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NIH National Innovation Office

FUTURE INTERNET ASSEMBLY

PROGRAM GUIDE

FUTURE INTERNET CONFERENCE

17 MAY, 2011

FUTURE INTERNET ASSEMBLY

18-19 MAY, 2011



HOTEL INTERCONTINENTAL BUDAPEST

BUDAPEST, HUNGARY

ORGANISED BY

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SCIENTIFIC ASSOCIATION FOR INFOCOMMUNICATIONS HUNGARY

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FUTURE INTERNET CONFERENCE

17 MAY, 2011

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ORGANISED BY

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EVENTS OF THE FUTURE INTERNET WEEK | 16-19 MAY, 2011

Monday 16 MAY	Tuesday 17 MAY	Wednesday 18 MAY	Thursday 19, MAY
FIRE research workshop **ENoLL Event** **Internet of Things Conference** **Future Internet Cluster Workshop** (side event)	**Fire Architecture Board meeting** (by invitation only) **Future Internet Conference**	**Future Internet Assembly** **Future Internet Forum** (by invitation only) **ceFIMS** (by invitation only) **Hungarian Innovation Techshow** (side event)	**Future Internet Assembly** **ICT Proposers' Day 2011**

WELCOME MESSAGES

FUTURE INTERNET RESEARCH – THE FUTURE OF EUROPEAN COMPETITIVENESS

When Alexander Graham Bell invented the telephone in 1876, he bravely predicted that he could imagine a day in the distant future when each American city would have one single telephone. Today we all have multiple telephones, we rely on wireless networks, and smartphones are the technology of the day enabling us to do far more than simply make phone calls. When the telephone was first used, not even the brightest and most visionary of minds could have imagined what the future held. Today this is the case of the internet. We are only at the beginning of imagining and realizing our lives with this extraordinary technology.

In the past 30 years the internet has triggered significant changes in almost all areas of everyday life. Europe now needs to do more imagining of the Future Internet, to be at the forefront of its creation and development. Recognizing the importance of Future Internet research, the European Union endorsed a declaration in Bled in March 2008, which emphasized the crucial role of the development of the Internet in European economic growth. It expressed that in order to increase our competitiveness on the global market, the European Union has to strengthen its activity in the development of the Internet of the future.

Since 2008 several new carriages have joined the Future Internet (FI) engine as it set off from Bled, such as the Future Internet Research and Experimentation (FIRE), the Internet of Things (IoT), and the FI PPP programme. In the past three years the FI train has stopped in Madrid, Prague, Stockholm, Valencia, and Ghent, and now it has arrived in Budapest, Hungary. For one week, Budapest is the internet capital of Europe, as the next steps are taken in creating the Future Internet.

The series of events of the Future Internet Week takes place between 16 and 19 May, 2011. and focuses on the technological, policy and socio-economic aspects of Future Internet research. The programme includes the following professional conferences and meetings: Future Internet Assembly (FIA)/Future Internet Conference, Future Internet Forum, FIRE Concentration Day,

Internet of Things Conference, ENoLL Event, and ceFIMS Workshop.

The further development of the Internet is vital for economic competitiveness, sustainable growth and the creation of new jobs in Europe. It is in our common interest for all of Europe to be on board the Future Internet train. To achieve this, it is important to lay the rails in the right direction, to properly determine the orientation of research and development, and to manage the FI R&D programmes more efficiently, including their financing. To speed up the train, Europe needs a common effort. It is therefore essential for the Member States to give priority to Internet R&D and to strengthen European wide FI initiatives with national and regional programmes and funding.

The Future Internet Assembly and the Future Internet Conference provide a great opportunity for academics, industrial experts and policy makers to discuss all the related issues, which will effect not only the Future of the Internet but also the future of Europe's economy and society. On behalf of the Hungarian EU Presidency I would like to wish all the participants of the Future Internet Week rewarding discussions and a pleasant stay in the beautiful capital of Hungary, Budapest.

Prof. Dr. Zoltán Cséfalvay

Minister of State for National Economy
Ministry for National Economy

WELCOME MESSAGES

Dear Reader, Dear Stakeholder!

EUROPE'S COMPETITIVENESS DEPENDS ON THE FUTURE OF THE INTERNET

Strong Europe – this message summarizes the Hungarian EU Presidency's thoughts about the European Union. Europe will only be a strong and economically dynamic continent if it creates more jobs and attractive future perspectives to its citizens. The promotion of the digital economy and creative industries, fostering Pan-European internet based services, strengthening information security and critical infrastructures protection shall provide new economic perspectives to the European Community.

As Member States of the European Union, we have to strive to promote faster expansion of the broadband economy and reinforcement of the digital economy. Machine to machine communication opens new horizons in Europe in automation, remote controlling, telemetry, smart cities and smart traffic management concepts boosting radically our competitiveness and allowing us to open new dimensions for millions of users. Intensive imagination is not needed to visualize how much more comfortable and simple life could be, if intelligent traffic applications fitted with real time GPS-services and augmented reality, embedded in smart phones, would be able to plan our routes and show tourist attractions on the way. How much more intelligent city administrations will be if waste disposal and elimination are also integrated into smart city management too. There are countless possibilities and I do believe, that the solutions submitted by you to decision makers will enable millions of European users to experiment new applications.

Cybersecurity will become an incredibly important asset in future's virtual reality. Recognizing this timely need, the Hungarian EU Presidency organized a ministerial conference on the protection of critical information infrastructures on 14-15 April 2011 in Balatonfüred. Every Member State was represented by participating delegations; on behalf of the European Commission, Neelie Kroes, Vice-President and Digital Agenda Commissioner addressed a keynote speech as well during the public sessions of the conference.

At the event I pointed out: „Uninterrupted functioning of information infrastructures have become a critical issue for the safe operation of economies and interest protection of citizens. Appropriate modernization of IT systems and networks' resistance capacities is indispensible and to this end a tight and efficient cooperation at European and global levels is needed.

Protection of critical information infrastructures is not only a security issue, but it is in correlation to Europe's competitiveness as well. Cybercrime impedes wider expansion of infocommunication solutions (e-payment, use of credit cards etc.) in everyday life of citizens, whereas an ever increasing number of political cyber attacks have affected the internet recently. Europe – so the Hungarian EU Presidency as well – has to deal with the anticipation of cybercrime, response has to be planned according to the actual level of threats. New challenges have to be faced parallelly in connection to European citizens' basic rights to data protection and privacy."

If European Member States do not recognize these challenges in a timely manner and do not join forces in making the necessary steps, Europe will not be able to assume a leading role among the future's internet societies and economies.

The Hungarian EU Presidency is therefore following the track predetermined in December 2010 by making ambitious plans and seeking consensus in order to foster the continent's competitiveness. I'm confident that the Future Internet Assembly will be an important station in this process the result of which will allow us to act together to switch Europe to a higher speed.

Dr. Zsolt Nyitrai

President of the Telecommunication Formation of the Council on Transport, Telecommunication and Energy of the European Union

WELCOME MESSAGES

FUTURE INTERNET: "PARTNERING FOR INNOVATION"

The EU 2020 Strategy, and in particular two of its flagship initiatives - the Digital Agenda for Europe and the Innovation Union – call for smart communication infrastructure in Europe that is based on trust and security and that delivers smart applications and innovative services. This is what the Internet of the Future can, should and will do.

This week we have a unique opportunity to discuss in detail the efforts made by public and private sector research and innovation actors to make progress in the realisation of the Future Internet. During the many events this week the policy, technological, and socio-economic aspects of the Future Internet will be reviewed, with participants from industry, academia, and policy makers from the European Commission and Member States. The theme of our discussions is "Partnering for innovation".

Investing in the Internet will have greater impact if we identify common goals and act together, with industry as a main driver of technological development, and with public stakeholders as the guardians of public interest focused on the needs of creative and dynamic European society. Public investment should be aligned with the strategic research agenda of industrial stakeholders to form public private partnerships capable of driving the developments of the Future Internet.

An excellent first example of this joined up effort is the Public Private Partnership for the Future Internet (FI-PPP). The participants in the FI-PPP will explain how they will go about defining and developing over the next three to five years a core Future Internet platform that is future-proof and that will be further elaborated, tested and experimented against new internet technologies, applications and services.

We will also hear about other large scale innovation initiatives, like the EIT ICT Labs, one of the first three Knowledge and Innovation Communities selected by the European Institute of Innovation & Technology (EIT) to accelerate innovation in Europe. This will be complemented by industry-led innovation projects and some ideas of how research and innovation support to Future Internet might look in the next EU financial framework.

We must think and act both in the medium and long-term together to achieve a common vision and the targets set in the EU 2020 Strategy, the Digital Agenda for Europe and the Innovation Union. These are the challenges ahead of us at the Future Internet Week in Budapest.

Welcome to the discussion – we look forward to your contributions!

Megan Richards

Director, European Commission
DG INFSO

Mário Campolargo

Director, European Commission

WELCOME MESSAGES

DEAR GUESTS, DEAR PARTICIPANTS!

Budapest is always pleased to welcome its guests with love. It is our special delight that one of the major expert conferences of the European Union, the Future Internet Assembly holds its next meeting in the Hungarian capital.

The achievements of innovative economic sectors contribute to promote the economic competitiveness of the European Union along with Hungary and Budapest as well. We all need to strengthen this competitiveness since our positions in the global sphere are gaining more and more decisive role. Indeed, the future Internet use is in close correlation with the economic growth tendencies of the European Union. Therefore I consider it essential that the Community provides key role for the new generation of Internet research and has launched several research programs and initiatives within the 7th Framework Programme for Research and Technological Development (FP7). Europe must join together in this process. At the same time, we must take every opportunity, which promotes our economic growth.

Our City looks forward with confidence to the evolving results of the present event! I wish you all a pleasant time in the innovation centre of Hungary, in the nation's Capital City. I wish to express my appreciation to the European Commission, the National Innovation Office and the Scientific Association for Infocommunications Hungary for the organisation of this conference.

Yours sincerely,

Mr. István Tarlós

Mayor of Budapest

WELCOME MESSAGES

WELCOME TO BUDAPEST!

It's a great honour and proud for the Hungarian Scientific Association for Infocommunications (HTE) and the whole Hungarian ICT community to host the 7th Future Internet Assembly and the related Conference, the FIA2011 in Budapest, in the frame of the Future Internet Week of the European Commission.

The history of the current Internet is a great success story. Today the Internet is considered the basis of the future knowledge based networked society. However, today's Internet was designed in the 1970s for a closed community, for requirements very different from the recent ones. Today's Internet is challenged, it is to be global, mobile, secure, scalable and cheap, it should support more and more managed services and applications, reshaping our economy, our society, our every day's life. Recognizing the need to strengthen the European activities and the collaboration between the research projects on the Internet of the Future, European Commission initiated the organization of the FIA events twice a year. The Future Internet Assemblies, the FIA events have been organised since 2008 where policy-makers, research strategists, software and marketing experts, businessmen, and mostly researchers from universities and network operators, service and application providers, manufacturers, system integrators, people concerned in Future Internet research issues meet each other and discuss cross cutting research results and trends in an interactive manner.

Now, after Bled and Madrid in 2008, Prague and Stockholm in 2009, Valencia and Ghent in 2010, Budapest hosts the 7th European FIA event, hosted by the HTE, with a scientific support of the Department of Telecommunications and Media Informatics of Budapest University of Technology and Economics. Already a whole week is devoted to the Future Internet issue, and over the years the scope of the assemblies and related conferences has broadened from the technical and architectural issues to a complex set of engineering, social, economic and policy issues, more and more focusing on various Future Internet based applications that lead to the establishment of an Internet Science.

The research on the future of the Internet has become a strategic priority in the developed world.

The motto of Budapest Future Internet Conference 2011 is "Partnering for innovation". The high-level Future Internet Conference will give an overview on policy framework EU2020 and foresight for innovation and competitiveness of Europe with special regard to Future Internet research. The Future Internet Assembly, the core event of the Future Internet Week is a great review of the selected research projects in 12 hot topics, as content centric networking, interactive media experience, Internet of things, security and usability, social computing, smart cities, ICT and sustainability, economics of privacy etc. FI Conference and Assembly 2011 Budapest is a complex event, involving Plenary Sessions, parallel Technical Sessions, and social events as Welcome reception and Gala dinner, providing additional opportunities for the exchange of views, deepening friendships and enjoying Hungarian hospitality and some beauties of Budapest.

I would like to express my grateful thanks to the European Commission as overall coordinator, the National Innovation Office as Hungarian coordinator, and all persons having actively participated in the organization, in particularly the FIA Steering Committee and Program Committee members, and the LOC members. We are equally grateful to all of the speakers having prepared good presentations, to the caretakers making possible to choose the best contributions, to our patrons for their financial support and to our sponsors for their professional support in the organization.

Dear Colleagues: speakers, participants, session chairs, caretakers, organizers, accompanying persons: thanks for your participation, enjoy the FIA2011 and your stay in Budapest, and make good use of the collected knowledge and experiences!

Prof. Dr. Gyula Sallai

President, Scientific Association for Infocommunications (HTE), Department of Telecommunications and Media Informatics of Budapest University of Technology and Economics (BME-TMIT)

COMMITTEES

FIA STEERING COMMITTEE

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Nick Wainwright
Christophe Diot
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Georgios Tselentis
Anne-Marie Sassen

FIA BUDAPEST PROGRAM COMMITTEE

Standardisation

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DY Daejeon, Korea
Jean-Charles Point

Social Computing

Nick Taylor

ICT and sustainability

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Seppo Yrjola

Smart cities and FIRE

Hans Schaffers
Timo Lahnalampi
Anastasius Gavras
Roberto Santoro

Economics of privacy

Estelle de Marco
Martin Waldburger
Nicola Jentzsch
Tuan Ahn Trinh

Interactive media

Ebroul Izquierdo
Gábor Fehér

Usability and Security

Nick Papanikolaou

Internet of Things

Jim Clarke
Trevor Peirce
Rodrigo Roman
Antonio Jara
Francois Carrez
Walter from Brussels
Zhi-Chun from Helsinki

Network lost in the cloud

Nicolas Le Sauze
Markus Brunner

Adaptive services

Andreas Metzger
David Hausheer
Katarzyna Wac

Content centric networking

George Pavlou
Sprirou Spiros

Linked Data

Stefan Decker

European Commission

Miguel Montarelo

LOCAL ORGANISING COMMITTEE

Gyula Sallai, *President of HTE, Chair*
Péter Nagy, *Director of HTE*
Rolland Vida, *International Affairs, HTE*
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József Bíró, *Prof. of the BME-TMIT*
Sándor Imre, *Prof. of the BME- HT*
László Pap, *President of Space Research Scientific Council, Hungary*
Péter Bakonyi, *Director, Hungarnet Association, MTA-SZTAKI*
Tamás Máray, *Vice-Director, NIIF*
Lajos Reich, *General Manager, GE Healthcare Company Hungary*
Roland Jakab, *Director, R&D Center, Ericsson Hungary*
Péter Gyenes, *Director, Nokia Siemens Networks*
Tamás Balogh, *Dept. Head, Hungarian Telekom*
Tibor Nagy, *CCIE, Cisco Systems Hungary*
Vilmos Németh, *Head of Department, National Innovation Office*

Abbreviation

HTE	Scientific Association for Infocommunications, Hungary
BME	Budapest University of Technology and Economics
TMIT	Department of Telecommunications and Media Informatics
HT	Department of Telecommunication Engineering
MTA SZTAKI	Hungarian Academy of Sciences, Computer and Automation Research Institute
NIIF	National Institute for Information Infrastructure Development
GE	General Electric

GENERAL INFORMATION

CONFERENCE DATE

FUTURE INTERNET CONFERENCE
17 May, 2011

FUTURE INTERNET ASSEMBLY
18 – 19 May, 2011

CONFERENCE VENUE

HOTEL INTERCONTINENTAL BUDAPEST
Apáczai Csere János utca 12-14.
H-1052 Budapest, Hungary
www.intercontinental.com

OFFICIAL LANGUAGE

The official language of the Conference is English; please note that translation facilities will not be provided.

CONFERENCE BADGE

Your personal name badge provides access to the scientific sessions, welcome reception and to the lunches. Everyone is kindly requested to wear his/her name badge during the conference.

ON-SITE REGISTRATION HOURS

The registration desk will be open each day of the Conference in the following hours:

17 May, Tuesday	08.00 – 18.00
18 May, Wednesday	08.00 – 18.00
19 May, Thursday	08.00 – 11.00

ON-SITE REGISTRATION FEE

FUTURE INTERNET ASSEMBLY

Participant	**EUR 150**

REGISTRATION FEE INCLUDES

- Admission to all sessions
- Badge, final program
- Coffee breaks and lunches
- Welcome drink on 17 May, 2011
- Gala dinner on 18 May, 2011

REGISTRATION FEE DOES NOT COVER

- Accommodation
- Meals, drinks and transport other than that provided as part of the conference program
- Optional sightseeing tours and excursions

LUNCH

On Tuesday, Wednesday and Thursday lunch will be provided for conference participants at the conference venue (Corso restaurant, bar and terrace).

Lunch hours:

17 May, Tuesday	13.00 – 14.30
18 May, Wednesday	12.30 – 14.00
19 May, Thursday	11.30 – 12.00

INTERNET

Wireless internet access will be available in the conference venue.

SSID: FIA_NOKIA_SIEMENS_NETWORKS

Password: FIA-Budapest
The wireless internet access is sponsored by Nokia Siemens Networks.

CONTACT

Local organizer

SCIENTIFIC ASSOCIATION FOR INFOCOMMUNICATIONS *(HTE)*
www.hte.hu

DEPARTMENT OF TELECOMMUNICATIONS AND MEDIA INFORMATICS BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS *(BME TMIT)*
www.tmit.bme.hu

Organizing Secretariat

Registration and logistical questions
ASSZISZTENCIA CONGRESS BUREAU
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SOCIAL PROGRAM

WELCOME DRINK

17 MAY, 2011 | 18.15 – 20.00
Hotel Intercontinental Budapest

Organisers welcome all participants of the Future Internet Conference together with participants of Future Internet Assembly to join the Welcome Drink held from 18.15 hrs to meet new colleagues and greet old friends. Welcome drink and snacks will be served.

GALA DINNER

18 MAY, 2011 | 19.30 – 23.00
Main Hall of Gellért Spa Budapest
H-1118 Budapest, Kelenhegyi út 4.

19.30 – 20.00	Arrival and welcome drink
20.00	Welcome speech of István Tarlós, Mayor of Budapest
20.15 – 23.00	Buffet dinner with unforgettable music by the Group'n'Swing band.

The building of the Gellért Bath is located in the southern part of the city centre, on the Buda side – the right bank of the Danube – directly across from the Liberty Bridge (Szabadság híd). It is easily reachable by public transportation (tramways 18, 19, 47 and 49, or on buses 7, 7A and 86) or by walk. The entrance opens from Kelenhegyi Street just up the hill on the left hand side.
Gellért Spa is famous for its main hall with gallery and glass roof, built in Art-Nouveau style.

For registered participants this program is included in the registration fee.
If you wish to obtain additional ticket for the gala dinner, please come to the registration desk, where tickets are available in limited number.

How to reach Gellért Spa

By public transportation
- take tram Nr. 2 to Fővám Square
- after 3 stops change line to tram Nr. 47 or 49 and travel 1 stop till Szent Gellért Square

- if you stand in front of Hotel Gellért, pass along the right side of it (Kelenhegyi Street)
- you will reach Gellért Spa main Entrance and close after that the entrance of the Gala Dinner.

It takes about 15-20 minutes, depending on the traffic.

By walk

- walk from Hotel InterContinental along the Belgrád Rakpart (quay) till Fővám square (junction at Liberty (Szabadság) Bridge)
- cross the Bridge
- if you stand in front of Hotel Gellért, pass along the right side of it (Kelenhegyi Street)
- you will reach Gellért Spa main Entrance and close after that the entrance of the Gala Dinner.

It takes about 30 minutes

BUS TRANSFER TO ICT PROPOSERS' DAY 2011

19 MAY, 2011 | 12.00

Organisers provide bus transfer from Hotel InterContinental to Hungexpo Fair Center, venue of the ICT Proposers' Day 2011.

The shuttle buses will leave from the side entrance of Hotel Intercontinental (Apáczai Csere János str.) at 12.00 hrs.

HUNGARIAN INNOVATION TECHSHOW

by the Hungarian Presidency and National Development Ministry of Hungary

18 MAY, 2011 | 09.00 – 18.00

Millenáris Park, House of Future - Budapest

The innovation exhibition will feature 21 novelty Hungarian high-tech applications of the 21st century. The 21 works presented at the Hungarian Innovation TechShow were selected by an independent professional jury from the entrants of the 'Quest for the new innovators of Hungary' national open contest. Selected contestants will present their works in the House of Future in Budapest, in a form of a creative, interactive show.

PROGRAM OVERVIEW

FUTURE INTERNET CONFERENCE Hotel InterContinental Budapest 17 MAY, 2011	
09.00 – 10.30	**Opening plenary session**
10.30 – 11.00	Coffee Break
11.00 – 13.00	**Plenary session** Future Internet PPP
13.00 – 14.30	Lunch
14.30 – 16.00	**Plenary session** EU 2020 - Future Internet driven innovation?
16.00 – 16.30	Coffee Break
16.30 – 18.00	**Plenary session** Future Internet beyond FP7
18.15 – 20.00	Welcome Drink

FUTURE INTERNET ASSEMBLY Hotel InterContinental Budapest	
DAY 1 18 MAY, 2011	
09.00 – 10.00	**Opening plenary session**
10.00 – 10.30	Coffee Break
10.30 – 12.30	**Parallel sessions** I.1, I.2, I.3, I.4
12.30 – 14.00	Lunch
14.00 – 16.00	**Parallel sessions** II.1, II.2, II.3, II.4
16.00 – 16.30	Coffee Break
16.30 – 18.30	**Parallel sessions** III.1, III.2, III.3, III.4
Gellért Spa Budapest	
19.30 - 20.30	Gala dinner

DAY 2 19 MAY, 2011	
09.00 – 09.45	**FIA Book**
09.45 – 11.00	**Plenary Cloud Computing Session**
11.00 – 11.30	**Plenary closing session**
11.30 – 12.00	Brunch
12.00	Transfer to the ICT Proposers' Day 2011

SPEAKERS

Albert-László Barabási is a Distinguished University Professor at Northeastern University, where he directs the Center for Complex Network Research. A Hungarian born native of Transylvania, Romania, he received his Masters in Theoretical Physics at the Eötvös University in Budapest, Hungary and was awarded a Ph.D. three years later at Boston University. After a year at the IBM T.J. Watson Research Center, he joined Notre Dame as an Assistant Professor, and in 2001 was promoted to the Professor and the Emil T. Hofman Chair. His work lead to the discovery of scale-free networks in 1999, and proposed the Barabasi-Albert model to explain their widespread emergence in natural, technological and social systems, from the cellular telephone to the WWW or online communities. His work on complex networks has been widely featured in the media.

Prof. Ir. Adrie J.M. Beulens is Professor of Information Systems at Wageningen University and Research Centre.

Balázs Botos Deputy Minister of State for Foreign Economic Affairs, Ministry of National Economics

Qualification: MSc degree in business administration in 1968, in 1973 university graduation at the Budapest University of Economics. Between 1973 and 1974 in Milan Enrico Mattei College graduate studies. In 1983, the Institute of Economics, PhD. Post-graduate studies at Harvard University.
Workplace: from 1969 to 1990 worked as a researcher, senior researcher, deputy director and then director at the Hungarian Academy of Sciences Industry and Enterprise Research Institute. From 1990 until 1993 he was the Deputy Secretary of State at Ministry of Trade and Industry, and from 1993 until 1994, Deputy State Secretary of the Treasury. From 1994 until 2006

he was CEO, Deputy CEO, advisor of the Hungarian Export Credit Insurance Company. Between 2006 and 2007 he was the Managing Director of ECOPA Ltd.. He teaches at many universities.

Mário Campolargo is the Director of the "Emerging Technologies and Infrastructures" Directorate of DG-INFSO in charge of Future and Emerging Technologies, ICT based infrastructures for science as well as ICT trust and security, experimental facilities and experimentally driven research for Future Internet. Before joining the European Commission in 1990, he worked for 12 years in the R&D Center of Portugal Telecom as a researcher and manager. He has a Degree in Electrical Engineering by the University of Coimbra, a Master of Science in Computing Science by the Imperial College London, a Post graduate in Management by the Solvay Business School in Brussels and a European Studies Diploma by the Université Catholique de Louvain-la-Neuve in Belgium.

Graça Carvalho is a CTO Consulting Engineer, at Cisco Systems International working for the European Advanced Technology Architecture team in the office of the CTO organization.

Ms. Carvalho is responsible for the Coordination of innovation projects in the European landscape articulating CISCO's technology vision with academia and industry. In this role Ms. Carvalho has worked in several European projects with different roles from Project coordinator, project partner, Advisory Board member and invited expert.

Under this role Carvalho planned, organized and submitted the EC 6NET project, a 3 year project focusing in the creation of a pan-european testbed for IPv6 with 35 partners from 16 different countries. She was then responsible for the project technical coordination, where more than 85 Internet Draft RFCs, 10 Global Grid Forum documents and 100 technical deliverables were produced. These are now being used as Cookbooks in many IPv6 deployment activities worldwide. She has since then being responsible for the interface with several universities in Europe subcontracted by Cisco to perform specific research activities.

From July 2005 to October 2007, Ms Carvalho was responsible in the CTO CE group for the coordination of the activities in the

Mobile IP area. Responsibilities included Architecture definition, European Projects technical coordination and customer meetings.
Carvalho is also part of an expert group nominated by the Portuguese Parliament to write a study and report on Employment and Careers in the Portuguese Scientific Community.
She plays an advisor role in several Future Internet Expert groups both at European Level as well at country level.
Ms. Carvalho holds an engineering degree in Systems and Computing Engineering from the University of Minho, Portugal, with special studies in Computer Communications. She has also post-graduate studies in Mobile Distributed Systems. Ms. Carvalho is married and has 5 children.

Jose Maria Cavanillas de San Segundo has a Master's degree in Telecommunication Engineering from the Madrid Technical University (UPM) and post-graduate studies on Business Administration in CEPADE. He is R&D&I Director in Atos Origin, since 2000. He has been previously working in Schlumberger IT Services, and Sema Group, as R&D Director, and also in Hospital Puerta de Hierro and Indra as Engineer, mainly on research activities on health and security matters.
He is currently vice-chairman of the Spanish National Technology Platform on Future Internet, "es.internet".

Bridget Cosgrave is Director General of DIGITALEUROPE, the principle advocacy group for the European digital economy. DIGITALEUROPE is dedicated to improving the business environment for the information technology, communications and consumer electronic sectors, and to promoting economic growth and social progress in the European Union. Bridget is the primary spokesperson for global companies representing 5% of GDP, 3% of employment and 26% of business expenditure on Research and Development in Europe. Together with DIGITALEUROPE Members and her team, Bridget is focused on influencing the European Commission, European Parliament and the 27 Member State governments.
Ms Cosgrave holds a Master in Business Administration from London Business School (UK) and a Bachelor of Arts, Honours from Queen's University at Kingston, Canada. She has attended the Chartered Director program of the UK Institute of Directors,

the Leadership Academy of the United Nations University at the University of Jordan (Amman) and completed a corporate governance mentorship program run by CMi. She is a dual Canadian and Irish citizen, with fluent French, who has been living and working in Europe since 1984. She resides in Brussels with her Belgian husband and their thirteen year old daughter.

John Day has been involved in research and development of computer networks since 1970, when they were the 12th node on 'Net. Mr. Day has developed and designed protocols for everything from the data link layer to the application layer. Also making fundamental contributions on distributed databases. He also did work on early supercomputers and the development of three operating systems. Mr. Day was an early advocate of the use of Formal Description Techniques (FDTs) for protocols. Mr. Day was Rapporteur of the OSI reference model, naming and addressing, and a major contributor to making the upper-layer architecture recursive. He was a major contributor to the development of network management architecture, and building and deploying a network management system, a decade ahead of comparable systems. Recently, Mr. Day has turned his attention to the fundamentals of network architectures and has published Patterns in Network Architecture (Prentice Hall, 2008), which has been characterized (embarrassingly) as "the most important book on network protocols in general and the Internet in particular ever written." Mr. Day is also a recognized scholar in the history of cartography, and has published on 17thC China as well as contributing to exhibits at the Smithsonian.

Fernando Fournon González-Barcia is President of Telefónica D&I. Fernando was born in 1958 and he is an engineer of Telecommunication. After developing its professional activity in Universidad Politécnica of Madrid and, later since 1987, in the European Space Research and Technology Centre in the Netherlands (ESA - ESTEC).

He joined Telefonica Group in September of 1992, as Head of Projects of the Department of Business Promotion of Telefonica International.

In January 1997, Fernando was appointed Director Superintendent (CEO) of the Companhia Riograndense de Telecomunicaçoes (CRT) in Brazil, where later he assumed

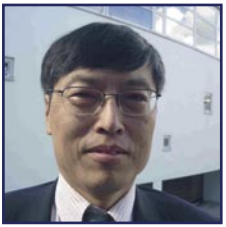
also the position of Chairman and CEO of CRT and Chairman of Cellular CRT. In March 2000, he held the position of General Manager for Latin America and member of the Management Committee of Telefonica Moviles. In June 2002, he was nominated General Manager of Technology.
Later, he moved to Telefonica Moviles España, as General Manager of Technology, Platforms and Services, taking responsibility of the analysis, selection and certification of networks technology and platforms of services.
On April 2005, is the Chairman and CEO of Telefonica R&D.
Since October 2010 is Chairman of the Telefonica R&D Board.

Dr. Heikki Huomo is director of CIE, Center for Internet Excellence, at the University of Oulu. At CIE, his role includes the creation of the regional/ Oulu innovation infrastructure through industrial research programs, proactive participation to national and EU research program definition and execution, creating an ICT service focused living lab, OULLabs and Turning Ideas into Business, TIB, process to encourage and support entrepreneurship and new growth business creation.
Prior to CIE, Dr Huomo has held several management, development and research positions in the technology industry, such as VP at NXP Semiconductors, CTO for Innovision Research and Technology (now part of Bradcomm), and VP and Director, Nokia Research, Nokia Mobile Phones and Nokia Ventures organization. Dr Huomo holds several patents in the wireless area and a D.Sc. (Tech) in Engineering Physics from the Aalto University. Mr. Huomo is also a member of ISTAG, advisory group of European Commission on overall strategy for ICT Research and Innovation.

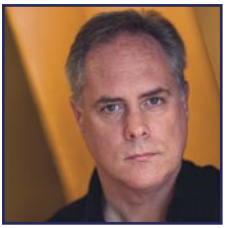
Prof. Willem Jonker (1962) has a broad background in ICT, both in industry as well as in academia. He studied mathematics and computer science at Groningen University, worked at Delft University of Technology, received his PhD from the University of Utrecht, and is a part-time full professor in computer science at Twente University.
Willem Jonker's industrial experience covers telecommunications (KPN), IT (European Computer industry Research Centre, Munich) and consumer electronics (Philips).

He held several positions as researcher, international project leader, department head, sector head, and account manager. In 2006 he was appointed Vice President Philips Research. Prof. Dr. Jonker has served European ICT research in various ways amongst others as project leader, reviewer, and advisor.

Sinisa Krajnovic, PhD is a senior executive in Ericsson with more than 10 years of international management experience. Since 2010 he is Vice President of Ericsson Hungary and Head of Ericsson R&D Center in Budapest. He has earned his PhD degree from the University of Zagreb, Croatia. He is a visiting professor at the Zagreb School of Economics and Management, and Director of their General MBA Program.



Antonio Kung has 30 years experience in embedded systems. He was initially involved in the development of real-time kernels, before co-founding Trialog in 1987, where he now serves as CTO. He heads the company product development (kernels, protocols, tools) as well as collaborative projects with a focus on embedded systems and ICT for ageing. As the technical coordinator of the MonAMI Integrated Project, he is involved in the promotion of initiatives towards common platforms and interoperability. He holds a Master's degree from Harvard University and an Engineering degree from Ecole Centrale Paris.



Steve Lewis, CEO & Co-Founder, Living PlanIT SA
With Microsoft Corporation until May of 2004, Steve served as General Manager of Market Development and Co-Chair of the Microsoft Business Development Forum. Steve was primarily responsible for understanding key market trends and developments to identify their strategic implications for Microsoft and the industry. He also led the company's strategic business development opportunities & commercial engagements leveraging Microsoft's portfolio of technology, research & development, services, marketing, distribution,

partner ecosystem and investment capital.
Before joining Microsoft, Steve spent a couple of years raising capital for technology investments, mergers and acquisitions and participated on the boards of numerous of early through late stage companies.
Prior to this he served as General Manager of the Lotus Messaging and Collaboration division of IBM Corporation, having previously held key executive positions in areas of business development, product strategy, engineering and sales.
Steve is a frequently requested keynote speaker at industry events, respected as a thought leader by the analyst and press community, and is actively involved in promoting entrepreneurship in further education, recently leading lectures at the Harvard Business School, the Kennedy School, the Graduate School of Design and chairing the European Business Plan of the Year Award 2010 held at Cranfield University.

Dr. Zsolt Nyitrai, Minister of State for Infocommunications, President of the Telecommunications Council of the European Union.
Dr. Zsolt Nyitrai is a Hungarian politician and Member of Parliament (Fidesz – Hungarian Civic Party) serving his third term since his first election into office in 2002.
Following the establishment of the Fidesz-KDNP government in 2010, Zsolt Nyitrai was appointed Minister of State for Infocommunications under the Ministry of National Development. The Office of the Minister of State is responsible, inter alia, for the development and operation of the government IT infrastructure, electronic communications, spectrum management and the regulation of postal services and audiovisual media. During Hungary's EU Presidency he also chairs the Telecommunications Council of the European Union. As a political expert, Zsolt Nyitrai headed the IT and Telecommunications Working Group of Fidesz between 2006-2010, made up of Fidesz MEPs, MPs and external experts dedicated to IT and telecommunications. In 2004 he was Deputy Campaign Chief of Fidesz in the European parliamentary elections and Fidesz Campaign Director during the 2006 local government elections. Mr. Nyitrai holds a degree in law from the University of Miskolc.

Constantijn van Oranje - European Commission, Member of the Cabinet of Ms Neelie Kroes, Vice-President for Digital Agenda

Constantijn van Oranje has master degrees in Law from Leiden University (1995) and in Business Administration from INSEAD at Fontainebleau (2000). He is Cabinet member and senior advisor of European Vice-President Neelie Kroes, responsible for the European Digital Agenda. Until recently Constantijn was Head of the Information Policy and Economics team at RAND Europe, and Head of Brussels office of the RAND Corporation. Before joining RAND Europe, Mr. Van Oranje worked as an associate analyst for Booz Allen & Hamilton in London (2001-2003), where he worked on a variety of projects in ICT, and print media. This was preceded by a traineeship at the International Finance Corporation in ICT investment portfolio management. Constantijn started his professional career at the European Commission, working 5 years in the Cabinet of Commissioner Van de Broek (1995-1999). Mr. Van Oranje also advised the Dutch Foreign Ministry on European communication strategy (2003-2010).

Megan Richards has Bachelor of Science, Bachelor of Laws and Master of Public Administration degrees and is a member of the Bar of New York. She has worked for the United Nations Development Programme in Africa, the Inter-American Development Bank in Washington, the Government of Canada and private law firms. In 1991 she joined the European Commission, initially working on programmes relating to SMEs. For a number of years she was Head of Unit of Administration and Finance dealing with legal, contractual, and financial issues relating to research projects for the "Growth" Programme in the Research DG and from September 2002 to September 2006 she was the Head of Unit for Horizontal and Regulatory Affairs in the Research DG, dealing with legal, regulatory and contractual issues relating to the European Union research Framework Programmes. In September 2006 she became Director of Resource Management in the Commission's Joint Research Centre, in May 2009 was appointed Director of General Affairs in the Commission's Directorate General for Information Society and Media (INFSO) and in April 2011 became Director of Converged Networks and Services in INFSO.

Gyula Sallai received MSc degree from the Budapest University of Technology and Economics (BME) in 1968, PhD and DSc degrees from the Hungarian Academy of Sciences (MTA) in 1976 and 1989 resp. During the years he held chief executive offices of telecom R&D, corporate strategy and ICT regulation. He was appointed as full professor at the BME in 1997; from 2002 to 2010 he was the head of the Department of Telecommunications and Media Informatics. He is the chairman of the Telecommunication Committee of the MTA and the president of the Hungarian Scientific Association for Infocommunications (HTE).

Dr. Zoran Stančič is Deputy Director-General in the European Commission, DG INFSO since 2009. Trained as an engineer he started his professional career as a research assistant at the Department of Archaeology, University of Ljubljana. In 1994 he was employed as the Head of the Spatial Information Centre of the Scientific Research Centre of the Slovenian Academy of Sciences and Arts and Associate Professor at the Department of Geodesy. From 1990 till 2000 he was a research fellow or visiting professor at the University of Arkansas, the Delft University of Technology, the University of Reading, the Boston University, the University of Trieste and the University of Paris. Zoran Stančič has published seven scientific books and a number of scientific papers on quantitative methods in archaeology and remote sensing.
During 1999 - 2000 he was Deputy Director of the Scientific Research Centre of the Slovenian Academy of Sciences and Arts. From the year 2000 to 2004 he was State Secretary for Science at the Ministry of Education, Science and Sport in Slovenia. In the period 2004 - 2009 he served as Deputy Director-General in the European Commission, DG Research.

Dr. Ignasi Vilajosana, now CEO of Worldsensing, received the degree and PhD of Physics from the University of Barcelona. Whilst he still has a technical interest in wireless sensor networks, advanced signal processing techniques, data aggregation and energy harvesting techniques, he has also a strong background in business and marketing. Notably, he has been key to the recent success of Worldsensing in various Smart City rollouts, international growth and IBM's Smart Camp 2010 success. Under his leadership, Worldsensing has grown within a few years into a cutting-edge hard, middle and software company offering complete end-to-end technology and service solutions, which are facilitated by sensors with reliable local wireless and global Internet connectivity. He has focused Worldsensing onto some key emerging markets, notably the smart city, smart structure and smart field markets. Worldsensing's unique philosophy of deploy-and-forget, application-tailored, end-to-end solutions, powered by an adaptable Internet of Things (IoT) tech platform, offers reliable, robust, small, light, timely and affordable solutions so as to meet stringent industrial requirements. He is regularly being invited to keynotes and panels in the areas of Smart City, Internet of Things, among others; he has spoken along Jim Corgel, IBM, at the Smarter Industries event in Barcelona in 2010.

Nick Wainwright is European Projects Director for HP Labs, Europe and currently leads HP's involvement in a number of FP7 projects related to cloud and security research including BonFIRE, SAIL and Effectsplus projects. Nick chairs the UK's Future Internet Strategy Group which provides a forward looking view on internet technologies including cloud to UK national stakeholders including the UK's Technology Strategy Board and the Department of Business, Innovation and Skills. In over 20 years at HP Laboratories, Nick has worked in a wide range of research areas, including technology for the film, TV, and graphic arts sectors; service oriented platforms for information management; open source digital library systems; advanced communication systems addressing both very high speed networks and ultra-low cost wireless networks; and advanced computation systems using reconfigurable processor arrays. Nick holds a BSc in Electronic Engineering from the University of Bristol. Nick is a board member on the NESSI European Technology Platform, and previously a Steering Committee member in the Networked

Electronic Media Technology Platform, and currently serves on Future Internet Assembly Steering Committee.

Steve Wright was most recently Head of Strategic Research in BT. He joined BT in 2003, having spent most of his professional life in academic and industrial research across the communications and IT sector. He has a degree in electrical sciences from the University of Cambridge and a PhD from University College London.

Before joining BT, Steve led research at HP Laboratories in Bristol, UK in pervasive computing, content delivery, mobility, Internet technology and economics and LAN technology. He was a member of ISTAG from 2005 to 2009, and a member of the Panel who carried out the FP7 ICT Interim Evaluation in June 2010. He is currently Chair of the Advisory Board for the European Alliance for Innovation.

Professor Guang-Zhong Yang Ph.D. in Computer Science from Imperial College London, UK and is director and co-founder of the Hamlyn Centre for Robotic Surgery, Deputy Chairman of the Institute of Global Health Innovation, Imperial College London, UK. Professor Yang also holds a number of key academic positions at Imperial – he is Director and Founder of the Royal Society/Wolfson Medical Image Computing Laboratory, co-founder of the Wolfson Surgical Technology Laboratory, Chairman of the Centre for Pervasive Sensing. Professor Yang's main research interests are in medical imaging, sensing and robotics. In imaging, he is credited for a number of novel MR phase contrast velocity imaging and computational modeling techniques that have transformed in vivo blood flow quantification and visualization. These include the development of locally focused imaging combined with real-time navigator echoes for resolving respiratory motion for high-resolution coronary-angiography, as well as MR dynamic flow pressure mapping for which he received the ISMRM I. I Rabi Award. He pioneered the concept of perceptual docking for robotic control, which represents a paradigm shift of learning and knowledge acquisition of motor and perceptual/ cognitive behavior for robotics, as well as the field of Body Sensor Network (BSN) for providing personalized wireless monitoring platforms that are pervasive, intelligent, and context-aware. He is a Fellow of the Royal Academy of Engineering, and fellow of IEEE, IET, AIMBE and received the Royal Society Research Merit Award.

PROGRAM

FUTURE INTERNET CONFERENCE

17 May, 2011

Hotel InterContinental Budapest

BALLROOM I-II.

09.00 – 10.30

OPENING PLENARY SESSION

FUTURE INTERNET "PARTNERING FOR INNOVATION"

Theme: *This session will give an overview on policy framework and foresight for innovation and competitiveness of Europe with special regard to Future Internet research.*

Chair: Gyula Sallai
President of HTE, Hungary

- **Future Internet Research – Future of the European Competitiveness**
  Balázs Botond
  Deputy Minister of State for Foreign Economic Affairs, Ministry of National Economics, Hungary
- **Connected Europe and the future internet**
  Constantijn Van Oranje-Nassau
  Senior Advisor in the Cabinet of Neelie Kroes and European Commissioner for the EU's Digital Agenda, European Commission
- **Back to the Future: A Journey from Science to Craft…but Getting Back?**
  John Day
  Professor Boston University
- **EIT ICT Labs: driving ICT Innovation in Europe**
  Willem Jonker
  CEO of EIT ICT Labs

10.30 - 11.00 COFFEE BREAK

BALLROOM I-II.

11.00 - 13.00

PLENARY SESSION

FUTURE INTERNET PPP

The Future Internet Public-Private Partnership (FI-PPP) – *a new approach towards integrated and industry-led Internet research & innovation. Following the* ***high-level launch ceremony*** *in Brussels on 3 May, this session will be first public event in which the aims and actions of the FI-PPP will be presented to the stakeholder community.*

Taking place in a roundtable format, the session will be chaired by **Peter O'Donnell, associate editor of the European Voice.** *Following a series of opening statements, in which participants to the FI-PPP will unfold the different aspects of the PPP, the roundtable will discuss what is new in this FI-PPP, how its different initiatives will achieve effective collaboration, how user-led innovation will be created and how others can innovate on the platform built by the PPP.*

Roundtable participants:

Fernando Fournon González-Barcia
President of Telefónica D&I

Jose Maria Cavanillas de San Segundo
ATOS Origin

Ignasi Vilajosana
CEO and Founder of Worldsensing

Adrie Beulens
Professor at Wageningen University

Antonio Kung
Ambient Assisted Living JPI Community

Mário Campolargo
Director, European Commission

13.00 - 14.30 LUNCH

BALLROOM I-II.

14.30 - 16.00

PLENARY SESSION

EU 2020 – FUTURE INTERNET DRIVEN INNOVATION?

Theme: *This session will address potential synergies among ongoing initiatives such as Innovation Union and large-scale industrial projects with the participation of different stakeholders.*

Chair: Megan Richards
Director, European Commission DG INFSO

- **A new intelligent city. Selection of innovation initiatives of industry**
  Steve Lewis
  PlanIT Valley
- **The Internet Revolution: from innovative ideas to products**
  Graca Carvalho
  CISCO
- **Ericsson Vision 2020: Networked Society & 50 Billion Connected Devices**
  Sinisa Krajnovic
  Head of R&D Ericsson Hungary
- **Pervasive Sensing for Life-long Health and Wellbeing**
  Prof. Guang-Zhong Yang
  Director and co-founder of the Hamlyn Centre for Robotic Surgery and Deputy Chairman of the Institute of Global Health Innovation (IGHI), Imperial College, UK

16.00 - 16.30 COFFEE BREAK

BALLROOM I-II.

16.30 - 18.00

PLENARY SESSION

FUTURE INTERNET BEYOND FP7

Theme: *The objective of this session is to identify conditions and requirements needed for the advancement of Future Internet in Europe, and provide orientations for further research activities on this field.*

Chair: Zoran Stančič
Deputy Director-General, European Commission DG INFSO

- **Midterm review of FP7**
  Steve Wright
  Head of Strategic Research in BT
- **Industry view on research needs for Future Internet: Digital Europe**
  Bridget Cosgrave
  Director General, DIGITALEUROPE
- **Emerging ISTAG recommendations for post FP7 era**
  Heikki Huomo
  ISTAG
- **Towards a roadmap for Future Internet research**
  Nick Wainwright
  FIA and HP Labs

ROOM PANORAMA II-IV.

18.15 - 20.00

WELCOME DRINK

together with the participants of FIA Workshop
in the Hotel InterContinental Budapest

Welcome by the local organiser
Dr. Gyula Sallai
President of HTE, Hungary

FUTURE INTERNET ASSEMBLY
DAY 1

18 May, 2011

Hotel InterContinental Budapest

BALLROOM I-II.

09.00 - 10.00

OPENING PLENARY SESSION

Chair: Mário Campolargo and Megan Richards
European Commission

Welcome
Mário Campolargo
European Commission

Megan Richards
European Commission

Zsolt Nyitrai
Minister of State for Infocommunications, Ministry of National Development, Hungary

Network Science: From the Internet to Human Communications
Albert-László Barabási
Northeastern University/Harvard Medical School, USA

10.00 - 10.30 COFFEE BREAK

10.30 - 12.30

PARALLEL SESSIONS

BALLROOM I.

SESSION I.1
INFORMATION-CENTRIC NETWORKING

10.30 – 10.35 **Welcome**

10.35 – 10.50 **Introduction to Information-Centric Networking**
George Pavlou, Professor
University College London, UK

10.50 – 11.05 **Panel: position statements**

Each panellist shall make a 5-min position statement on the ICN high-level issues: evolutionary vs. revolutionary approaches for content naming and delivery (what is the migration path), existing vs. prospective business models (how to incentivise and rationalize such a migration) and benefits vs. drawbacks (who and how will be affected by this migration).

Moderator: George Pavlou, *Professor*
University College London, UK
BME-TMIT

Torsten Braun, Professor
University of Bern, Switzerland

Ebroul Izquierdo, Professor
Queen Mary University, UK

Bruno Kauffmann, R&D Engineer
FT/Orange, France

11:05 – 11:25 **Moderated discussion**

The discussion shall begin with a Q&A between moderator and panellists. The moderator shall gradually open the Q&A to the audience.

11.25 – 11.55 **EU projects: position statements**

To stimulate discussion, the moderator shall invite 5-min position statements by relevant EU projects. Project position statements may not be contiguous, but could be injected into the discussion at appropriate points.

Moderator: Spiros Spirou, *Senior Engineer*
Intracom Telecom, Greece

ALICANTE
Evangelos Markakis
Technological Educational Institute of Crete, Greece

COMET
Francisco Javier Ramon Salguero
Telefonica R&D, Spain

CONVERGENCE
Andrea Detti
University of Rome Tor Vergata, Italy

ENVISION
Miguel Rio
University College London, UK

PURSUIT
Arto Karila
Helsinki Institute for Information Technology, Finland

SAIL
Börje Ohlman
Ericsson Research, Sweden

11.55 – 12.25 **Moderated discussion (continued)**

12.25 – 12.30 **Summary and conclusions**

BALLROOM III.

SESSION I.2

LINKED DATA IN THE FUTURE INTERNET

10.30 – 10.35 **Welcome**

10.35 – 10.50 **Linked Data Use and the Internet of Things**
Stephan Haller
SAP

10.50 – 11.05 **Linked Data for Telecom Networks**
Ivan Bedini
Bell-Labs

11.05 – 11.20 **Interaction of Networks Layers and Linked Data**
Brendan Jennings
TSSG

11.20 – 11.35 **State of the FIA Architecture**
Dimitri Papadimitriou
Alcatel-Lucent

11.35 – 12.25 **Panel Presentations and Moderated Discussion: Identification of Requirements for the FIA Architecture and Linked Data**
(5 min statements)

Ivan Bedini
Bell Labs

Brendan Jennings
TSSG, Ireland

Manfred Hauswirth
DERI

Stephan Haller
SAP

Payam Bernaghi
University of Surrey

12.25 – 12.30 **Summary and conclusions**

ROOM PANORAMA II-IV.

SESSION I.3

THE ECONOMICS OF PRIVACY

10.30 – 10.35 **Welcome**
Tuan Anh Trinh
Head of Network Economics Group
BME-TMIT

10.35 – 10.50 **Keynote talk**
Nicola Jentzsch
DIW Berlin (German Institute for Economic Research)

10.50 – 11.25 **Panel: position statements**

Moderator: Tuan Anh Trinh
Head of Network Economics Group
BME-TMIT

Panel composition: experts from both academy and industry will be invited. Each panellist should make a position statement on the high-level issues.
Challenges to be addressed:
1/ Innovative business models for privacy.
2/ Pricing for/of privacy
3/ Privacy as a service.

Panel of experts
Jean Gonié *(Director of privacy - EU affairs, Microsoft) – TBC*
Estelle De Marco *(legal expert, Inthemis)*
Aljosa Pasic, *Atos Origin, member of VALUESEC project*
Jonathan Cave *(Warwick University and RAND Europe)*
Nicola Jentzsch *(DIW Berlin)*
Kai Rannenberg *(Goethe University Frankfurt)*

11.25 – 11.50 **Moderated discussion on the challenges of Economics of Privacy in the Future Internet**

The discussion shall begin with a Q&A between moderator and panellists. The moderator shall gradually open the Q&A to the audience.

11.50 – 12.10 **EU projects: position statements**

To stimulate discussion, the moderator shall invite position statements by relevant EU projects

SESERV
Eric Meyer
Oxford Internet Institute

PARADISO 2
Roger Torrenti, *project coordinator*

BiC
Jim Clarke, *project coordinator*

12.10 – 12.25 **Moderated discussion (continued)**

12.25 – 12.30 **Wrap-up**
Martin Waldburger
University of Zurich

BALLROOM II.

SESSION I.4

SMART CITIES AND FIRE: EXPERIMENTATION AND LIVING LABS FOR THE FUTURE INTERNET

Part 1: Learning from current projects in real-life experimentation and user
Involvement for the Future Internet

Moderator: Timo Lahnalampi
DIMES (FIRESTATION)

Presentations:

- **Real-life experimentation: experiences from the TEFIS project**
  Itziar Ormaetxea
  Software Quality Systems S.A., TEFIS
- **Experimenting the Internet of Things in the SmartSantander project**
  José M. Hernández-Muñoz
  Telefónica, SmartSantander

Panellists:
Martin Dobler
FHV, PERIMETER

Anastasius Gavras
Eurescom, PII/Panlab

Roberto Santoro
ESoCE Net, ELLIOT

Dimitri Papadimitriou
Alcatel-Lucent Bell and ECODE/EULER

Part 2: Bridging the existing gaps in experimentation and user involvement methodologies and practices

Moderator: Michael Nilsson
Luleå University of Technology (FIREBALL)

Presentations:

- **Living Labs Methodology for User Involvement**
  Anna Ståhlbröst
  Luleå University of Technology and Botnia Living Lab
- **Experimentation and User involvement -future needs based on past experiences**
  Marija Zlata Boznar
  MEIS Slovenia, N4C

Panellists presenting proposals to bridge the gaps:

Pieter Ballon
IBBT, APOLLON

Dave Carter
MDDA, EUROCITIES

Hans Schaffers
ESoCE Net, FIREBALL

Moderated discussion and interaction with audience (30 minutes)

Moderator: Hans Schaffers
ESoCE Net, FIREBALL

The aim of the discussion is to exchange additional insights, identify key lessons for future work, and provide inspiration for new activities in the area covered.

12.30 - 14.00 LUNCH

14.00 - 16.00
PARALLEL SESSIONS

BALLROOM II.

SESSION II.1
INTERACTIVE FUTURE MEDIA EXPERIENCE

14.00 – 14.05 **Introduction to the session** *(5 mins)*
E. Izquierdo
QMUL, UK

14.05 – 15.20 **Keynote talks**
(20 min talk + 5 min discussions)

Virtual Humans
Nadia M. Thalmann
University of Geneva, Switzerland

3D Video Processing
P. Eisert
HHI, Germany

3D Media accessibility through mobile devices
P. Kovacs
Holografika, Hungary

15.20 – 15.55 **Panel discussion** *(35 mins)*

Panel chairmen: N. O'Connor
DCU, Ireland

Invited panellists:

Nadia M. Thalmann
University of Geneva, Switzerland

P. Eisert
HHI, Germany

Z. Korcsok
iPont, Hungary

P. Kovacs
Holografika, Hungary

E. Izquierdo
QMUL, UK

G. Feher
BME, Hungary

15.55 – 16.00 **Wrap-up** *(10 mins)*
G. Feher
BME, Hungary

BALLROOM III.

SESSION II.2

ICT AND SUSTAINABILITY – MUTUAL IMPACTS AND GAINS

14.00	**Short report from the Future Internet Cluster Workshop held on May 16** Markus Fiedler, *co-organiser* *Euro-NF & Blekinge Institute of Technology, Sweden*
14.10	**Smart energy management drives environmental sustainability** Seppo Yrjölä, *co-organiser* *Nokia Siemens Networks, Smart Grids and Energy Markets Program*
14.20	**Using ICTs to transition to a low carbon economy** Alice Valvodova, *executive director* *Global e-Sustainability Initiative (GeSI)*
14.30	**Energy Efficiency in Large Scale Distributed Systems** Jean-Marc Pierson, *Chairman of COST IC 0804 & Paul Sabatier University, Toulouse, France*
14.40	**Why there is no such thing as "green ICT"** Anastasius Gavras *Eurescom*
14.50	**Questions to the Panelists**
15.10	**Moderated discussion**
15.50	**Wrap-up**
16.00	**Closing**

BALLROOM I.

SESSION II.3

INTERNET OF THINGS AND THE FUTURE INTERNET

- **Presentation of the agenda and session objectives** *(5 min)*
  Alessandro Bassi
  IOT-A

IoT/FI architecture & integration panel *(40 min)*

Moderator: Alessandro Bassi
IOT-A

Panellists:

Stephan Haller
SAP

Dieter Uckelmann
BIBA

IoT/FI privacy, security & trust panel *(40 min)*

Moderator: Trevor Peirce
IERC

Panellists:

Oscar Garcia
Philips

Antonio Skarmeta
University of Murcia

Closing panel *(25 min)*

Moderator: Jim Clarke
WIT

Panellists:

Amardeo Sarma
NEC

Rodrigo Roman
University of Malaga

Michel Riguidel

- **Session conclusions and announcement of the IOT International Forum** *(10 min)*
  Francois Carrez
  University of Surrey

ROOM PANORAMA II-IV.

SESSION II.4

STANDARDISATION

- **Agenda and session objectives** *(5 min)*
  Franck Le Gall

Possible "cross-cutting" pre-standardisation tracks

Moderator: Jean Charles Point

- **Introductory speech: landscape of pre-standardisation and standardisation, possible paths for projects** *(15-20 min)*
  Didier Bourse
- **IOT and Security**
  Patrick Guillemin
  IERC
- **Management**
  Alex Gallis
  MANA
- **Cloud computing**
  Daniel Field
  SIENA
- **Media**
  Tomas Piatrik
  NextMEDIA

Closing panel: Pre-Standardization on Future Internet *(35 min)*

Does it have to be exclusively at any specific entity? Which of the tracks look most promising? Are the chosen tracks too broad, should they be more focused? Are there too many tracks? Role of contributing projects in the decision process

Moderator: Franck Le Gall

Dimitri Papadimitriou
Henrik Abramovitch
+ open discussion

- **Conclusions and further work** *(10 min)*
  Franck Le Gall

16.00 - 16.30 COFFEE BREAK

16.30 - 18.30
PARALLEL SESSIONS

BALLROOM I.

SESSION III.1
THE NETWORK LOST IN THE CLOUD

16.30 – 16.40 **Session Introduction – Reminder on the objectives**
Session chairs

16.40 – 17.55 **Invited talks**

Opportunities and requirements from over the top SMEs providing cloud services: the example of HPC
Alban Schmutz
Oxalya

How are Service Providers helping their customers to deliver IT as a Service?
Peter Glock
Orange Business Services

Cloud connectivity, interconnect and SLAs – From a network perspective
Håkon Lonsethagen
Telenor, FP7 ETICS

Building a distributed cloud infrastructure from the bottom: the SAIL approach to cloud networking
Victor Souza
Ericsson Research, FP7 SAIL

The revolution of infrastructure provisioning
Pascale Vicat-Blanc
Lyatiss, FP7 Geysers

17.55 – 18.25 **Panel Discussions**

18.25 – 18.30 **Closing remarks**
Session chairs

BALLROOM II.

SESSION III.2

FUTURE SOCIAL COMPUTING

- **Introduction** *(5 mins)*
  Nick Taylor
  SOCIETIES
- **Future directions in social networking** *(20 mins)*
  Gabriel Yoran
  aka-aki networks - member of EU Social Networks Group
- **Business models for UGC in the context of social networks** *(20 mins)*
  Dorit Geifman
  SocloS
- **Integration of pervasive and social computing** *(20 mins)*
  Kevin Doolin
  SOCIETIES
- **Social embodiment of computation** *(20 mins)*
  Fausto Giunchiglia
  The Social Computer
- **Panel discussion** *(30 mins)*
  (All)
- **Wrap up** *(5 mins)*
  Nick Taylor
  SOCIETIES

BALLROOM III.

SESSION III.3

DYNAMICALLY ADAPTIVE FI-APPLICATIONS: BEYOND ADAPTIVE SERVICES

16.30 – 16.45 **Welcome, introduction, motivation and brief overview of sessions**
The organizers

16.45 – 17.20 **Application scenarios**
(approx. 10 minutes for the presentation of each scenario)

Scenario1: eHealth
Katarzyna Wac, *U. of Geneva*
David Hausheer, *TU Darmstadt*

Scenario2: Transport and logistics
Clarissa Marquezan
Paluno, U. of Duisburg-Essen on behalf of FInest (FI PPP Use Case Project)

Scenario 3: Media
Steve Fish, *Turner Broadcasting*
Paul W. Walland, *IT Innovation*

17.20 – 18.20 **Panel of experts & plenary discussion of key research and technology challenges**

Panellists will have the opportunity to present their views in a short 5 min. presentation; moderated by the organizers.

Health 2.0: Empowering the Patient, Adapting the Quality, Strengthening the Society
Pantelis Angelidis
Vidavo

Health applications: paradigmatic application scenarios for adaptive services
Nuria De-Lama Sanchez
Atos Origin

Yagil Engel
IBM Haifa Research Labs

Steve Fish, *Turner Broadcasting*
Paul W. Walland, *IT Innovation*

18.20 – 18.30 **Concluding remarks and follow up actions**
The organizers

ROOM PANORAMA II-IV.

SESSION III.4

SECURITY AND USABILITY

16.30 – 16.50 **Security And Usability: Challenges And Consequences**
Corrado Leita
Symantec Research Labs Europe

16.50 – 17.10 **Designing Productive Security Systems**
Angela Sasse
University College London

17.10 – 17.30 **Security, Privacy, Identity Management and Usability – an application driven approach**
Kai Rannenberg
Goethe University, Frankfurt

17.30 – 17.45 **Understanding scam victims: seven principles for systems security**
Frank Stajano
University of Cambridge

17.45 – 18.00 **Fighting Cybercrime with Visual Analytics**
Florian Mansmann
Universität Konstanz

18.00 – 18.30 **Discussion with questions from the audience**

GELLÉRT SPA BUDAPEST

20.00 - 23.00

GALA DINNER

in the Hall of the Gellért Spa Budapest

Welcome
István Tarlós
Mayor of Budapest, Hungary

FUTURE INTERNET ASSEMBLY
DAY 2

19 May, 2011

Hotel InterContinental Budapest

BALLROOM I-II.

09.00 - 09.45

FIA BOOK

Ioannis P. Chochliouros for

Challenges for Enhanced Network Self-Manageability in the Scope of Future Internet's Development
Ioannis P. Chochliouros, Anastasia S. Spiliopoulou and Nancy Alonistiot

Pascale Vicat-Blanc for

Bringing Optical Networks to the Cloud: an Architecture for a Sustainable Future Internet
Pascale Vicat-Blanc, Sergi Figuerola, Jens Buysse, Xiaomin Chen, Giada Landi, Anna Tzanakaki, Augustin Ragon and Fabienne Anhalt

Sergi Figuerola for

Renewable Energy Provisioning for ICT Services in a Future Internet
Kim Khoa Nguyen, Mohamed Cheriet, Mathieu Lemay, Bill St. Arnaud, Victor Reijs, Andrew Mackarel, Pau Minoves, Alin Pastrama, Ward Van Heddeghem

09.45 - 11.00

PLENARY CLOUD COMPUTING SESSION

In 2009 an Expert Group published the report "The Future of Cloud Computing – Opportunities for European Cloud Computing Beyond 2010" (http://cordis.europa.eu/fp7/ict/ssai/docs/cloud-report-final.pdf).
Are the recommendations in this report still valid or is an update necessary? This session will be a first opportunity to understand where we are in terms of research for Cloud Computing and which issues are still to be solved in the future.

Panellists:

Rainer Zimmermann, *moderator*
EC DG INFSO Head of Unit for Software & Service Architectures and Infrastructures

Juan A. Caceres
Telefónica – Platform Architect Global Cloud Computing

Daniel Pays
Thales – Infrastructure Management Services Director

Thierry Priol
INRIA Deputy Scientific Director and EIT ICT Labs

Jim Clarke
TSSG Waterford, Can the cloud be trusted

Markus Brunner
NEC, The Network Lost in the Cloud

11.00 - 11.30

CLOSING PLENARY SESSION

Future Internet Award – Winner Presentation
Róbert Szabó
Budapest University of Technology and Economics

Invitation to next FIA in Poznan, Poland
Prof. Jan Weglarz
Director of Poznan Supercomputing and Networking Center

Progress on parallel FIA actions

Conclusions and closing
Mário Campolargo
European Commission

11.30 - 12.00 BRUNCH

12.00 TRANSFER TO THE ICT PROPOSERS' DAY 2011

SCIENTIFIC ASSOCIATION FOR INFOCOMMUNICATIONS (HTE) HUNGARY

Who we are

Founded in 1949, the Scientific Association for Infocommunications (formerly known as Scientific Society for Telecommunications) is a voluntary and autonomous professional society of engineers and economists, researchers and businessmen, managers and educational, regulatory and other professionals working in the fields of telecommunications, broadcasting, electronics, information and media technologies in Hungary.

Besides its more than 1300 individual members, the Scientific Association for Infocommunications (in Hungarian: HÍRKÖZLÉSI ÉS INFORMATIKAI TUDOMÁNYOS EGYESÜLET, HTE) has more than 60 corporate members as well. Among them there are large companies and small-and-medium enterprises with industrial, trade, service-providing, research and development activities, as well as educational institutions and research centers.

HTE is a Sister Society of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and the IEEE Communications Society. HTE is corporate member of International Telecommunications Society (ITS).

What we do

HTE has a broad range of activities that aim to promote the convergence of information and communication technologies and the deployment of synergic applications and services, to broaden the knowledge and skills of our members, to facilitate the exchange of ideas and experiences, as well as to integrate and harmonize the professional opinions and standpoints derived from various group interests and market dynamics.

To achieve these goals, we...

- contribute to the analysis of technical, economic, and social questions related to our field of competence, and forward the synthesized opinion of our experts to scientific, legislative, industrial and educational organizations and institutions;
- follow the national and international trends and results related to our field of competence, foster the professional and business relations between foreign and Hungarian companies and institutes;

- organize an extensive range of lectures, seminars, debates, conferences, exhibitions, company presentations, and club events in order to transfer and deploy scientific, technical and economic knowledge and skills;
- promote professional secondary and higher education and take active part in the development of professional education, teaching and training;
- establish and maintain relations with other domestic and foreign fellow associations, IEEE sister societies;
- award prizes for outstanding scientific, educational, managerial, commercial and/or societal activities and achievements in the fields of infocommunication.

HTE structure

Managing and supervising bodies:
General Assembly, Presidency, Executive Committee, Supervisory Committee, Ethics Committee

Permanent advisory bodies:
Economics Committee, Awards Committee, International Affairs, Scientific Committee, Senior Committee, Juniors Committee, Council of Corporate members

Professional sections:
Cable Television, Computer Engineering, Digital Radio, Documentation Technology, e-Hungary, Micro and nanoelectronics, Power Industry Communications, Project Management, Media, Reception Technology, Senior Club, Telecommunications, TETRA, Transport Communications

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS

DEPARTMENT OF TELECOMMUNICATIONS AND MEDIA INFORMATICS

The Department of Telecommunications and Media Informatics (TMIT) of the Faculty of Electrical Engineering and Informatics (VIK) of the Budapest University of Technology and Economics (BME) was established in 1949 as Department of Wire-bound Telecommunications, and renamed into present form in 2003.

The Department deals with the research and university-level education on the convergent communication, information and media technologies. The backbone of the departmental profile is the technical issues of the content – transmission – presentation value chain, the processing and networking (fix, mobile) of various contents (voice, image, video, text, data, documents multimedia, etc.). The education and research is focused on:

- infocommunication systems, particularly IP based networks and services, as well as
- media information systems, particularly speech, multimodal and multimedia applications, embracing both technological aspects and the related engineering management, security, regulatory and data mining issues, cognitive science topics.

Permanent staff of the TMIT is 42 persons, including 5 full-professors and an emeritus professor. In addition, TMIT keeps around 45 contracted researchers and 30 PhD students.

Education

The TMIT takes part in both the BSc and the MSc educations, undertakes an outstanding share in the 3-year PhD education and maintains modern educational and accredited test laboratories. The department is mainly involved in the majors of Electrical Engineering (EE), Computer Engineering (CE), Business Information Systems (BIS) and Biomedical Engineering within the Faculty of Electrical Engineering and Informatics. Annually 80…100 engineers are graduated, 4…8 PhD theses are defended.

The TMIT is delivers the core courses on Infocommunications (ICT) in the EE major, on Telecommunication networks and services, Operation of information systems, Databases and Speech information systems in the CE major in the BSc curriculum, on Engineering management in all majors in the MSc curriculum, as well as several elective courses. The TMIT is responsible for 3 BSc and 5 MSc specializations, inter alia:

- Infocommunication Systems in the EE and CE BSc and MSc majors;

• Media Informatics and Security in the CE BSc and MSc majors;
• Analytical Business Intelligence in the BIS MSc major in English.

Research areas and competences

(1) Infocommunication systems and procedures: theory and practice of networks, services and protocols, switching and signaling techniques, integration, modeling, configuration, dimensioning, optimization, operation and security of network platforms.

- Planning of infocommunication networks development and operation, monitoring and management procedures and tools. Spec: Optical networks, optimization of heterogeneous networks, designing, developing and testing protocols.
- IP based networks and services: resource engineering, performance analysis, ambient intelligence, network and service security, application platforms. Spec: programming, applications development, traffic-modeling, energy-aware solutions, future internet.

(2) Infocommunication management and regulation: engineering management, corporate and sector strategies, technology and market regulation, internet pricing, information economics, decision theory. Spec: development strategies, numbering, auctioning, game theory, simulation, group working methods.

(3) Content management and multimedia systems: media-databases, database-management, information retrieval, data- and text mining, multimedia information systems and applications, database and media-security. Spec: media-mining, metadata-systems, digital library, archives, federated databases, enhanced and virtual reality applications.

(4) Speech technology, acoustics and multimodal information systems: Speech processing, -synthesis and recognition, speaker identification, speech acoustics, speech databases, dialogue based information systems. Spec: speech information systems in customer and content services, mobile user interfaces, psychoacoustics, vibration and acoustics tests.

(5) Intelligent and cognitive media informatics: intelligent and soft computational systems, optimization algorithms, cognitive informatics modeling and applications. Spec: fuzzy algorithms, information representation, 3D and cognitive infocommunications.

Contact: Dr. Tamás Henk, *Head of Department*
henk@tmit.bme.hu

Prof. Dr. Gyula Sallai
s*allai@tmit.bme.hu*
www.tmit.bme.hu

THE FUTURE INTERNET NATIONAL TECHNOLOGY PLATFORM

has been established in Hungary

The Future Internet National Technology Platform has been established at the request of the National Innovation Office of the Hungarian Government. The co-ordination activity of the Platform is performed by the Hungarian Academic and Research Network Association (HUNGARNET). More than fifty organisations have joined the initiative. Among them are the major multinational ICT companies like, the Hungarian Telekom, Vodafone, Hewlett Packard, CISCO, SAP etc, the major universities in the country, research institutions, SME-s represented by IVSZ (Association of ICT Companies), Scientific and Technical Associations, some SME-s who are directly involved in EU 7th Framework programs. The first meeting of the Platform took place on the 3rd of May at the premises of Hungarnet Association.

Hungary was always in the forefront in research networking in Europe. The Hungarian research network has always been in a European level 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 we have the same objective, namely to reach the European level. We started a program in 2008 within the framework of a Hungarian research network program with the participation of three universities, two research institutions, and a research network organisation. The scope of this program was basic and applied research. Last year this program ended with significant results. We can say that the Hungarian participation in the Future Internet 7th Framework program has increased significantly and we received funds from the National Science Foundation to carry out basic research in this field.

This new initiative is a follow-up to the program which ended last year has a much broader coverage and 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,
- Organising workshops and conferences to enhance co-operation among Platform members and distribute information that facilitates EU program participation.

A Steering Committee has been set up to direct the process of strategy and program formation and all other activities. Finally, it was agreed upon that public relation is an important priority of the Platform, which we will be given special emphasis during the whole program. It is important to mention that three ministries participate in the Platform activity. Our aim is that after the elaboration of program we will submit a proposal to the National Innovation Office in the expectation to become a National Future Internet Program with adequate financial support.

FUTURE INTERNET WEEK
POZNAŃ, 24-28 OCTOBER 2011

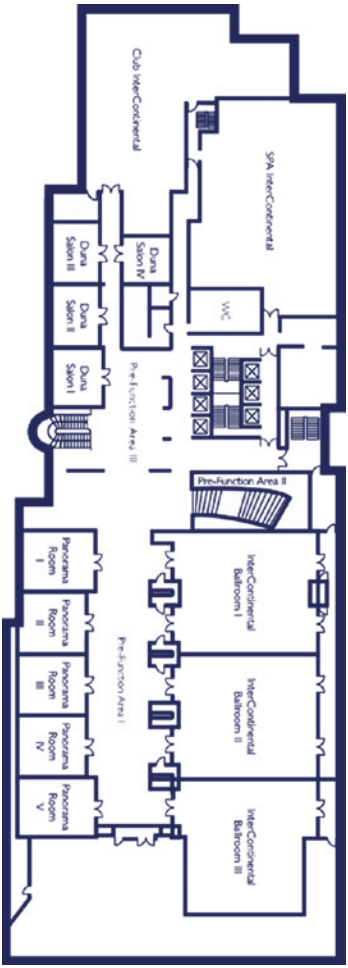
www.fi-poznan.eu

Future Internet Conference....(24.10)
Future Internet Assembly.....(25-26.10)
Future Internet Forum.....(25.10)
Future Internet Poland.....(25.10)
Service Wave.....(26-28.10)

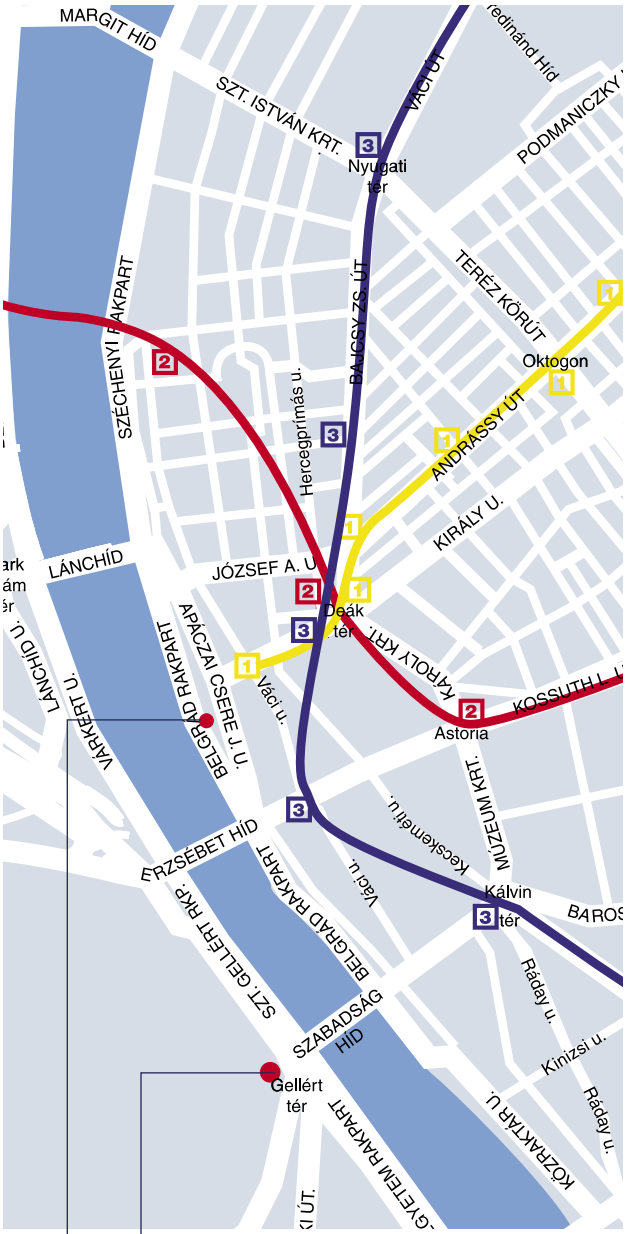
ICTC Committee.....(26-27.10)
ICT Clusters Forum.....(27.10)
FIRE Workshops.....(27.10)
Enterprise Europe Network...(27.10)
Internet of Things.....(28.10)

INNOVATIVE ECONOMY
MINISTRY OF SCIENCE AND HIGHER EDUCATION
FUTURE INTERNET ASSEMBLY
POZNAN

MAP OF HOTEL INTERCONTINENTAL BUDAPEST



Registration and exhibition	Pre-Function Area
Plenary sessions	Ballroom I-II.
Parallel sessions	Ballroom I. Ballroom II. Ballroom III. Room Panorama II-IV.
Welcome drink	Pre-Function Area & Room Panorama II-IV.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SZT. ISTVÁN KRT.
Nyugati tér
VÁCI ÚT
PODMANICZKY
TERÉZ KÖRÚT
Oktogon
BAJCSY-ZS. ÚT
SZÉCHENYI RAKPART
Hercegprímás u.
ANDRÁSSY ÚT
KIRÁLY U.
LÁNCHÍD
JÓZSEF A. U.
Deák tér
KÁROLY KRT.
KOSSUTH L. U.
Astoria
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NOTE

NOTE

The virtual conference room – bringing new communication dimensions to businesses and government institutions.

Cisco TelePresence defines a new category of collaboration and communications. Whether used in a business, healthcare or educational context, our solution offers a wide variety of applications ranging from multiple-location meetings and conferences to professional consulting sessions with participants in two locations in the same country or even in multiple venues around the world.

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Welcome
to the Human Network

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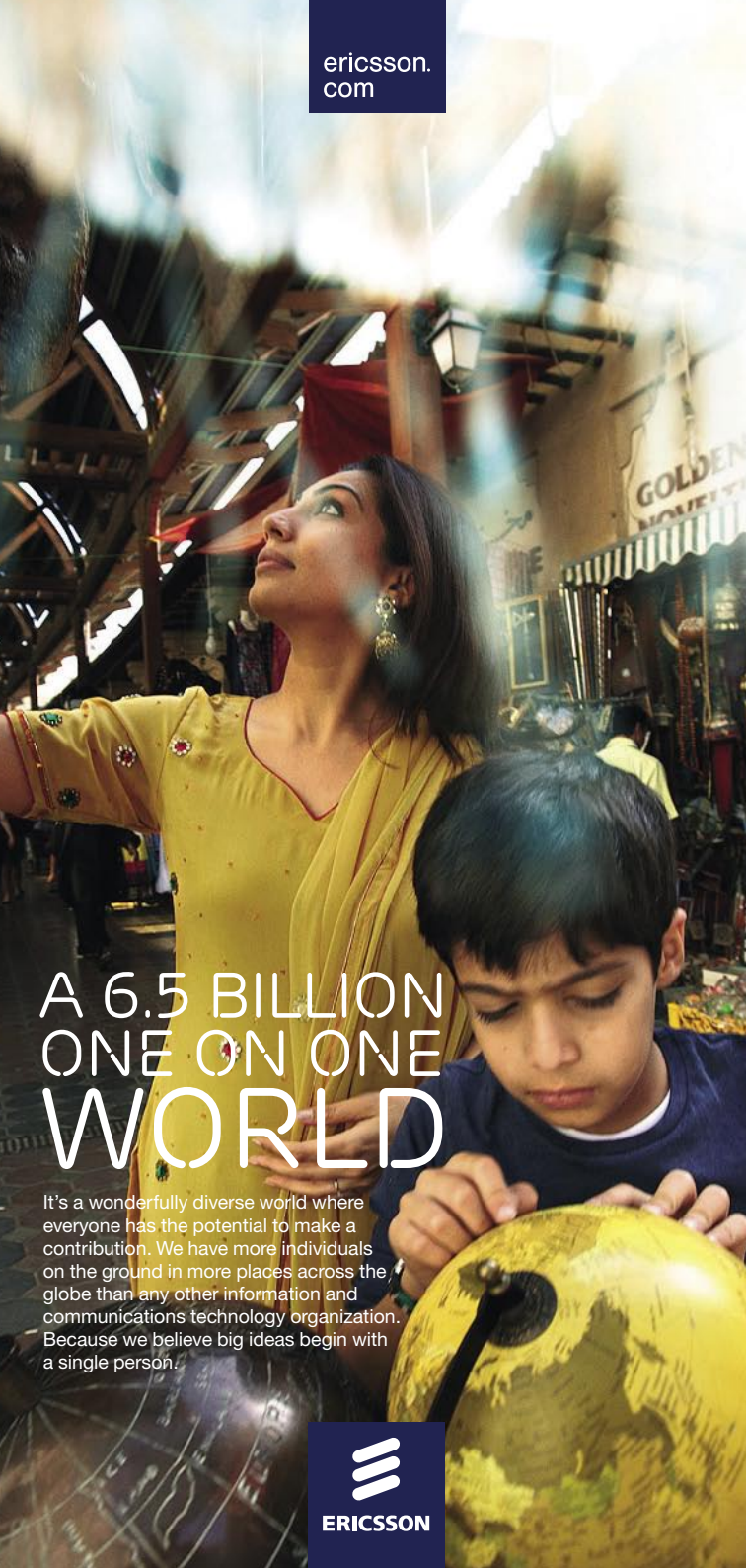

A 6.5 BILLION ONE ON ONE WORLD

It's a wonderfully diverse world where everyone has the potential to make a contribution. We have more individuals on the ground in more places across the globe than any other information and communications technology organization. Because we believe big ideas begin with a single person.