



Enabling the business-based  
Internet of Things and Services

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## Index:

- 1. Executive Summary ..... 4**
- 2. Introduction ..... 5**
  - 2.1 Project overview ..... 5
  - 2.2 Purpose, context and scope of this deliverable ..... 5
  - 2.3 Background ..... 5
- 3. Planned and Completed Activities M01-M12 ..... 6**
  - 3.1 The clusters and ebbitts involvement ..... 6
  - 3.2 IERC - IOT European Research Cluster on the Internet of Things ..... 6
    - 3.2.1 Planned activities in IERC – IOT M01-M12 ..... 6
    - 3.2.2 Completed activities in IERC – IOT M01-M12 ..... 6
  - 3.3 FInES – Future Internet Enterprise Systems..... 7
    - 3.3.1 Planned activities in FInES M01-M12 ..... 7
    - 3.3.2 Completed activities in FInES M01-M12 ..... 8
  - 3.4 Monitoring and Control Cluster on Smart Buildings/Smart Spaces ..... 11
    - 3.4.1 Planned activities in the Monitoring and Control Cluster M01-12..... 11
    - 3.4.2 Completed activities in the Monitoring and Control Cluster M01-12..... 11
  - 3.5 CERP-IoT Cluster of European RFID Projects ..... 11
  - 3.6 FIA - Future Internet Assembly ..... 12
    - 3.6.1 Planned activities in FIA M01-M12 ..... 12
    - 3.6.2 Completed activities in FIA M01-M12 ..... 12
- 4. Cluster Meetings and Events up to M13 ..... 13**
- 5. Planned Activities M13-M24 ..... 15**
  - 5.1 The FInES Cluster ..... 15
  - 5.2 The IERC Cluster ..... 15
  - 5.3 Monitoring and Control Cluster on Smart Buildings/Smart Spaces ..... 15
  - 5.4 FIA Future Internet Assembly..... 15
- 6. Conclusions ..... 16**

## 1. Executive Summary

This report is part of task T12.4 Clustering and provides a status on the clustering activities done in the first year of the ebbitts project.

The ebbitts project is involved in the following clusters: IERC (IOT European Research Cluster), FInES (Future Internet Enterprise Systems), Monitoring and Control cluster on Smart Buildings/Smart Spaces and CERP-IoT (Cluster of European RFID Projects) as well as the Future Internet Assembly (FIA).

In the IERC cluster, the ebbitts project leads on Semantic Technologies and the activities include participating and presenting ebbitts at cluster meetings and contributing to papers and publications i.e. the Position Paper on Research Priorities for FP8 as well as the IERC Book 2011 on the Internet of Things.

In the FInES cluster, the ebbitts project takes a leading role in terms of architecture, open infrastructure, physical addressing schemes and virtualisation design. ebbitts leads two FInES taskforces "Manufacture and Industry Relationships" and "International Relations". For the taskforce "Manufacture and Industry", focus has been directed towards creating a strategy for the cluster as well as to work on stakeholder engagement. For the taskforce "International Relations", focus has been on strengthening the relationship between EU and Brazil by reporting on FInES activities at the Rio-Info conference in Brazil. Also, FInES organised and carried out a workshop on Networked Enterprises in Africa at the IST-Africa 2011 in May 2011 to support an Africa-EU Partnership on interoperability of enterprises.

For the Monitoring and Control cluster on Smart Buildings/Smart Spaces, the traceability scenario in ebbitts, with its complexity and heterogeneity, is of most interest. Activities have been concerned with developments in M2M Standardisation, ontologies and Data Models, common semantic interoperability, common standards and policies on security and privacy, the interplay of Home Healthcare and Ambient Assisted Living as well as interplay of construction and structural monitoring.

Several ebbitts partners have been involved in the CERP cluster and in the definition of the CERP-IoT Strategic Research Roadmap for the Internet of Things. However, some of the work in this cluster has moved to other clusters such as FInES where the focus on RFID will continue. In relation to RFID, a workshop was arranged in Copenhagen in May 2011 in cooperation between ebbitts, FInES and the Race Network. ebbitts partners presented the future vision of Internet of Things and the ebbitts project.

In relation to FIA, ebbitts partners have participated in the Future Internet Week in May 2011 and plan to arrange a bi-annual European workshop on "The Internet of People, Things and Services". The first conference will be organised in April/May 2012 as a workshop during the Future Internet Assembly. The main aim will be to demonstrate European advances in the field of interoperable semantic technologies for Internet-based business applications and to disseminate ebbitts results.

Planned activities for the second project year are highlighted in section 5. The next cluster collaboration report is due in M24.

## **2. Introduction**

### **2.1 Project overview**

The ebbitts project aims to develop architecture, technologies and processes, which allow businesses to semantically integrate the Internet of Things into mainstream enterprise systems and support interoperable real-world, on-line end-to-end business applications.

ebbitts will provide semantic resolution to the Internet of Things and hence present a new bridge between backend enterprise applications, people, services and the physical world, using information generated by tags, sensors, and other devices and performing actions on the real-world.

The ebbitts platform will enable the convergence of the Internet of People, the Internet of Things and the Internet of Services into the "Internet of People, Things and Services (IoPTS)" for business purposes.

### **2.2 Purpose, context and scope of this deliverable**

The ebbitts project is committed to actively participate in clustering activities with other related ICT projects organised by the European Commission.

Relevant clusters have been identified and a cluster collaboration plan for participation in the different clusters has been completed in month 6. More information can be found in D12.7 Cluster collaboration plan as well as in D12.2.1 Dissemination strategy, cluster and other activities 1.

This report outlines the planned objectives for each cluster and the corresponding activities in the first project year. It also states what activities are planned for the next project year.

### **2.3 Background**

The aim of task T12.4 - Clustering is to plan and coordinate the active participation in clustering and concertation activities with other FP7 EU-funded ICT projects related to the ebbitts project.

The European Commission is actively supporting and facilitating concertation and clustering activities involving the many research projects that are being funded under the 6<sup>th</sup> and 7<sup>th</sup> Framework Programme.

The main objective is to set up a framework of cooperation among research projects and to facilitate programme management by the Commission Services. Cooperation takes the form of knowledge sharing, procedures, peer discussion of intermediate results, interchange of deliverables, coordination of activities, etc.

Projects use the framework to start bilateral cooperation or, when justified, to cluster with other projects around specific topics of interest and eventually seek consensus on architectures, standards, inputs to policy, etc.

The purpose of the cluster work is to achieve sound IOT building blocks and thereby become a contact point for IOT research in Europe.

### 3. Planned and Completed Activities M01-M12

The following sections highlight the initial objectives and plans for each cluster and the activities that have taken place in the first year of the project. The objectives and plans are based on the deliverable D12.7 Cluster collaboration plan which was submitted in month 6. Activities planned for the second project year are listed in section 5.

#### 3.1 The clusters and ebbitts involvement

The clusters in which ebbitts is involved are

- IERC IOT *European Research Cluster*<sup>1</sup>
- FInES *Future Internet Enterprise Systems*<sup>2</sup>
- Monitoring and Control cluster on Smart Buildings/Smart Spaces<sup>3</sup>
- CERP-IoT *Cluster of European RFID Projects*<sup>4</sup>
- FIA *Future Internet Assembly*<sup>5</sup>

In general, ebbitts partners contribute to the clustering activities by participating in workshops, expert groups and joint conferences. Further, partners participate in the editing of cluster publications and contribute to the development of research roadmaps where relevant. Senior staff members from ebbitts participate in cluster meetings and assume positions as leaders of certain activities as required.

The plans for each cluster and the corresponding activities are outlined below. Notably, activities in one cluster are often closely aligned with activities in other clusters.

#### 3.2 IERC - IOT European Research Cluster on the Internet of Things

IERC is bringing together EU-funded projects to define and promote a common vision of the Internet of Things.

The plan for the ebbitts project is to participate actively in the cluster activities and bring further potential to the cluster in terms of open service architecture and open governance schemes with a strong international perspective. Moreover, the technical approaches proposed by ebbitts with respect to some self- and context aware properties in heterogeneous IoT networks is expected to be of interest to the cluster.

Markus Eisenhauer (FIT), Maurizio Spirito (ISMB) and Peter Rosengren (CNET) represent ebbitts in this cluster and Peter Rosengren has been elected as leader of Semantic Technologies.

##### 3.2.1 Planned activities in IERC – IOT M01-M12

Besides participating in cluster meetings and conferences, targets include contributing to position papers and publications. The plan is also to involve IERC into collaboration with Brazil with a focus on IoT for manufacturing.

##### 3.2.2 Completed activities in IERC – IOT M01-M12

The cluster activities in IERC include participating and presenting ebbitts at cluster meetings and contributing to papers. The activities have been as follows:

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<sup>1</sup> IOT European Research Cluster: <http://www.internet-of-things-research.eu/>

<sup>2</sup> Future Internet Enterprise Systems: <http://www.fines-cluster.eu/fines/jm/>

<sup>3</sup> [http://cordis.europa.eu/fp7/ict/necs/home\\_en.html](http://cordis.europa.eu/fp7/ict/necs/home_en.html)

<sup>4</sup> <http://www.rfid-in-action.eu/cerp>

<sup>5</sup> <http://www.future-internet.eu/home/future-internet-assembly.html>

### Cluster Meetings

Markus Eisenhauer (FIT) has participated in a cluster workshop on Activity Chains "AC 11 - Application scenarios" and "AC 14 - Exploitation" collocated with the 8th European Conference on Wireless Sensor Networks - EWSN 2011, February 2011 with the poster presentation: "Application domains in ebbts: Food Traceability and Traceability in Car Manufacturing".

Peter Rosengren (CNET) has made a presentation introducing the ebbts project at the IERC cluster meeting during ICT 2010 on 27-29 September 2010 as well as at the cluster meeting during EWSN Week on 25 February, 2011. The presentation was titled 'ebbts Business-Based Internet of Things and Services - An Interoperability platform for a Real-world populated Internet of Things domain'.

Maurizio Spirito (ISMB) participated in the IERC cluster meeting on 17 May 2011 during the Future Internet Week (16 – 19 May 2011) in Budapest (Hungary) and gave the presentation "Opportunistic Communication Paradigms in ebbts".

### Papers and Publications

Throughout October 2010 to January 2011 FIT, CNET, IN-JET and ISMB have made contributions to the document "Position Paper on Research Priorities for FP8" which has been prepared by the cluster, suggesting further research activities into Semantic Technologies for IoT and Resource-constrained scenarios for business based IoT.

ISMB has contributed to the IERC Book 2011 "Internet of Things - Global Technological and Societal Trends: From Smart Environments and Spaces to Green ICT" and in particular to the "Internet of Things Strategic Research Roadmap".

## **3.3 FInES – Future Internet Enterprise Systems**

The FInES cluster is composed of FP7 funded projects, as well as experts and stakeholders from all over Europe. As stated by the FInES cluster, the overall objective is to make "The full potential of the Future Internet accessible to, relevant for, and put to use by European enterprises including SMEs".

ebbts has an important role in terms of architecture, open infrastructure, physical addressing schemes and virtualisation design. Semantic interoperability and service openness of the platform are also key objectives in FInEs. The aim is to take a leading role in this work by being in charge of two FInEs taskforces: "Manufacture and Industry Relationships" and "International Relations".

### Manufacture and Industry

This taskforce is led by Jesper Thestrup from IN-JET. The overall strategy is to involve a broad range of industrial and other enterprises in the work undertaken and the results obtained, primarily within the various research projects in the FInES cluster, but also beyond.

In the first instance, the activities of the task force will focus on involving national and regional industrial associations. Impact in this area will be achieved through conferences and workshops, topical meetings for targeted industry segments and service providers.

### International Relations

The Taskforce on International Relations aims to link with international activities in the area of Future Internet and enterprise systems, building on similarities and complementarities in order to strengthen the position of Europe. Markus Eisenhauer from FIT has been elected as leader of this taskforce. Targeted countries are the BRIC countries (Brazil, Russia, India, China) as well as the US, Japan, South Korea and Africa.

### **3.3.1 Planned activities in FInES M01-M12**

ebbts will lead two FInEs taskforces "Manufacture and Industry relationships" and "International Relations".

#### Taskforce Manufacture and Industry Relations

The taskforce will actively seek to engage the stakeholders, first through bilateral talks and visit to national business communities in the relevant partner countries. The activities of the task force will focus on involving national and regional industrial associations as well as European level umbrella organisations.

Impact in this area will be achieved through conferences, workshops, topical meetings for targeted industry segments and service providers.

The taskforce will contribute to the FInES website and/or the European Future Internet Portal. The website will be targeted at a business audience.

Other planned activities include:

- Publishing information material
- Aligning with and drawing on demonstration activities performed by the involved projects with the aim to involve a wider European audience
- Attracting and engaging individual performers (opinion leaders, innovation clusters, pilot owners, living labs)

#### Taskforce International Relations

Planned activities include:

- Strengthening the relationship between EU and Brazil by reporting on FInES activities at the Rio-Info conference in Brazil
- Supporting an Africa-EU Partnership on interoperability of enterprises; strengthening the research dimension of IT in manufacturing and industry between the EU and African countries, including long term perspectives aligned with EU priorities and recommendations for a future Africa
- Organising an annual workshop similar to the "European Sustainable Energy Week" with international focus

### **3.3.2 Completed activities in FInES M01-M12**

#### Cluster meetings

Three cluster meetings were held in Brussels on 8 October 2010, 25 January 2011 and 1 April 2011. In addition, a telephone conference was undertaken on 30 June 2011. Jesper Thestrup (IN-JET) participated in all meetings as leader of the Taskforce on Manufacture and Industry Relations and Markus Eisenhauer (FIT) participated as leader of the Taskforce on International Relations.

At the meeting on 10 August 2010 the plan for the taskforce on Manufacture and Industry was presented by Jesper Thestrup and approved by the cluster.

At the second meeting on 25 January 2011, IN-JET introduced a wiki page for the cluster participants to register their ideas for engaging European level and national stakeholders. The activities in International Relations were also presented at the meeting together with a short overview of the BEMO-COFRA project.

At the third meeting on 1 April 2011, the results of activities in the taskforce for Manufacturing and Industry were presented.

#### Taskforce Manufacture and Industry Relations

In "Manufacture and Industry Relationships" the focus has been directed towards creating a strategy for the cluster as well as to work on the stakeholder engagement.

#### *Stakeholder engagement*



A series of contacts has been carried out from March to May 2011 with the ETP Manufacture through its research organisation EFFRA. The aim is to establish cooperation between EFFRA and the EC and the FInES cluster in the area of Future Internet and the Networked Enterprise.

Based on the collected contacts, a closer relationship will be established, developing synergies between the "Future Internet" activities of the EC and ICT research topics undertaken by the initiative FoF - Factories of the Future.

An initial meeting is scheduled to take place between the EC and EFFRA on 9 September 2011. Participants in the meeting will be from the EC: Mr. Gerald Santucci, Head of Unit and Ms. Cristina Martinez, Chair of FinES cluster. From EFFRA will participate Mr. Chris Decubber, Research Programme Manager and one other person. Finally, Jesper Thestrup will participate.

Along the same lines, FI PPP is establishing a 'Stakeholder Engagement' Working Group with representatives from all retained FI PPP projects. The objective of this Working Group is to identify related initiatives and communities and plan concrete means for engaging them in FI PPP work. The Working Group is considered as an interface that would accumulate the engagement opportunities in operational level. This work should also be aligned with the FInES – EFFRA activities.

#### *Conferences*

Together with the "RACE network", the FInES cluster and "RFID in Denmark", ebbitts co-organised arranged a RFID workshop in Copenhagen on 3 May 2011 with the aim to introduce RFID/ IoT in Enterprise Systems for product management and inaugurate the RFID action plan in Denmark. The Danish Minister for Research and Innovation Ms. Charlotte Sahl-Madsen, Mr. Florent Frederix from the EC and Mr. Ian Williams from the RACE network were among the speakers. Ralf Ackermann from SAP presented the future vision of Internet of Things and Jesper Thestrup from IN-JET presented the ebbitts project. The presentations had good feedback from the audience and important contacts to Danish businesses were made.

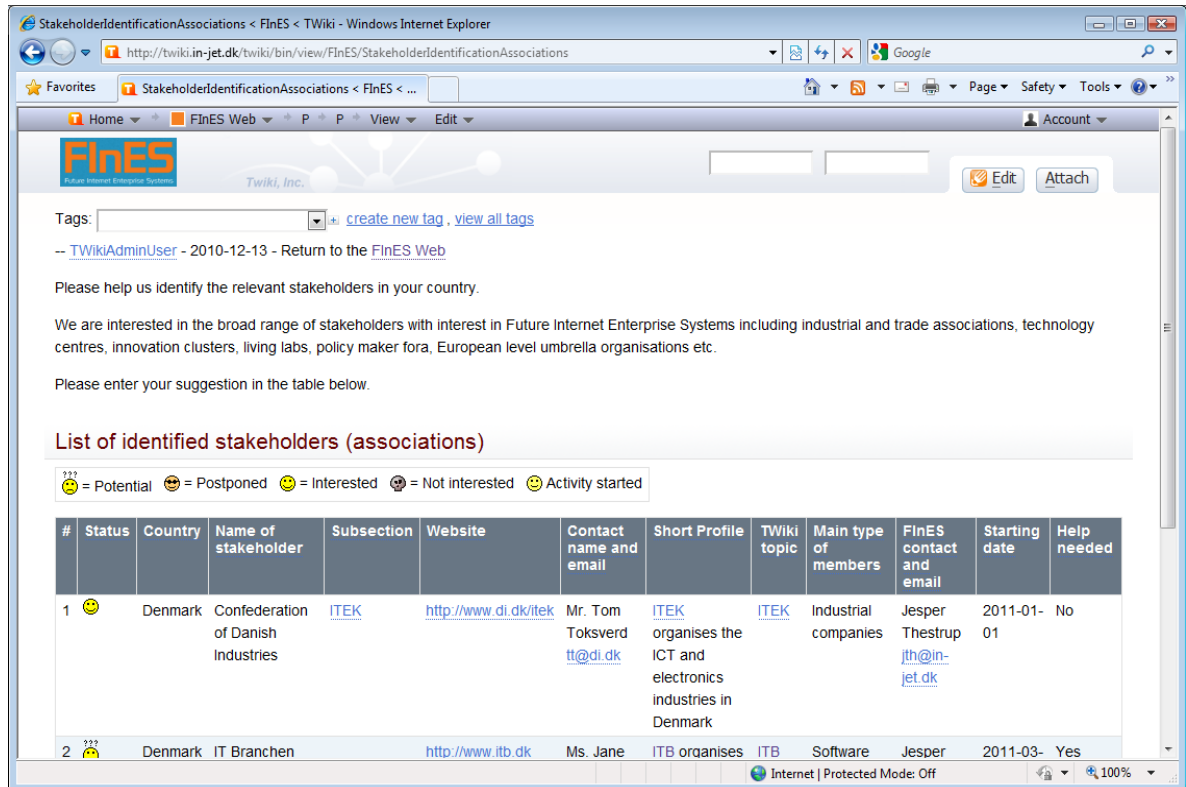
The coming FIA conference (after Poznan) will be held in Denmark in spring 2012. Jesper Thestrup has applied for a seat in the steering committee to represent FInES interest.

#### *Wiki and website*

A wiki has been created containing a list of identified stakeholders. The work on stakeholder engagement was agreed and initiated. The wiki allows partners to identify stakeholders and suggest events to be undertaken with the stakeholders.

The FInES website, maintained by the Ensemble project <http://www.fines-cluster.eu> has been updated with information on the taskforce produced by IN-JET.

The wiki with a list of identified stakeholders



Taskforce International Relations

The focus of the taskforce "International Relations" has been on strengthening the international relationship with Brazil and African countries. Work has also been directed on producing various background information documents for FInES.

*Workshops*

In relation to the "International Relations" taskforce, The FInES-cluster organised a workshop on Networked Enterprises: Potential and Opportunities for Businesses in Africa at the IST-Africa 2011 in Gaborone, 11-13 May 2011, chaired by Man-Sze Li, IC Focus, UK, and Markus Eisenhauer from FIT. The workshop was a first opportunity to open up dialogues on networked enterprise issues with stakeholders on a vast continent which, despite the turmoil reported in some of the countries, has huge potential in many different domains. In Africa as much as in Europe, the evolution of enterprises and (nascent) enterprise networks, allied with the novel use of existing technologies such as basic e-commerce/e-business transactional solutions and mobile communications, is set to continuously raise the bar of innovation, responding thus to market expectations, customer demands and entrepreneurial aspirations, though their actual realisation may differ according to the local contexts and needs. FIT submitted and presented a paper titled "Enterprise Systems in the Internet of Things" to promote making key societal infrastructures and business processes more intelligent and sustainable through tighter integration with the Internet.

The discussion focused on relevance and opportunity of Networked Enterprises for Africa, potential areas of joint research interest between EU and Africa and the role of dissemination, autonomy and ownership of knowledge and technologies for businesses. It concluded that Networked Enterprises research would leverage to support businesses in Africa.

### *Conferences*

As leader of the taskforce "International Relations", Markus Eisenhauer (FIT) made a Keynote speech on IoT and report on FInES activities was made at Rio-Info, in Rio de Janeiro from 31 August to 2 September 2010. The talk formed the basis for more intense discussions with several Brazilian Universities, Research Institutes and Industry and helped in the consecutive submission of a proposal to the ICT EU-Brazil Coordinated call.

Additionally, Markus Eisenhauer (FIT) was invited to have a speech on IoT at the University Federal de Pernambuco (UFPE) in Recife, Brazil and report on FInES activities and new European-Brazil projects on 12 August 2011 on the occasion of celebrating 65 years of successful research in UFPE and 60 years of scientific and technological research funding by the National Council for Scientific and Technological Development (CNPq). The talk was a good entry point for more intense discussions with the government of Pernambuco, several Brazilian Universities, the Porto Digital de Recife, Research Institutes and Industry and opened the floor for new collaboration between EU-Brazil.

## **3.4 Monitoring and Control Cluster on Smart Buildings/Smart Spaces**

The overall objective of this cluster is to align shared activities in the area of monitoring and control of Smart Buildings and Spaces.

Markus Eisenhauer from FIT and Peter Rosengren from CNET represent ebbits in this cluster. Focus is on moving from isolated Embedded Systems into fully networked, cooperating embedded solutions with reliable and secure underlying systems. The traceability scenario from ebbits with its complexity and heterogeneity is expected to be of considerable interest to this cluster.

### **3.4.1 Planned activities in the Monitoring and Control Cluster M01-12**

Planned activities include representing ebbits at cluster and concertation meetings.

### **3.4.2 Completed activities in the Monitoring and Control Cluster M01-12**

Activities have been concerned with discussions on common ontologies, their alignment and merging as well as discussions on semantic interoperability, common standards, policies on security and privacy, the interplay of Home Healthcare and Ambient Assisted Living as well as interplay of construction and structural monitoring. Specific topics were: Support networking in large-scale heterogeneous WSNs, WSNs with scalable monitoring, control and self-diagnosis capabilities and the use of semantic interoperability to allow the cooperation of WSN with legacy devices/systems.

#### Cluster Meetings

As negotiations of the ebbits project were already concluded, Markus Eisenhauer (FIT) represented ebbits before the official start of the IP at the Cluster on Smart Buildings/Smart Spaces at the meeting 2 June 2010 in Brussels.

Markus Eisenhauer also represented ebbits in the concertation meetings on Large-Scale, Cooperative WSNs: from Testbeds to Applications on the 9<sup>th</sup> of June 2011 in Brussels, as well as at the cluster meeting on "M&C for Smart Buildings/Smart Spaces" on the 10<sup>th</sup> of June 2011 in Brussels on Ontologies and Data Models and on the Cluster meeting on "WSNs in Industrial Scenarios" on the 10<sup>th</sup> of June 2011 in Brussels.

## **3.5 CERP-IoT Cluster of European RFID Projects**

Some of the work in this cluster has moved to other clusters such as FInES where the work of RFID will continue.

### **3.6 FIA - Future Internet Assembly**

FIA is structured to support open interactions and cross-fertilisation across technical domains and works towards the creation of added value for the projects involved and development of joint strategic research agenda regarding common actions and requirements.

#### **3.6.1 Planned activities in FIA M01-M12**

ebbits will actively support and participate in the FIA. One target is to arrange a bi-annual European workshop on "The Internet of People, Things and Services". The first conference will be organised in April/May 2012 as a workshop during the Future Internet Assembly (FIA). The target audience of the first event will especially be computer scientists and industrial researchers. The main aim will be to demonstrate European advances in the field of interoperable semantic technologies for Internet-based business applications and disseminate ebbits results. The second conference will focus on the agricultural domain.

Markus Eisenhauer (FIT), Peter Rosengren (CNET), Ralf Ackermann (SAP), Roberto Checco (COMAU) and Jesper Thestrup (IN-JET) will constitute the organising committee in preparation for the workshop at the FIA meetings.

#### **3.6.2 Completed activities in FIA M01-M12**

##### *Conferences*

Jesper Thestrup has applied for a seat in the steering committee for the coming FIA conference (after Poznan) to be held in Denmark in spring 2012 where a workshop on "The Internet of People, Things and Services" will be proposed.

ebbits (ISMB) participated in the Future Internet Week (the Future Internet Assembly, Future Internet Conference and Future Internet Forum) on 16-19 May 2011, attending the Internet of Things Conference on 16 May, the IERC Cluster meeting on 17 May and networking with both existing and newly approved projects (i.e. in ICT Call 7), especially in the IoT domain.

## 4. Cluster Meetings and Events up to M13

The table below lists the activities related to cluster collaboration in the first year of the project

<b><i>What, when, where</i></b>	<b><i>Contributing partners</i></b>	<b><i>Form</i></b>
Cluster meeting on Smart Buildings/Smart Spaces, 2 June 2010 in Brussels, Belgium	FIT	Represented ebbits
FInES cluster meeting on 10 August 2010 in Brussels, Belgium	IN-JET, FIT	Presented the plan for the taskforce on Manufacture and Industry (IN-JET)
Rio-Info, 31 August to 2 September 2010 in Rio de Janeiro	FIT	Keynote speech on IoT and report on FInES activities
IERC cluster meeting 27-29 September 2010 at ICT 2010, Brussels, Belgium	CNET	Presentation titled 'ebbits Business-Based Internet of Things and Services - An Interoperability platform for a Real-world populated Internet of Things domain'
FInES cluster meeting on 25 January 2011 in Brussels, Belgium	IN-JET, FIT	Introduced a wiki page for the cluster participants to register their ideas for engaging European level and national stakeholders
IERC cluster meeting at the EWSN Week 23-25 February 2011, Bonn, Germany	CNET	Introduced ebbits and the project aims
EWSN 2011 on 23-25 February 2011 in a workshop of the IERC cluster in Bonn, Germany	FIT	Poster Presentation and participation in a workshop on Activity Chains "AC 11 - Application scenarios" and "AC 14 - Exploitation" collocated with the 8th European Conference on Wireless Sensor Networks - EWSN 2011 "Application domains in ebbits: Food Traceability and Traceability in Car Manufacturing"
FInES Cluster Meeting, 1 April 2011 in Brussels, Belgium	IN-JET, FIT	Presented the results of activities in the taskforce for Manufacturing and Industry and presented (for FIT) the activities in International Relations and gave a short overview of the BEMO-COFRA project (IN-JET)
RFID meeting 3 May 2011 in	IN-JET, SAP	Arranged a workshop to

Copenhagen, Denmark		introduce RFID/ IoT in Enterprise Systems for product management. Co-arranged by ebbits and the "RACE network" and the FInES cluster.  Presentation on the future vision on the Internet of Things (SAP) and on the ebbits project (IN-JET)
IERC meeting, 17 May 2011 in Budapest, Hungary	ISMB	Participation and presentation of "Opportunistic Communication Paradigms in ebbits"
Future Internet Week , 16–19 May 2011 in Budapest, Hungary	ISMB	Participation
IST-Africa 2011, 11-13 May 2011 in Gaborone	FIT	Participation and presentation of workshop paper titled "Enterprise Systems in the Internet of Things"
WORLD MANUFACTURING FORUM 2011 16–17 May 2011, Villa Erba, Cernobbio, Como Lake, Italy	COMAU	Participation - The World Manufacturing Forum aims to be a long-term platform for debate among decision-makers upon the most relevant topics surrounding the manufacturing sectors
Concertation meetings, 9 June 2011 in Brussels	FIT, ISMB	Large-Scale, Cooperative WSNs: from Testbeds to Applications
Cluster meeting, 10 June 2011 in Brussels	FIT	M&C for Smart Buildings/Smart Spaces, ontologies and Data Models
Cluster meeting, 10 June 2011 in Brussels	FIT, ISMB	WSNs in Industrial Scenarios
Tecnologia da Informação em Pernambuco 12 August 2011 in Recife, Pernambuco (Brazil)	COMAU, FIT	Dr. Markus Eisenhauer (Fraunhofer FIT) – Presentation of the collaboration activities between EU-BR  Participation at the round table "Desafios da Ciência e Tecnologia no Brasil e em Pernambuco"

## 5. Planned Activities M13-M24

The ebbts project will continue its clustering activities and other concertation activities, attending info days, expert groups, IST conferences and other relevant events organised by the EC. The project may also represent the Commission at some international events if required.

The following cluster activities have been planned for the next project year:

### 5.1 The FInES Cluster

The Taskforce on Manufacture and Industry will continue to work on stakeholder engagement. The wiki will be maintained and 2-3 of the most promising stakeholder forums will be selected and the following engagement activities will commence.

- Meeting with EFFRA is planned for 9 September 2011
- Manufacture and the Europ ETP will be addressed in cooperation between COMAU, Tachnalia and IN-JET

Further, the FInES website will be enriched with news from the Taskforce on Manufacture and Industry provided by IN-JET. The dissemination activities will be coordinated with those of the ENSEMBLE support action.

The next FInES Cluster concertation meeting will take part on 12 October 2011 in Brussels.

The Taskforce on International Relations will continue to work on international cooperation. FInES has been in contact with stakeholders in other parts of the world for knowledge exchange and exploration of common research interests. In the past 18 months, these include stakeholders & researchers in Brazil/South America, US, Africa, China and India.

Specifically, participation is planned in the Final EURASIAPAC Workshop, to be held on 30 November 2011 in Brussels, to discuss cooperation in ICT research between Europe and Asia-Pacific.

Building on the encouraging feedback from IST-Africa 2011, a follow-up FInES Cluster workshop will follow at IST-Africa 2012 on Regional Impact of Information Society Technologies in Africa.

### 5.2 The IERC Cluster

ebbts will continue its cooperation activities in this cluster. The activities will include:

- Suggesting involvement of IERC into collaboration with Brazil with a focus on IoT for manufacturing
- Addressing novel cognitive approaches that, by leveraging opportunistically on the time-dependent available heterogeneous network resources, support seamless continuous access to the information network and handle intermittent network connectivity in harsh and/or mobile environments

### 5.3 Monitoring and Control Cluster on Smart Buildings/Smart Spaces

ebbts will continue its involvement in this cluster. At this moment no specific activities are planned.

### 5.4 FIA Future Internet Assembly

The first European workshop on "The Internet of People, Things and Services" will be organised in April/May 2012 as a workshop during the Future Internet Assembly (FIA) in Denmark.

Jesper Thestrup (IN-JET) will most likely serve on the organising committee of the FIA event.

## 6. Conclusions

ebbits has been actively involved in cluster and concertation activities during the last 12 months, exchanging information and knowledge with other related EU funded ICT projects and taken a lead in taskforces and on certain technological areas.

Involvement has had many shapes from participation in meetings and conferences, production of papers, publications and dissemination material to the creation of strategies for cluster work and organisation of workshops and conferences. Underlying all the activities is the ongoing networking and contact with stakeholders.

ebbits will continue its active involvement in cluster and concertation activities. The next cluster report is due in M24 and cluster work will also feature in the deliverable D12.2.2 Dissemination strategy, cluster and other activities 2 which is due in M18.