Future Internet Forum

In association with ceFIMS FP7 Coordination Action

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Vol. 1, No. 2

In this issue...

Welcome to the second issue of the ceFIMS newsletter. This publication brings you updates on the Future Internet Forum (FIF) of Member States, as well as information on new initiatives and achievements in the European Future Internet.

The latest meeting of the FIF took place in Budapest, on 18 May, 2011, during Budapest's Future Internet Week, where representatives from Porto and Hungary presented some of their Future Internet activities. A special report on Hungary's National Technology Platform on the Future Internet can be found on p. 8 of the newsletter.

There's also a feature on the SEANET project, which is addressing high data rate Internet for ships on the open sea.

There's news from the INFINITY PPP project and the UK Future Internet Strategy Group, and finally, we highlight some upcoming events for your diary, including Poznan's Future Internet Week - during which the **next FIF meeting takes place on 25th October**.

Pictured at the Future Internet Award presentation in Budapest: (l-r) Jose Manuel Hernández-Muñoz (SmartSantander), Willie Donnelly (ceFIMS Coordinator), Robert Szabo (Award Judging Panel) and Mario Campolargo (EC Director of Emerging Technologies & Infrastructures)

Willie Donnelly.

Dr. Willie Donnelly,
ceFIMS Project Coordinator.

Potential Synergies Report

One of ceFIMS first major deliverables is a report on potential Future Internet synergies between Member States and between Member States and the EU. This report takes the regional, national, and EU-level information gathered by ceFIMS and examines the degrees of activity across Member States and between Member States and the EU. The report also discusses cooperation models and pillars on which such models could stand, and it identifies potential areas for synergies between projects/initiatives.

The report, therefore, provides a background context against which ceFIMS will prepare its roadmap and...

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Future Internet Award Winners

An Internet-of-Things initiative called SmartSantander has won the second Future Internet Award.

Prof. Robert Szabo from the Award's Judging Panel made the announcement during the closing ceremony of Budapest's Future Internet Assembly event on 19th May. Prof. Szabo said SmartSantander, "promotes smart services development" and provided exemplary work which "could be replicated in other countries."

The SmartSantander initiative involves a city-wide experimental research facility to support applications and services for a "smart city". It is flexible enough to engage with other experimental facilities, and it will stimulate new user applications, facilitate research on Internet-of-Things technologies and assess real-life users' acceptability testing.

"There is a dialogue between cities, businesses, citizens, and ICT researchers and developers..."

20,000 sensors

Comprising more than 20,000 sensors, SmartSantander's core facility will be located in the city of Santander on Spain's north coast. Other locations involved include Germany, Denmark, UK, Serbia & Australia.

The rich variety of partners involved in the SmartSantander initiative caught the particular attention of the Future Internet Award's Judging Panel. One Judge said, "There is a dialogue between cities, businesses, citizens, and ICT researchers and developers applying user-driven innovation methodologies."

The third Future Internet Award competition is now open for entries. More details on the Award and the entry form are available here on the ceFIMS website.

ceFIMS presents at FP7 Call 8 event

Project coordinator TSSG presented ceFIMS in London on March 31st, to an event entitled 'FP7 Call 8 Early Awareness'.

The event was organised by the Knowledge Transfer Network and was attended by over 100 delegates. This 'Early Awareness' meeting was designed to be a major networking and learning opportunity to allow business and academic researchers share their innovation aims in three related areas: Future Networks, Cloud Computing & Software, and Trustworthy ICT.

In addition to the above topics being discussed, speakers from the European Commission with intimate knowledge of these areas described the work-programme which details the opportunities available in this call. The deadline for proposals in Call 8 is 17th January, 2012.

Presentations from the event, including the ceFIMS slides, are available here.

Research Councils Workshop

CeFIMS hosted its first European-level workshop on 18th May, during Budapest's Future Internet Week.

Participants at the workshop included members of research councils and funding agencies from across 17 Member States, Future Internet Forum (FIF) members and representatives from the INFINITY PPP project. Approximately 40 delegates discussed opportunities for collaboration and potential synergies between the various Member State funding agencies.

Transnational Collaboration

The workshop combined plenary and break-out sessions, and focused on specific issues around the topic of finding common European themes for transnational collaboration and how best to achieve this. As well as hearing from the European Commission (Mr. Andrew Houghton), Nick Wainwright also gave an overview of the FISA roadmapping exercise.

On the day, workshop participants divided themselves into four groups of 8-10 persons and discussed a number of topics. The conclusions from these discussions were then presented to the workshop's closing plenary session. The workshop report is available here.

Discussion Paper

The report gave rise to a discussion paper which is acting as a bridge to the ceFIMS interim roadmap. The document outlines potential themes, funding mechanisms and barriers & challenges in order to stimulate further discussions between stakeholders, incl. FIF members, research councils, and EU programme managers.

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Member State Initiatives

Porto - Smart Urban Utility

Porto is trying to solve its traffic congestion by taking a vehicular inter-networking approach.

The city is now a Living Lab for Intelligent Transport Systems Research. In addition to the 500 nodes in their vehicle ad hoc network (taxis in the DRIVE-IN project), the NDrive navigation system which is commercialised internationally is also tested in the city.

One experiment captured data via the DRIVE-IN infrastructure during an Academic Festival in Porto on 4th May, 2011.

Taxi Traffic

The taxi traffic was monitored from the hours of midnight until 7.00am – up to a 60% gain in traffic management flows could be achieved during this trial. Apart from being time-stamped, all data is collected anonymously and the corresponding databases were approved by the National Data Protection Authority.

Porto's 'Smart Urban Mobility' research is also assessing the impact of 'informed navigation'. When each car contains a GPS-enabled smartphone, for example, will people be able to use such an application to avoid traffic jams? Other potential impacts include virtual traffic lights, social networking and taxi-sharing, and projecting digital content onto car windscreens.

Porto - PlanIT

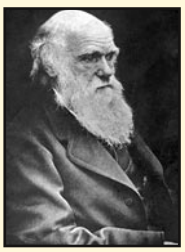
Living PlanIT is an international business that develops novel sustainable city-scale technologies. Steve Lewis, the company's founder and CEO, says that while urbanisation is growing at a fast rate, there is low penetration of technology in the construction industry.

Living PlanIT has three core markets: New City, Urban Regeneration, and Retrofit. They are currently building a new city in Portugal (PlanIT Valley) close to Porto, and will soon begin retrofitting Silicon Valley, where they will coordinate all transport systems. They also have regeneration projects in London and Seoul.

Living PlanIT embeds sensing and actuation technology into building materials when developments are being constructed and applies IT system design approach to construction developments.

Urban Operating System

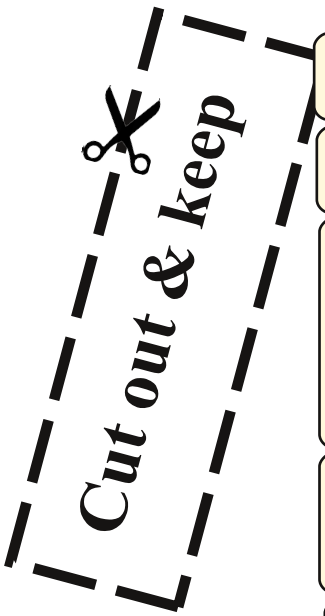
The Network can then talk directly to these sensors via an Urban Operating System (UOS). All sensing operations are distributed, and hence there is no central CO2-producing system. Every building constructed expands computer capacity. The gathered data is used to create services for the building occupants – a robust privacy policy monitors this data collection. 2,875 partners are involved with Living PlanIT, including Microsoft and Cisco, with nearly 5,000 direct jobs to be created during the first phase of their Portuguese PlanIT Valley project.



"In the long history of humankind (and animal kind, too) those who learned to collaborate and improvise most effectively have prevailed."

Charles Darwin (1809 – 1882)

This section presents a randomly selected entry from the ceFIMS database of European Future Internet initiatives. The database contains information from regional, national, and EU levels. See www.cefims.eu/database for more info.



SEANET *(France)*

Key Info

Runs from: Jan. 2011 – Jan 2014 (36 months)
Website: In production...

Summary

SEANET is developing ad hoc communication networks for high data rate ship-to-ship exchanges. One of the main targets is to provide high data rate Internet to the ships when out on open sea. Different ways to connect these ad hoc networks to the rest of the world (e.g. satellite & ship-to shore comms) are also considered.
Such a network has to handle node mobility by using mechanisms of dynamic connectivity reconfiguration. Basic range and data rate requirements (30 Nautical Miles, 10Mbps) require the use of relaying functions and smart directional antennas.

Objectives

> Provide high data rate interconnection between ships
> Provide or improve Internet access to ships on the open sea
> Improve safety & support to rescue platforms in case of accidents at sea

Highlights

A SEANET ad hoc network is based on a dynamic tree-based architecture; i.e. a stack of Point-to-MultiPoint clusters which can be reconfigured automatically. The related algorithms have already been tested in a previous program, called RAF, with vehicles in public safety application.

SEANET's challenge is to deal with the expected range. For this purpose, the antenna gains have to be maximised & compatible with 360° coverage. Smart antennas of the FESA (Fast Electronically Steerable Antenna) type have been chosen for both transmission and reception sides. These multi-beams antennas are able to switch from one beam to another one in less than 200ns.

If the radio with the FESA antennas has an insufficient system gain between one source ship and one distant ship, a multi-hops relaying technique brings additional help. This feature is the basic premise of the dynamic tree-based algorithms.

The FESA antenna is able to deal with azimuth coverage, however the movements of the platform have to be compensated by additional means. This is the role of the mechanical stabilizer in charge of pitch and roll attitudes.

Moreover, frequency spectrum, even on the sea, has to be preserved and the spectrum efficiency of this type of network is improved through spatial frequency "re-use". The criteria for deciding whether or not to allow the re-use of a frequency channel are studied within this project.

R&D Scope

SEANET developments include important research on mobile networks to maintain continuous web connection. Wireless connections involve Point to Multi-Points links, potentially offering different routes from a single source to the same remote destination.

Mobile Ad-hoc Routing algorithms will then have to be investigated to ensure that information follows the best possible route depending on its QoS level. This type of algorithm in addition to actual Internet services will be an added value for providing service quality and system robustness.

In addition to these items, SEANET will be fully IP compatible, include standardised QoS protocols, and data encryption to protect users privacy.

*Click here to see details on the **Expected Impact** and the **Involved Constituency** of SEANET*

INFINITY - PPP Project

INFINITY is a Coordination Support Action which is part of a new initiative from the EC called the 'Future Internet Public-Private Partnership (FI-PPP). The project kicked off in April 2011 and will run for three years.

Coordinated by Technical University of Madrid (UPM), INFINITY comprises thirteen partners. It will collaborate with organisations across Europe to capture and communicate information about test infrastructures, as well as interoperability requirements and issues.

INFINITY's objectives are to identify, analyse and catalogue existing and emerging advanced experimental infrastructures. It will then evaluate the selected infrastructures and usage profiles. A Web Repository will be established which will include all information (based on confidentiality of course) related to the available infrastructures.

Liaison Strategy

INFINITY will establish a partnership & relationships liaison strategy between external FI initiatives and infrastructure owners & operators, local/regional authorities, stakeholders and end-users. The project will provide dissemination activities to advertise and promote excellence in European FI research capacity and infrastructures worldwide. INFINITY allows infrastructure owners to be exposed to FI experimenters interested in using their test infrastructures all around Europe and beyond.

Five months into the project, an extensive list of test infrastructures is being gathered and an initial survey of some of these infrastructures is being carried out. The Web Repository to house the information on the infrastructures is being developed and will have its first release in March 2011.

For more information see www.fi-infinity.eu or contact Project Coordinator Federico Alvarez (UPM) fag@gatv.ssr.upm.es

UK Future Internet Strategy Group

The UK Future Internet Strategy Group (UK FISG) was established under the sponsorship of the UK Technology Strategy Board, chaired by Nick Wainwright of HP Labs, Bristol. It is coordinated by the ICT Knowledge Transfer Network (ICT KTN).

The group comprises senior representatives from industry and academia. The Business Information and Skills Department and the Technology Strategy Board are also represented and provide guidance to the group on Future Internet definition.

Extensive Interviews

The UK FISG recently commissioned research into a number of aspects of the "Future Internet". Eddie Townsend, ICT KTN, conducted extensive interviews with *circa* 20 leading figures from the UK's most renowned organisations, including Arup, University College London and the BBC, along with multinationals like Cisco, Fujitsu and Alcatel-Lucent.

The picture that emerged was one of major opportunities to unlock data and break down silos in service delivery, (not just in public sector data) and in doing so create opportunities for innovative services. This would reduce costs, increase citizen involvement in services and increase industrial competiveness.

The driving need is to create service innovation that benefits end-users; the means is to embrace 'internet-style' service-oriented approaches not industry or public sector silos.

Click here to download a copy of the report.

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Upcoming Events

Poznan Future Internet Week

Poznan's Future Internet Event takes place on 24-28 OCT & offers three main events: Future Internet Conference, Future Internet Assembly, and the Future Internet Forum. Discussions will focus on the vision of future Europe & the infrastructure required for strategies such as the Innovation Union & Europe2020.

During the event, leaders in the field of next-generation Internet will have the opportunity to discuss new ICT technologies, and to engage in active dialogue between the public and private sector.

For more information visit:
www.week.fi-poznan.eu

ETSI Future Networks Workshop

The second ETSI workshop on Future Networks Technologies takes place in Sophia Antipolis on 26-27 SEPT. The goal of the event is to identify potential needs for relevant standardisation or pre-standardisation.

The workshop is free and is open to non-members of ETSI. Participants at the workshop are also invited to attend the ETSI TISPAN meeting on 28 SEPT to analyse and discuss the impact of the workshop's results. This meeting may pave the way for integrating Future Network issues into standardisation.

For more information, visit:
http://is.gd/etsi_workshop

Poznan Future Internet Week, 24-28 OCT

Future Networks 8th Concertation Meeting

The 8th concertation meeting of FP7 Future Networks projects will bring together the ongoing FP7 projects funded under the Future Networks objective and facilitate exchange of results and achievements, and build consensus.

The meeting takes place in Brussels on 6-7 OCT and will be attended by representatives from the three clusters of the Network of the Future projects: Future Internet Technologies (FI Cluster), Radio Access and Spectrum (RAS Cluster) and Converged and Optical Networks (CaON Cluster).

More information: http://is.gd/8_concertation

ETP General Assemblies

Both the Net!Works and ISI ETPs will hold General Assembly events in the coming months. The Net!Works event takes place on 5 OCT in Brussels, and is co-located with the EC Future Networks Concertation meeting *(see above item)*.

The ISI (Integral Satcom Initiative) General Assembly takes place on 18 OCT also in Brussels. This is followed immediately on 19 OCT by the 4th ISI SatCom day. Registration is now open for these events.

For more information visit:
http://is.gd/networks_ga and
http://is.gd/isi_ga

eChallenges e-2011 Conference

The 2011 eChallenges conference is the 21st in a series of annual events supported by the European Commission and hosted by national governments. This year's event takes place in Florence, on 26-28 OCT and includes delegates from leading commercial, governmental and research organisations.

eChallenges provides an international forum to share success stories and lessons learnt from applied ICT-related research at EU level as well as Regional, National and Commercial initiatives.

For more information, visit:
www.echallenges.org/e2011/

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Hungary's National Technology Platform on Future Internet

More than fifty organisations are part of the initiative, including: multinational ICT companies such as Hungary Telekom, Vodafone, HP, CISCO, SAP

The Future Internet National Technology Platform has been established at the request of the Hungarian Government's National Innovation Office. The Hungarian Academic & Research Network Association (HUNGARNET) co-ordinates the Platform's activities.

More than fifty organisations are part of the initiative, including: multinational ICT companies such as Hungary Telekom, Vodafone, HP, CISCO, SAP etc; major Hungarian universities; research institutions; SMEs, represented by IVSZ (Association of ICT Companies); and Scientific and Technical Associations. The first meeting of the Platform took place on 3rd May at the premises of the HUNGARNET Association.

The Hungarian research network has always held pace with European standards, but a recent upgrade made this network one of the top performers in the EU, having an average capacity of 40 Gbit/sec between nodes.

In the Future Internet arena the National Technology Platform has the same objective: to reach European levels. A program started in 2008 within the framework of a Hungarian research network program with three universities, two research institutions, and a research network organisation involved.

Prof. Dr. Gyula Sallai, President, Scientific Association for Infocommunications (HTE), speaking during Budapest's Future Internet Assembly in May, 2011

Increased Participation

This program comprised basic and applied research, and ended last year with significant results. Hungarian participation in the Future Internet 7th Framework program has increased significantly and the program received funds from the National Science Foundation to carry out basic research.

This new initiative is a follow-up to the above program and has a much broader scope. Its aim is to elaborate a strategy and a development program for the whole community. In particular, the program covers R&D, innovation and application development activities. Three important activities have been decided: Strategy and Program elaboration; Promoting the Hungarian participation in the Framework programs; and, Organising workshops and conferences to enhance co-operation among Platform members and distribute information that facilitates EU program participation.

A Steering Committee will direct the strategy and program formation and all other activities. Finally, public relations is an important priority of the Platform, which will be given special emphasis during the whole program.

Note that three ministries participate in the Platform activity. The ultimate aim is to submit a proposal to the National Innovation Office, with the expectation of it becoming a National Future Internet Program, with adequate financing.

Future Internet Forum

For more information, please visit:
www.cefims.eu
Or e-mail:
ksullivan@tssg.org

Potential Synergies Report...*continued from front page*

...it describes the preliminary work undertaken to identify areas of potential synergies, in addition to areas for more strategic cooperation between Member States and between Member States and the EU.

The report begins with a discussion on cooperation models. This includes the steps required to develop a cooperation model and potential pillars (themes/content, funding mechanisms, barriers/areas for more strategic cooperation) on which to build same.

It then lists and describes a number of sample synergy topics and the Member States that could potentially be involved in them. Next, it analyses the level of trans-national activity across Member States and the level of engagement between Member States and the EU, including their participation in ERA-NETs and ERA-NET+s.

It is against this collaboration backdrop that ceFIMS will develop its roadmap. Finally, because this report on potential synergies will feed directly into the first ceFIMS interim roadmap, a number of points are raised in order to stimulate further discussion.

The report is available on the ceFIMS website, together with all other public project deliverables.

Links

News

SmartSantander:	www.smartsantander.eu
Future Internet Award	www.cefims.eu/fiaward
Knowledge Transfer Network	https://ktn.innovateuk.org/web/ictktn
Call 8 event presentations	http://is.gd/call8_slides
INFINITY PPP project	www.fi-infinity.eu
Research Councils Workshop Report	http://is.gd/budapest_report
N-DRIVE	http://is.gd/ndrive
Living PlanIT	http://living-planit.com
SEANET (on ceFIMS database)	http://is.gd/db_seanet
ceFIMS public deliverables	http://is.gd/deliverables

Upcoming Events

Poznan Future Internet Week	www.week.fi-poznan.eu
ETSI Future Networks Workshop	http://is.gd/etsi_workshop
Future Networks Concertation	http://is.gd/8_concertation
ETP General Assemblies	http://is.gd/networks_ga
	http://is.gd/isi_ga
eChallenges e-2011 Conference	www.echallenges.org/e2011

About ceFIMS

ceFIMS is the 'Coordination of the European Future Internet Forum of Member States'. The project supports the Future Internet Forum (FIF) by providing a Secretariat and support structure for its activities. ceFIMS is analysing Future Internet research initiatives at national, regional and trans-national levels. The project aims to create synergies, and reduce duplication and fragmentation in European Future Internet research.