

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

Tue 24 February 2015, 10:00 - 17:00
Wed 25 February 2015, 9:00 - 17:00
Thu 26 February 2015, 9:00 - 16:00

bookings

Please request the course registration form via e-mail to training@nomor.de

Booking deadline is 27 January 2015

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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Training Course

Future LTE Public Safety Systems

24-26 February 2015
Munich, Germany

NEW

course content

- Requirements & Markets
 - Public Safety & Broadband Requirements
 - Public Safety TETRA market, LTE Markets
- Standardization & Organizations
 - 3GPP Standardisation Principles and Releases, Working Group SA6 on Mission Critical Applic.
 - Public Safety related work in ETSI and OMA
 - Other organisations (TCCE, CCBG, PSCE) and Public Safety in North America
 - Supplier organisations and Interoperability
- Frequency Bands & Spectrum
 - Current and Future Public Safety Spectrum
 - LTE Licenced and Unlicensed Spectrum
 - Shared Spectrum
- Introduction to LTE System Architecture & Interfaces
 - Evolved Packet Core Entities and Functions (HSS, MME, PCRF, S-GW, P-GW)
 - LTE Bearer Concept and Quality of Service Architecture
 - LTE Transport Layer with S1/X2 Interfaces
- Overview LTE Technology Radio Access
 - Uplink / Downlink Radio Access Principles
 - Physical Shared Channels and Control Channels
 - LTE Physical Channel and Transport Channel
 - Physical Signals, UL/DL Frame Structure
 - Random Access and RRC Connection Setup
 - Handover Procedure
- LTE-Advanced Features and Technologies
 - LTE Release 8 to Release 13 Overview
 - Overview LTE/LTE-A UE Capabilities

course content (cont.)

- Existing LTE Public Warning Systems
- LTE Public Safety Features
 - ETSI Reference Model
 - Group Call Service Enabler (GCSE)
 - Enhanced Multi-media Broadcast Multicast Service
 - ProSE (Proximity Based Services)
 - D2D (Device to Device Communication)
 - D2D Relay, UE to Network Relay
- LTE Public Safety Features (cont.)
 - Voice & Group Communication
 - Voice over LTE
 - Mission Critical PTT over LTE (MCPTT)
 - Mission Critical Multimedia Services
 - Availability & Resilience
 - LTE Access Control
 - LTE Radio and Network Overload Control
 - Isolated E-UTRAN Operation for PS (IOPS)
 - Security & Encryption, LTE Security
- Implementation Aspects
 - Cooperation of Commercial Networks with Public Safety Networks
 - LTE User Equipment for Public Safety
 - High Power UE Class for Public Safety
 - LTE eNB and Network Equipment or Public Safety
- LTE Scenarios for Public Safety
 - Overview and Scenario Details
 - Migration to Critical Communications LTE Networks
 - Examples

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 2200,- and includes a three-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.