trainers

Eiko Seidel
Nomor Research

Eiko Seidel is Chief Technical Officer at Nomor Research GmbH, a leading company in the research and development of future and emerging mobile communication systems, offering related consultancy and simulation services.

He has been working in mobile communication R&D for more than 20 years. Since 3GPP was founded in 1998, Eiko has been contributing actively to 3G and 4G standardisation. Besides numerous contributions to 3GPP, he published 20+ conference papers, submitted 100+ patent applications and contributed to various books. Eiko works as consultant, advisor, trainer and independent expert for different organisations.

Harald Ludwig
Arico Technologies

Harald Ludwig is the founder and managing director of Arico Technologies, a company offering consultancy, training and project management services for the professional mobile radio industry.

He has more than 20 years of experience in the professional mobile radio industry and with mission- and safety-critical systems. His expertise covers the fields of system and application design, test and integration, tender specifications writing and bid evaluation, training, international standardisation and interoperability testing and command and control systems.

Harald is chairman of the TETRA + Critical Communications Association Technical Forum.

who should attend

This course has been designed to provide fundamental supplier independent knowledge about the LTE technology, planned additional features and its usage in future Public Safety systems. Users, operators, regulators, decision makers, project managers, engineers and other interested parties will benefit from this training course.

location

Brecherspitzstr. 8
D-81541 Munich, Germany

date & time

Wed 12 November 2014, 10:00-17:00
Thu 13 November 2014, 9:00-17:00

bookings

Please request the course registration form via e-mail to office@arico-tech.eu

Booking deadline is 10 October 2014

further information

For more information regarding the course organisation or the course content please contact one of the trainers:

- Harald Ludwig
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- Eiko Seidel
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Training Course

Future LTE Public Safety Systems

**12-13 November 2014
Munich, Germany**

NEW

course content

- **Requirements & Markets**
  - Review of Public Safety Requirements
  - Broadband Applications & Requirements for Public Safety
  - Public Safety TETRA and LTE Markets
- **Introduction Architecture & Interfaces**
  - Overview of TETRA and LTE Architecture and Interfaces
  - Overview Evolved Packet Core Entities and Functions
  - EPC Interfaces
  - LTE Quality of Service Architecture
- **Frequency Bands & Available Spectrum**
  - Current and Future LTE and Public Safety Spectrum
  - Dynamic Spectrum Allocation
- **Overview LTE Technology**
  - LTE Introduction, History and Evolution
  - LTE Physical Channel and Transport Channel
  - Physical Signals, Up- and Downlink Frame Structure
  - Random Access, RRC Connection Setup and Initial Attach
  - Setup of Dedicated Bearer and Handover
  - Overview of LTE-Advanced Features and Technologies
  - UE Capabilities and Performance
- **Enhanced Multi-media Broadcast Multicast Service**
  - eMBMS Introduction, History and Evolution
  - eMBMS Channels, Unicast/Multicast Multiplexing using MBSFN Frame Structure

course content (cont.)

- **LTE Services**
  - Packet Switched Data
  - Voice over LTE (IMS)
  - Circuit Switched Fallback
- **LTE Public Safety Requirements and Architecture**
  - GCSE (Group Call Service Enabler)
  - ProSe (Proximity Based Services)
  - IOPS (Isolated E-UTRAN Operation for PS)
  - MCPTT (Mission Critical PTT over LTE)
  - Availability & Resilience
  - Security & Encryption
- **LTE Public Safety Radio Functions**
  - Public Safety High Power UE for Band 14 for Region 2
  - LTE Discovery and Proximity Detection
  - LTE D2D Transmission (LTE Direct)
  - LTE D2D Channels, Protocol and Procedure
  - UE to Network Relay Function
- **Standardization & Organizations**
  - 3GPP, OMA, ETSI TCCE
- **LTE Scenarios for Public Safety**
  - TETRA Network with Public/Private LTE Network
  - TETRA over LTE Network
  - Public Safety LTE Network with VoLTE
- **Public LTE Networks versus Private LTE Networks**
- **Summary of LTE Public Safety Functions**
- **Outlook of Future Public Safety in LTE Release 13**
  - LTE Public Safety Out of Network Coverage
- **Discussion Market and Opportunities**

pre-requisites

A basic knowledge of radio and mobile network fundamentals is required to fully benefit from this course.

language

The course and the material will be in English.

material

Each participant will get a copy of the training material for his/her personal use.

number of participants

The maximum number of participants is 12.

fee

The course fee is EUR 1600,- and includes a two-day training course with two trainers, training material and refreshments in the coffee breaks.

The fee is payable after receipt of the invoice.

VAT is added if applicable.

Participants are responsible for their own travel and accommodation arrangements (we are happy to assist)

cancellation

A substitute for a registered participant can be nominated at any time. Cancellation of an accepted registration up to 4 weeks prior to the start of the course is possible and free of charge. Later cancellations will be charged the full course fee.

We reserve the right to cancel the course up to three weeks before the course begins in case of low number of participants or for another significant reason. Any claims for damages are excluded.