. The Scored Attack Paths takes into account the business impact.

    - TAS-F (Thales Alenia Space, in charge of the development and implementation, of the Location Platform GE) has contributed to GNSS-based location system Minimum Performance Standard (MPS), at ETSI. Theses activities was divided into 4 Work Items: ref. DTS/SES-00332, ref. DTS/SES-00331, ref. DTS/SES-00348, ref. DTS/SES-00349.

Deviation and proposed corrective action:
There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **06-TI:**
  Contribution and results:
  - Task 11.1:
    - TI did continue to analyze Market and Competition in relation with Interface to the Network Chapter
  - Task 11.2:
    - TI described the main features and advantages that FIWARE brings regarding Interface to the Network Chapter
    - It delivered individual exploitation plan. In this document, TI described the exploitation strategies it will adopt for its Generic Enabler implementations being available in the FI-WARE test bed and the FI-LAB setup.
  - Task 11.3:
    - TI did continue to identify the main regulatory barriers in relation with Interface to the Network Chapter
  - Task 11.4:
    - Telecom Italia is working on WP5 (Internet of Things) and WP7 (I2ND), and the company considered the key SDOs where it could contribute to be HGI and OSGi.
    - TI collaborated with the FIWARE partner Technicolor to set up the related technical enablers such as Cloud Proxy, and with NEC it promoted the FI-WARE results in HGI. Presentations were made to this extent in HGI meetings.
    - For WP6 (Data) and WP7 (I2ND), TI is also actively participating in OMA. Concerning OMA NGSI the main effort was devoted to monitor alignment with FI-WARE. In the case of OMA DM, Telecom Italia is assigned the Chairmanship of the Device Management WG and contributed to OMA DM v2.0 specifications for format of DM Messages (JSON and JSON Schema) and related serialization as well as the definition of DM Session security, all contributions being related also to FIWARE work.

  Deviation and proposed corrective action:
  There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **07-FT:**
  Contribution and results:
  - Task 11.1:
    - FT did continue to analyze Market and Competition in relation with Internet of Things.
  - Task 11.2:
    - FT described the main features and advantages that FIWARE brings regarding Internet of Things.
    - Delivered individual exploitation plan
  - Task 11.3:
    - FT did continue to identify the main regulatory barriers in relation with Internet of Things.

- Task 11.4:
  - FT did not manage specific action regarding standardization waiting for oneM2M standard to be defined.

- **11-DT:**

Contribution and results:

- Task 11.2:
  - Individual exploitation plan seems to be accepted.
  - Further discussion with the strategic business units (SBU) to use the results within DT and it is discussed to be used in further activities such as Smart Cities and Industry 4.0.
  - Development of ideas together with the SBUs and related vendors a strategy to influence in the future the standardization regarding the mobile core network. Status: Ongoing beyond the end of the project.
- Task 11.4:
  - DT activities were concentrated on the Evolved Packet Core (EPC). Therefore the project participants followed the 3GPP activities very closely. Direct participation was not planned. Discussions were performed with the DT standardisation contributors but for the time being no contribution was written or is planned.
  - IETF and W3C (with respect to WebRTC) activities which have a relationship to the EPC were also monitored.
  - OMA standardisation: No activities in this period

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activities of this partner in this WP

- **12-TRDF:**

TRDF activities mostly stopped @ M36

Contribution and results:

- TRDF activities in this WP were mostly related to general followup and analysis of recommendations. We updated and maintained our exploitation plan accordingly to the relationship we developped with use-cases partners.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **14-ATOS:**

Contribution and results:

- Task 11.1:
  - Analysis of last review recommendations
  - Preparing the TOC
  - Gather all the necessary analysis reports
  - Deepen on how to deliver a platform for rapid application development and how to create an ecosystem.
  - Analysis of the Platform Market Positioning and of the Platform sustainability: Foundation and Building a Community

        - Analysis of the exploitation of FI technologies in the main potential market sectors
        - The policy and regulatory analysis in relation to the specific themes (Data protection, Cloud computing, etc.) and the description of the conditions to create a successful EU App ecosystem
    - Task 11.2:
        - Analysis of last review recommendations
        - Preparing the TOC
        - FIWARE Exploitation Strategy Definition based on Market Analysis inputs
        - Ecosystem creation based on the ecosystems described in the Market Analysis
        - Community Building Plan based on Market Analysis inputs
        - Atos delivered consolidated updates of its individual exploitation plan. A first update was delivered confidentially (to PO) and second update also final update addressing latest review recommendation (especially R21) by elaborating on more concrete product-related innovation plans.
    - Task 11.3:
        - Analysis of last review recommendations
        - Preparing the TOC
        - To identify the **reference use cases** highlighting the positive impact achieved by using the FIWARE platform.
        - The reappraisal of regulatory frameworks and practices that the rise of platforms in ICT markets invites, **FIWARE have identified the main regulatory challenges from the technical chapters and those non-technical aspects that could influence** FI-WARE exploitation in one way or another.
        - **Developing a comprehensive approach towards regulatory and policy issues** such as interoperability, openness, standards, data security and privacy within the context of the Future Internet complex and 'smart' usage scenarios

Deviation and proposed corrective action:
There is no deviation nor proposed corrective action regarding the activities of this partner in this WP

- **15-E-IIS:**
Contribution and results:
    - During the first months of this reporting period, E-IIS renewed its individual exploitation plan, addressing the recommendations of M24 review, evolving the exploitation strategy by involving also results and outputs coming from the Tools Chapter, in which Engineering is involved, such as FI-CoDE and its main tools. Engineering exploitation plan was refined and further developed highlighting how FIWARE has become a crucial element within the innovation strategy of the Company which fully involves the Company top management in the persons of its CEO (Ing. Paolo Pandozy) and CTO (Dr. Orazio Viele), including the development and deployment of a specific instance of the FIWARE Lab within Engineering premises. This new plan is included, together with other contributions by E-IIS, in the last deliverable on exploitation 11.2.3.

Deviation and proposed corrective action:
There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **16-ALU-I:**
  No activity in this task during this reporting period.

- **17-ALU-D:**
  Contribution and results:
  - ALU-D has monitored, in the framework of I2ND-NetIC Altoclient GEi development, the evolution in IETF ALTO WG. This work is done to keep Altoclient southbound interface functionality in line with new documentation releases.
  - In addition to the originally foreseen exploitation, ALU-D has finally agreed to provide the Altoclient functionality as Open Source. Some additional work had to be done mainly in the end phase of work mainly related to the formal process of getting clearance for usage as Open Source.

  Deviation and proposed corrective action:
  As explained above, we had to spend some additional work to provide Altoclient functionality as Open Source. Beside this, there is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **18-SIEMENS:**
  Contribution and results:
  - Task 11.2:
    - Siemens updated its exploitation plan, mainly by elaborating on more concrete product-related innovation plans.
  - Task 11.4:
    - Siemens is working mainly in WP 6, where we consider the key standard bodies where we contribute and/or monitor to be ISO/IEC SC29 WG1 (JPEG), ISO/IEC SC29 WG11 (MPEG), JCT-VC (a joint working group of MPEG and ITU-T SG16 WP3), and ONVIF.
    - Siemens is influencing the general direction of multimedia technology in ISO/IEC MPEG by holding the position of the Head of Delegation (HoD) of Germany.
    - Siemens is participating and actively contributing at quarterly ONVIF meetings, in particular to bring into the standards the results of the FIWARE Compressed Domain Video Analysis GE for surveillance-specific additions to the metadata format. Metadata is a continuously growing part of media bandwidth, and FIWARE ideas for compression are highly relevant.
    - ONVIF accepted Siemens' (FIWARE-related) proposal as a work item and started to work on the related specification. In this context, ONVIF passed an official liaison request to MPEG, which adopted the same approach. Siemens representatives have been appointed as liaison officers on both sides, so standards alignment should be optimal. An analysis of out-of-the-box interoperability issues being experienced still was performed and evaluated in detail under Siemens leadership. As a result, ONVIF started working on a new profile. Siemens proposed a FIWARE-aligned video compression technology for the new profile (based on H.264/AVC).
    - Siemens FI-WARE-related proposal for metadata compression was accepted by ONVIF and integrated into the relevant specifications.

Implementation and testing phase are imminent.

- In the second half of the reporting period, the liaison between ONVIF and MPEG has been officially approved and implemented. As a first result, a corrigendum to an existing MPEG standard has achieved publication stage. The content is based upon FI-WARE's findings in ONVIF specification, implementation, and testing phases. ONVIF specifications are making use of several MPEG standards, H.264/AVC to give an example. Provisions in ONVIF specifications have been created to also make use of the HEVC standard once published and prevalent.
- For the Multimedia standardization bodies, Siemens is especially attending MPEG and JCT-VC quarterly standardization meetings. Siemens is closely monitoring the developments for High Efficiency Video Coding (HEVC), since the video compression format is likely to influence the development of future version of the Compressed Domain Video Analysis (CDVA) GE, since HEVC is a good candidate for future input formats for CDVA.

Deviation and proposed corrective action:
There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **19-INTEL:**
  Contribution and results:
  - Task 11.2:
    - Intel refined its exploitation plan, detailing the strategic relevance of extensible open cloud computing standards to the company and its product portfolio.
  - Task 11.4:
    - Intel's FIWARE contributions are focused in WP4 Cloud Hosting and WP7 I2ND. The various related standardisation initiatives are recorded on the wiki.
    - In WP7, I2ND Intel standardisation efforts were focused on implementing relevant W3C standards in the I2ND CDI implementation. Specific W3C standards being implemented include Contacts API, FileAPI, FileAPI:Writer and FileAPI:Directories and Systems, Geolocation, Device Orientation & Accelerometer APIs.
    - In WP4 Cloud Hosting, Intel actively pursued a number of standards activities:
      - Regarding Object Storage, Intel refined the implementation of the CDMI interface on top of OpenStack Swift, and supporting client side utilities, and the GE is now available as open source.
      - Regarding Cloud Management, Intel co-chairs the OCCI working group. We are actively involved in supporting community enhancements to the standard. Through FIWARE we have published an OCCI interface for OpenStack open source. It has been continually enhanced as OpenStack releases were issued and new technologies and features become relevant.
      - Regarding Cloud SLAs, Intel has promoted the work on the SLAware model developed by Engineering. This has helped inform the draft OCCI extension for SLAs, for example.
    - To promote and encourage adoption of open cloud standards, Intel activities included:

- Feeding inputs into ISO SC38 through the Irish SC38 national mirror group. Many edits have been accepted into the standards for Cloud Vocabulary and Reference Architecture based on our experience from FIWARE and other projects. These standards were released during 2014.
- Actively participated in the ETSI Cloud Standardisation Coordination effort to coordinate the “jungle of cloud standards” for the EC. Intel drafted the Infrastructure Perspective and ensured FIWARE efforts such as CDMI, OCCI and SLAware were captured in the ETSI CSC work. Key learnings including those gathering during FIWARE were edited into the conclusions of the final report for submission to the EC, and called out in the highlights at the publicity event for the report.
- Intel participated in the ETSI/OGF Cloud PlugFest in association with DMTF and SNIA. Intel presented FIWARE CDMI and OCCI progress in their “Interoperability and APIs in OpenStack” session. Of note was the high percentage of presentations from the European cloud developer community that referenced OCCI.
- Intel presented “Towards Standardised SLAs” at the “Dependability and Interoperability in Heterogeneous Clouds (DIHC)" workshop at EuroPar 2013. FIWARE work including SLAware was showcased. A paper was published for inclusion in the conference proceedings.
- Intel highlighted standardisation progressed through FIWARE at numerous demos, workshops and presentations as detailed in WP12.

▪ Intel will continue to actively support and encourage adoption of open standards including those progressed through FIWARE.

Deviation and proposed corrective action:

There is no major deviation nor proposed corrective action regarding the activities of this partner in this WP. Intel consumed approx 1PM less than originally planned during this period. Some standardisation activities in which FIWARE was promoted were not only related to FIWARE open specifications and so were not necessarily booked or charged against FIWARE.

- **20-NEC:**

Contribution and results:

o Task 11.2:
  ▪ NEC updated its exploitation plan, mainly by elaborating on more concrete product-related innovation plans.
  ▪ Update of training material for IoT Broker GE
  ▪ Creation of a demonstrator showing the potential of the oneM2M standard for Smart Cities in connection with NGSI and FIWARE (see NEC exploitation plan for details)
  ▪ Usage of IoT Broker GE in commercial products (see NEC exploitation plan for details)

o Task 11.4
  ▪ NEC assembled the final FIWARE standardization report D11.4.4 from information received from all technical FIWARE chapters.
  ▪ Improvements and implementation of FIWARE NGSI standard; started implementation of JSON binding.

There is no deviation nor proposed corrective action regarding the activities of this

partner in this WP.

Deviation and proposed corrective action:

- About one month of delay in delivery of D11.4.4 due to difficulties to receive input from all work packages in time. Final delivery date was February 3rd, 2015.

- **28-ZHAW:**

Contribution and results:

- Work for a possible exploitation in academia/education
  - Usage and promotion of FIWARE technology / FI-LAB in running CS curriculum. Deeper integration considered for upcoming consecutive Cloud Computing course.
  - Using and promoting FIWARE/FI-Lab in current Service Engineering and Service Engineering Lab courses.
- Establishing contacts to exploit FIWARE in the Swiss GovCloud trial project.
- Setting up and running the Zurich node of FI-Lab as part of the XiFi project.
- Supported EPROS in Task 11.4 in Standardisation of RPC over DDS in the OMG.

Deviation and proposed corrective action:

There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **29-DFKI:**

Contribution and results:

- Task 11.2:
  - As an application-oriented research institute DFKI's exploitation is mainly through the use of FI-WARE technology within further research projects within larger national and international consortia or directly in collaboration with industry. DFKI has reviewed and updated its exploitation plan according to the large interest in its XML3D and related 3D-Web technology.
  - XML3D as one of DFKI's main GEi is now being commercially exploited by several partners of DFKI, so far mainly for general 3D-Internet use as well as for the automotive industry. More direct commercial exploitation is expected in 2015 by other partners.
  - There has been considerable interest in 3D-Web technology from the Phase-III companies as well as through exploitation within the Use-Case projects FI-Content and FITMAN.
- Task 11.3:
  - DFKI has established XML3D as one of two 3D-Web technology stacks through its membership and activities within the Web3D Consortium, W3C, OGC, and many scientific events and conferences (including Web3D conference, Siggraph, WWW, and others).
  - Through more than a dozen collaborative projects use of XML3D has been distributed to a large commercial players, including Disney, Daimler, VW, BMW, and many others.
  - Via Prof. Slusallek's membership in OMG DFKI has contributed to EPROS activities within OMG.
  - DFKI has interacted with several large and small companies (Intel, Siemens, Pilz, etc.) with regard to the KIARA middleware and security components as an upcoming important building block for secure middleware transactions in the mainly in the areas of FoF and 3D-Internet.

        - To ease adoption specifically for SMEs DFKi has been making all its contribution available as Open Source and has advertised this widely.
    - Task 11.4:
        - DFKI has been active within Web standardization through the W3C. It is co-founder and co-chair of the Community group on “Declarative 3D in the Web”. It has organized and participated in many general and specific related events at W3C, Web3D, Siggraph, WWW, and other events.
        - To highlight the relevance of FIWARE and its GEs towards 3D-Web standards, DFKI has organized a specific tutorial of FI-WARE technology at the annual Web3D event in Vancouver in 2014. This event was also in collaboration with the FI-Content project.
        - Within OGC (GIS-related standardization) DFKI has been active to promote the WebUI related technologies in several events and in direct communication with key members of OGC.
        - DFKI has actively supported EPROS middleware related standardization activities within OMG.

  Deviation and proposed corrective action:
  Some efforts regarding middleware security have been transferred from USAAR-CISPA to DFKI’s. There have been some delays due to this transfer but all tasks have been fulfilled There is no other deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **31-EPROS:**
  Contribution and results:
    - Task 11.2: Reviewed the individual Exploitation Plan.
    - Task 11.3: ePROS has participated in different standards conferences such as the OMG conferences, and the MIP meetings (Multilateral Interoperability Program, an international defense standards organization), demonstrating the different pieces of the FIWARE Advanced middleware, creating market awareness.
    - Task 11.4: It is when ePROS has concentrated most of the effort for Task 11.We contributed as one of the main 3 submitters to the OMG RPC over DDS Standard. The Standard now is finished and has passed the recommendation for adoption voting.The API of this standard is aligned to the advanced middleware API, because RPC over DDS is one of its base technologies. Reach an agreement with the other standard submitters has taken more iterations and OMG meetings than initially expected.
      We also participated in the DDS Security Standard, proposing a pluggable security framework used as the basis for the advanced middleware security architecture.
      Also, in the MIP meetings we have presented the FIWARE advanced middleware components as an alternative solution to web services, creating a new standard, the ADEM (Alternative Data Exchange Method), using several components of the FIWARE Advanced Middleware, such as the IDL and DDS.

  Deviation and proposed corrective action:
  There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **32-IMINDS:**
  Contribution and results:

- Task 11.1:
  - iMinds performed a detailed technology and tool scan in the field of business modeling and cost-benefit simulation. The results of this scan were investigated in more detail and results are added to the Market and Competition Analysis deliverable. The main findings in this were:
    - Several tools are existing to perform business modeling, but a dedicated and exhaustive testing phase and a detailed comparison of these tools showed clear advantages of our approach to the other existing tools. Clearly our tool is more focused to perform quantification and by means of a multi-level refinement, keep the high level overview at the business modeling.
    - Limited tools are existing to perform cost-benefit simulation and many ad-hoc approaches exist to perform this. The little tools that exist are very focused to one specific task and one specific component of the cost (e.g. network or software).

    The market for multi-level business modeling containing good quantifications has been investigated, in which we identified vertical market segments and indicated where we have a direct entrance point (e.g. projects and firms we cooperate with) to these markets
- Task 11.2:
  - iMinds investigated the Terms & Conditions in regards to the final delivery of the software. iMinds extended this with an internal study on the strategy to take with the software in continued development and possible valorization steps. In this context iMinds has setup and continued cooperation with firms and projects (e.g. ICON HIPS project and bilateral projects with Deutsche Telekom and Technical University of Munich) on dedicated research incorporating this software basis.
- Task 11.3:
  - iMinds showed a demonstration of the BEMES GE with a clear link to FiWare on the FTTH Council Europe Conference in Stockholm. In this demonstration new contacts and market awareness was established. iMinds cooperates with different policy makers in research projects and gradually includes the business modeling and simulation approach into the research and especially into the result section. iMinds is actively pushing the usage of this tool to various academic parties with whom they are or have in the past been conducting common research involving detailed economic and business modeling studies.
- Task 11.4:
  - The cost calculations are based on the standard of BPMN and in the same light the equipment coupling modeling notation has been constructed. We are preparing the contribution of the ECMN notation into an existing standardization body, preferably linked to BPMN. iMinds extended the work on the specifications of cost-benefit analysis and developed both a logical revenue modeling language as well as a hierarchical network modeling language. These will both be pushed into standards in addition to the previously developed ECMN model. iMinds developed a novel business modeling approach and made a multi-level linking of this business modeling to the business calculation. iMinds is creating awareness to this approach through dissemination in three papers and demonstrations in order to generate a de-facto standard on this as well. Cooperations with existing business modeling tools and approaches should be investigated in advance.

Deviation and proposed corrective action:
There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **33-NSNG1:**
  Contribution and results:
  - Task 11.1:
    - Besides the continuation of the Market and Competition analysis, main focus during the reporting period was on the evaluation of other Identity Management Systems available on the market.
  - Task 11.2:
    - NSN did revisit the individual exploitation plan and sent a consolidated update including all NSN activities to the EC (PO).
    - Continuous NSN internal exploitation of the Generic Enablers provided by NSN in FIWARE to the business units and interested Use Case projects (e.g. FI-SPACE and FI-Content2).
  - Task 11.4:
    - For WP7 NSN-HU is monitoring the work of ONF working groups "Architecture and Framework" and "Extensibility", where we need to consider in our implementation the OpenFlow specifications. Accordingly, in the last period we participated in the weekly conference calls of those working groups. Also we have attended the ONF member workdays f2f meeting in October 2013 and March 2014.
    - The main result so far have been the OpenFlow specification implemented in our Virtual Network Controller. The work of the Architecture WG is delayed (only draft document available and no document published) and a new NorthBound Interface WG has been created. We try to ensure that the ONF SDN architecture is inline with the VNP architecture proposed in FIWARE. Similarly, we try to ensure that the planned ONF NBI specification and the NetIC API developed in the FIWARE NetIC GE are not contradicted.
    - We also monitor the work of the new Wireless and Mobile WG in ONF, where the use cases provided by telecom operators may have an impact on FIWARE use cases as well as on the work of the ETSI NFV ISG.

  Deviation and proposed corrective action:
  There is no deviation nor proposed corrective action regarding the activities of this partner in this WP.

- **40-FNE:**
  FNE is the sole partner responsible for the results of T11.5. As indicated above:
  Contribution and results:
  - Commercial version of the Campuse.ro platform up and running
  - Including the following modules, developed during FIWARE:
    - Recommendations module
    - Profiling for both individual and group users
    - Interaction tools (conference, workshop etc)
    - Badges and Recognition
    - Challenges, Talent and Business modules
  - Real-condition tests during various Campus Party events
  - Short accompanying user guide

Deviation and proposed corrective action:
As indicated in the description of T11.5.

5. Use of resources

Note: The following info below is expected to be included as part of section 2.3.8 Use of resources for Project Management (WP1) of the periodic report by Javier de Pedro (TID). Figures below are being updated by Javier with the info corresponding to current period.

General valuation of the effort and status of the WP have to be updated by the WPL below (XXX).

Planning of effort in WP11:

This WP has a weighted rate by month of the linear distribution of total effort per partner* as follows:

M1-M9: 50 % of its linear distribution in 36 months

M10-M33: 100 % of its linear distribution in 36 months

M34-M36: 50 % of its linear distribution in 36 months

M37-M44: Extension of the project: Each partner has provided their own planning.

As result of the amendments, planning has could be changed due to its recalculation based in the new effort per partner in the DoW..

* Except E-IIS who has requested to follow its own particular planning.

Follow-up of effort in WP11:

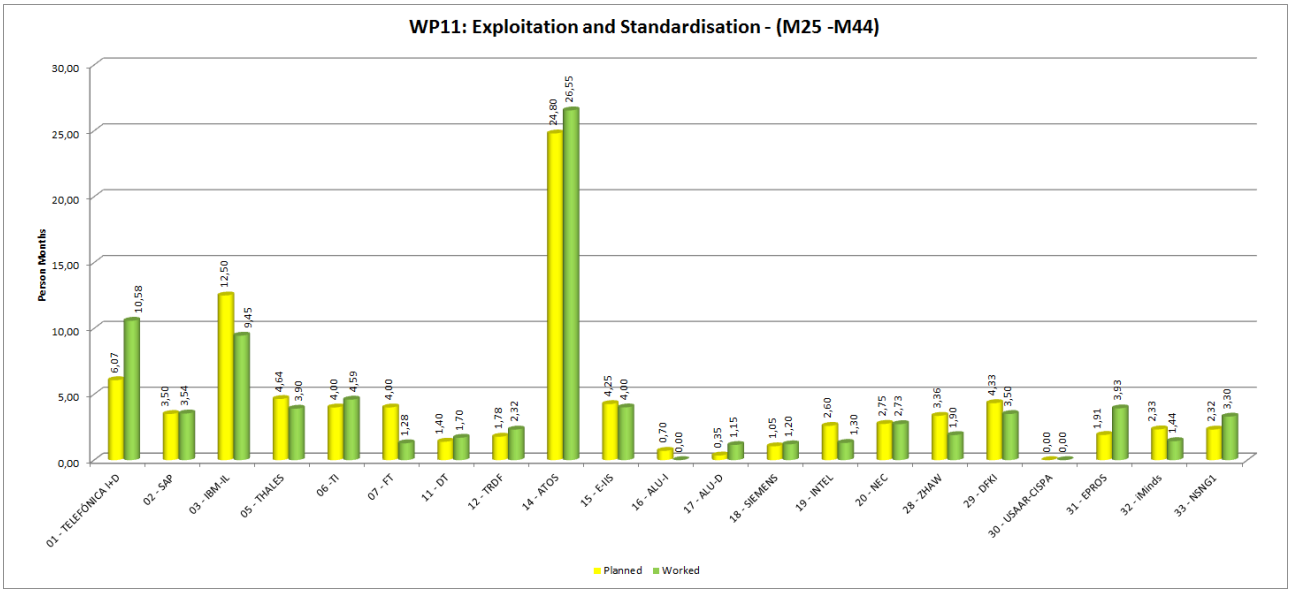
The following table depicts the planned resources vs. real resources (in PMs) for WP11:

WP11	Y1	Y2	Y3	Y1	Y1+Y2	Y1+Y2+Y3
DoW: 230	**M1-M12**	**M13-M24**	**M25-M44**	**M1-M12**	**M1-M24**	**M1-M44**
Planned	37	66	185	37	103	288
Worked	29	53	209	29	82	291

Note: Worked cell contains the accumulative declared effort.

In general, the consumption of resources in this WP11 is XXX.

The following image depicts the planned resources vs. real resources (in PMs) during period M25-M44 in WP11 by partner:



Explanations of significant deviations (±10%) are explained in the “Explanation of the use of the resources -> Effort per partner” section.

Note: The above reference (explanations) is currently managed by the consortium in the following shared document: https://docs.google.com/document/d/1NoS4-7DjKbAlPc98c3lHCMgHkoNk3G7VSiNTDMkoQ_c/edit

In summary, the status of this WP11 is XXX.

6. Corrective actions proposed (if applicable)

<N/A>