

# 1<sup>st</sup> FOKUS FUSECO Forum on Future Seamless Communication

Berlin, October 14 – 15, 2010

## P R O G R A M



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# Welcome to the 1<sup>st</sup> FOKUS FUSECO Forum

*We hope you have two inspiring days and enjoy the event!*

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Words from the Chair

**Dear FOKUS Family and Friends, Ladies and Gentlemen,**

The famous IMS workshop series is history. Looking back at five very successful editions of this workshop we carefully reviewed the growth of the content areas and the status quo of IMS technology and services.

We could have easily continued this workshop series as IMS technology is going to be deployed globally these days. But we have a mission at FOKUS considering us as pioneers and missioners for emerging technologies.

We at FOKUS have started to work on EPC (Evolved Packet Core) two years ago and we are proud to provide today the OpenEPC toolkit to implement EPC-based testbeds, such as the Future Seamless Communication FUSECO Playground.

So we feel it is time to start again a corresponding workshop series to spread the knowhow about this promising technology, its potentialities and open issues. In this regard, we are going back to the roots of the IMS workshop series, by setting a clear technical workshop focus on an emerging key technology and enable a technical discussion among operators, vendors, integrators and researchers. We believe strongly, that many IMS researchers and developers will soon work on EPC and EPC-based applications, thus attendees of previous IMS workshops may also consider this event as the sixth edition. However, as we start something new, we call this new event series the FOKUS Future Seamless Communication (FUSECO) Forum.

Whether you are already part of the FOKUS family or whether you are visiting us for the first time, I am convinced, that you will enjoy two interesting days, where you will gain new insights, have interesting expert talks and make new friends from all over the world.

Yours sincerely,  
Prof. Dr. Thomas Magedanz and the TU Berlin/FOKUS team



Prof. Dr. Thomas Magedanz



08:30 Registration

## 10:00

### SESSION 1 – Future Mobile Network Over

- Convergence: Network Evolution towards all IP
- Mobile Network Evolution
- Requirements as defined by the NGMN Alliance
- Potential mobile broadband services
- Related Fora and Standards
- Service Architecture Evolution (SAE) = Evolved Packet System (EPS) Overview
- Comparing future fixed and mobile network concepts

11:30 Coffee break

## 11:45

### SESSION 2 – E-UTRAN: Long-term Evolution (LTE) Overview

- LTE Motivation und Basics
- LTE Standards Overview
- LTE Air Interface
- LTE architecture: components, interfaces, and interactions
- LTE comparison with other access technologies (UMTS, WiMAX, WLAN)
- Outlook: LTE Advanced

13:00 Lunch break and demos

## 14:00

### SESSION 3 – 3GPP Evolved Packet Core (EPC) Overview

- EPC Motivation and Basics
- EPC key capabilities (QoS, charging, handover, security, IP connectivity)
- EPC architecture for LTE (MME, S-GW, PDN-GW, PCC, etc.)
- EPC architecture for other access networks (3GPP and non-3GPP)
- EPC operations

## 15:00

### SESSION 4 – Applications over LTE/EPC: Telecommunications / IMS vs. ABC OTT

- The Challenge: Voice over LTE/EPC architectural options
- IMS vs. always best connected (ABC) over the top (OTT) Internet
- IMS as LTE/EPC common service platform: Standards and Service Examples (VoIP; RCS, IPTV)
- Potential Over the Top Internet Services (Mobile Clouds, Telematics, Logistics, etc.)

16:00 Coffee break

## 16:15

### SESSION 5 – Enabling Future Seamless Communication Application Prototyping today

- Motivation for open testbeds to accelerate future mobile network adoption and application prototyping
- Experiences from the Fraunhofer FOKUS open technology testbeds and tool kits
- The Berlin LTE advanced testbed
- The OpenEPC testbed toolkit: The OpenEPC
- The Future Seamless Communication Playground

### SESSION 6 – Summary and Questions & Answers

17:30 Demo 1

18:15 Departure of shuttle service to event location

## 19:00

### SOCIAL EVENT – Deutsches Technik Museum

Deutsches Technikmuseum  
Trebbiner Straße 9  
10963 Berlin-Kreuzberg

The Deutsches Technikmuseum is the place to find out about the history and science behind the appliances and things we use every day. There are aeroplanes and ships to look at, and real railway locomotives. Watch a suitcase being made, or find out how jewellery is manufactured.

*The shuttle for the social event departs from the front of the FOKUS building.*

07:30 Registration

## 08:30

### OPENING

Welcome from the chairman Prof. Dr. Thomas Magedanz, TU Berlin/Fraunhofer FOKUS

## 08:45

### SESSION 1 – Competing Mobile Broadband Access Network Technologies

Chair: Dr. Thomas Haustein, Fraunhofer Heinrich Hertz Institute (HHI)

- Accenture Mobile Web Watch 2010 – the user demand for 4G services  
*Markus Beckmann, Accenture*
- LTE Potentialities and Challenges  
*Matthias Sauder, Vodafone*
- Messaging in LTE  
*Dr. Günther Pospischil, mobilkom Austria*
- Challenges of LTE and EPC Introduction  
*Dr. Thomas Schwabe, Telefónica o2 Germany*
- Questions & Answers

10:00 Coffee break and demos

## 10:30

### SESSION 2 – Access Network Integration and Service Enabling

Chair: Prof. Dr. Hans Schotten, University of Kaiserslautern

- VoIP Market Developments from an US Perspective  
*HP Baumeister, Fraunhofer Digital Media Technologies*
- Remaining Challenges with LTE/EPS  
*Franz Seiser, Deutsche Telekom AG*
- LTE/EPC Rollout Challenges  
*Peter Zbären, Swisscom*
- The Challenge of EPC and IMS Interoperability  
*Giulio Maggiore, Telecom Italia/ETSI TC INT Chairman*
- Questions & Answers

## 11:45

### SESSION 3 – Vendor Panel: Standards, Products, and Business Cases for Future Seamless Communication

Chair: Prof. Dr. Thomas Magedanz, TU Berlin/Fraunhofer FOKUS

#### Panelists:

Robert Stumpf, *Accenture*  
Sven Akesson, *Ericsson*  
Wolfgang Hummel, *HP*  
Cornel Pampu, *Huawei Technologies*  
Bernd Wunderlich, *IBM Deutschland*  
Thorsten Robrecht, *Nokia Siemens Networks*  
Alain Dakroub, *Tekelec*

12:30 Lunch break and demos

## 13:30

### SESSION 4 – FUSECO Telco Applications: Voice, RCS and More

Chair: Hans Joachim Einsiedler, Deutsche Telekom Laboratories

- Mobile Broadband Services – First RCS Experiences from Japan  
*Kazuyuki Koza, DOCOMO Communication Laboratories Europe GmbH*
- M2M Opportunities – Lessons Learned from the US Market  
*Ronald M. Jubainville, Sprint*
- LTE, PON/FTTH, DOCSIS 3.0 and the Business Opportunities for Service Convergence in Latin America  
*Alfonso Ehijo, Telmex International/University of Chile*
- Application Challenges for Operators  
*Roberto Minerva, Telecom Italia*
- Future Multimedia Services – Beyond Voice and RCS  
*Eugen Mikoczy, T-Com, Slovak Telekom*
- Questions & Answers

15:00 Coffee break and demos

## 15:30

### SESSION 5 – FUSECO OTT Applications: Beyond Smart Bit Pipes

Chair: Thomas Michael Bohnert, SAP Research

- LTE Enabling Over the Top Players  
*Prof. Marc Drüner, trommsdorff + drüner*
- Mobile Broadband Bitpipes for OTT Services  
*Boaz Zilberman, fring*
- Opportunities for Wholesale and Enterprise Operators  
*Sebastian Krems, ITCon GmbH*
- Cars and LTE: Beyond the Obvious  
*Dr. Ralf G. Herrtwich, Daimler AG*
- Monetizing Mobile Connectivity in the Collaborative Economy  
*Philipp Freudenberger, SAP*
- Questions & Answers

#### Closing and farewell

Prof. Dr. Thomas Magedanz, TU Berlin/Fraunhofer FOKUS

17:15 Demos

**Demonstrations**

During coffee and lunch breaks, three different demonstrations will be available to forum guests. Please register for one of these demo slots at the reception desk. (All demonstrations run concurrently.) The meeting point is close to the reception desk.

Oct, 14	Demo 1	Demo 2	Demo 3
13:00–13:30	x	x	x
13:30–14:00	x	x	x
17:30–18:00	x		
Oct, 15	Demo 1	Demo 2	Demo 3
10:00–10:30	x	x	x
12:30–13:00	x	x	x
13:00–13:30	x	x	x
15:00–15:30	x	x	x
17:15–17:45	x	x	x

**Demonstration 1** — FOKUS building, foyer ground floor  
**Mobile Broadband Data Transport and Seamless Handover between LTE-A and WLAN**

Future LTE-Advanced mobile communication systems provide for the first time efficient high speed broadband connections with low delay packet-based data access over wireless. Since frequency spectrum is limited, a combination of heterogeneous wireless access technologies is favored to provide QoS IP data traffic.

The EPC allows connection of different access networks to provide seamless handovers between heterogeneous access technologies, e.g. LTE-A and WLAN handovers. In addition, policy and charging functions, as defined by the PCRF, can perform optimal load balancing by dynamically choosing the best access network for each user.

In the demonstration, a seamless handover between LTE-A and WLAN will be shown using Fraunhofer FOKUS's EPC and Fraunhofer HHI's Berlin LTE-Advanced Testbed. According to pre-defined access policies, a mobile user driving in car will be connected to a WLAN hotspot or handover to a LTE-A cell.

**Demonstration 2** — FOKUS building, 2nd floor, foyer  
**QoS enabled Service Environment**

The Internet of Content, Services and Things characterize the Future Internet. This will produce a new dimension of high data traffic, from less significant services (e.g. entertainment applications) towards high reliable and secure eHealth, eGovernment etc. applications. A prioritization of traffic is a common method to deal with such problems. But what could be done additionally? In our demonstration an interconnection between the IP connectivity layer and the application layer will be shown. The first demo scenario will show how the Service Broker is able to control the QoS of multimedia sessions by using the Rx interface in order to set certain requirements on the FOKUS OpenEPC environment.

In a second show case the Service Broker will use the ANDSF in order to receive knowledge about available access networks of customers. Furthermore, it will show how the user mobility between the access networks can be controlled by the service layer.

**Demonstration 3** — FOKUS building, 1st floor, room 1008  
**Previewing OpenEPC Rel. 2**

The OpenEPC Rel. 2 brings a set of new components and features, especially in the LTE area. As a part of joint project between Fraunhofer FOKUS and MERA, OpenEPC has been extended by MERA to contain prototypes for the MME and eNodeB nodes, extensions at the SGw and support for GTP and S1AP protocols and NAS procedures. Additionally, the FOKUS team introduced new improvements to the established OpenEPC components, like for example 0-packet-loss truly seamless handovers between Access Networks and significant reduction of delays in attachment procedures.

Capabilities of OpenEPC and new additions and improvements will be demonstrated. Attendees will be provided with a look under-the-hood and direct contact with the developers. LTE attachments and Video/Voice call via EPC and eNodeB simulator will be demonstrated and network traces will be shown.

**Vendor Exhibitions**



**HP**  
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 4G Subscriber Data Management / Communications as a Service



**HUAWEI**  
 (Gold Sponsor)  
 Enhancements of Mobility Management for the 3GPP EPS – Smart Mobile Devices in a dense wireless network environment



**IBM**  
 (Gold Sponsor)  
 IBM Software Strategy for CSPs – Start planning and implementing smarter communications systems



**Nokia Siemens Networks**  
 (Gold Sponsor)  
 Smart networks for user centric broadband

**FOKUS Exhibitions**



**OpenEPC/FUSECO Playground**  
 Visit the booth of FOKUS competence center NGNI (Next Generation Network Infrastructures) and retrieve first hand information about the LTE ready OpenEPC Rel. 2 (Evolved Packet Core), the enhanced NGNI platform for prototyping broadband mobile applications based on 3GPP standards, and the Future Seamless Communication Playground (FUSECO)  
[www.openepc.net](http://www.openepc.net) | [www.fuseco-playground.org](http://www.fuseco-playground.org)



**mymonster tcs**



**myMONTER TCS**  
 Visit the booth of FOKUS competence center NGNI (Next Generation Network Infrastructures) and gather Information about myMONTER TCS (Telco Communicator Suite), the client framework for providing services from the Telecommunication and Internet domains. We demonstrate convergent services which target the Evolved Packet Core (EPC) network.  
[www.opensoaplayground.org/tcs](http://www.opensoaplayground.org/tcs)

Information for Participants

Reception Desk

In case you need information or assistance, please contact the reception desk.

Reception desk hours are:

Thursday, October 14: 08:30–18:00

Friday, October 15: 07:30–18:00

If the reception desk is closed you may contact us by phone at: +49 17 04 52 77 82

Venue

Fraunhofer Institute FOKUS  
Kaiserin-Augusta-Allee 31  
10589 Berlin, Germany

Internet Access for Guests

WLAN Internet access is provided in the auditorium and exhibition area (network name: *FOKUS-guests*). You'll find user ID and password information in the conference bag.

Presentation Slides

Presentation slides can be downloaded after the workshop at [www.fuseco-forum.org/download](http://www.fuseco-forum.org/download)

Access information for tutorial slides, which are password protected, will be distributed during the tutorials.

Event Minutes / Pictures

Event minutes can be seen after the event at [www.fuseco-forum.org/minutes](http://www.fuseco-forum.org/minutes)

Pictures of the event will be shown at [www.fuseco-forum.org/pictures](http://www.fuseco-forum.org/pictures)

Social Event

Thursday, October 14, 19:00

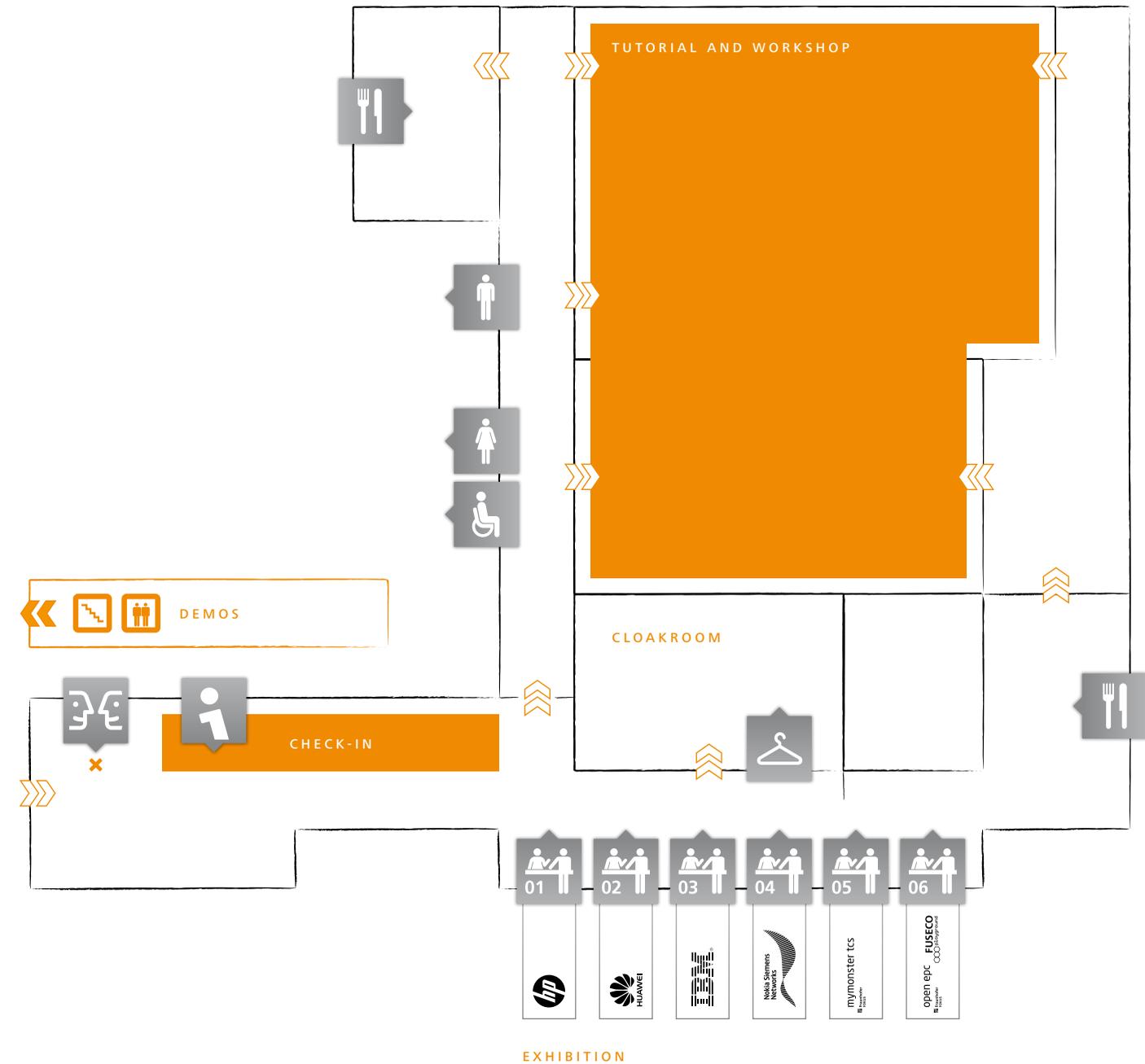
Conference guests are invited to get to know each other at *Deutsches Technikmuseum*.

There is no dress code, and casual wear is welcome.

Deutsches Technikmuseum  
([www.sdtb.de/Startseite.63.0.html](http://www.sdtb.de/Startseite.63.0.html))  
Trebbiner Straße 9  
10963 Berlin-Kreuzberg

The shuttle service to the event location departs at 18:15 from the front of the FOKUS building.

Afterwards the shuttle will depart from event location *Deutsches Technikmuseum* with stops at *Potsdamer Platz* railway station, *Adrema Hotel*, *Hotel Econtel* and *Zoologischer Garten* railway station.



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