

## ***The Future of Voice Telephony***

### **Course Duration:**

- 1 day.

### **Course Description:**

- This course or rather workshop addresses the needs of everybody who likes to get an independent view on the future of voice telephony.
- In general, the course is rather focusing on business aspects than on technology but through INACON-specific teaching methodology, we are able to accommodate technical sidesteps at any time and in any depth, if required and desired.
- Starting out with the presentation of current trends in voice communication, the students will review developments and trends like migration to VoIP, migration to mobile, FMC and others.
- This part contains an independent evaluation of the pros and cons of UMA vs home base stations vs IMS-based solutions.
- We also integrated an evaluation of the situation from the client's perspective: Which part of the population is ready for new devices, new numbering schemes and alternative telephony channels (e.g. VoIP vs Legacy, SKYPE-number or SIP-URI vs regular number)?
- The course continues with an overview of the revenue gained from voice services vs data services and the recent developments in this sector. However, much more important is the consideration of the future revenue chains, interpreting and extrapolating the current directions.
- The next part is dedicated to the evaluation of the SKYPE-service and its pros and cons compared to legacy telephony. This part includes a comparison of costs, resource consumption and voice quality of SKYPE vs other solutions under different conditions (e.g. at home, while roaming, etc.).
- The day ends with the presentation and discussion of consequences for the different players.

### **Prerequisites:**

- The student should possess basic technical and business understanding of today's wireline and / or wireless communication technologies.

### **Course Target:**

- The student is enabled to understand the business aspects, services and technical aspects of the new future development in the voice and telephony area.

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## **Some of your Questions that will be answered:**

- Why is it so difficult to implement and sell IMS-services successfully?
- What are the advantages of VoIP and why should we integrate it?
- What is the form factor of telephony devices of tomorrow and the day after tomorrow?
- Which impact will Android have?
- Will home base stations be a niche market or the next cash cow?
- Which role will UMA play?
- Which role will video play in future telephony? What about other multimedia services?
- Can SKYPE & Co threaten our business severely or will they always play a minor role?

## **Who should attend this Course:**

- Operator staff that need to prepare for future developments in the area of voice telephony.
- Technical staff who are involved in the design of future handsets.
- Everybody who wants to be involved in shaping the future of telecommunication.

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## Table of Content:

### Obvious and less obvious Trends

- **General Assessment**

- ⇒ The Dilemma of the ARPU

- Traffic Volume: Voice vs Data

- ⇒ Service Provision: Centralized or Decentralized?

- Centralized Approach, Decentralized Approach

- **Trends in Voice Telephony**

- ⇒ Assessment

- ⇒ Fixed Mobile Convergence (FMC)

- What is FMC?, Options to achieve Fixed Mobile Convergence (FMC), Home Base Stations, Generic Access (GA), IMS-based Solutions, Evaluation of the different FMC-Methods ..., ... from the User's Perspective, ... from the Operator's Perspective

- ⇒ The Skype Story

- Number of Users, Service Offerings, Internal Voice Calls (incoming and outgoing), External Voice Calls (incoming and outgoing) \*, Internal Video Calls, Voice Conferencing, Instant Messaging, File Transfer, Desktop Sharing / Whiteboard, Operation and Networking, Super Nodes, Security

- **Multimedia Services**

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### One World? - Client's Perspective vs. Operator's Perspective

- **Comparison between today's and tomorrow's Technology**

- ⇒ Part 1: Performance, Services and Mobility Management

- ⇒ Part 2: Architectural Characteristics

- ⇒ Part 3: Procedural and Radio related Characteristics

- **The User Device**

- ⇒ Android's Home Phone – Multimedia in the Kitchen

- ⇒ Protocol Stack Comparison 3G / 4G at the CPE

- Details of the 4G-Protocol Stack

- ⇒ What makes SIP so appealing?

- Introduction and Overview, Conclusions

- **The Target Network Architecture**

- ⇒ Overview ...

- Operation within this Environment

- ⇒ ... and tailored for LTE

- ⇒ Voice Services over LTE

- Overview, Architecture in case of IMS-based Voice Services, SRVCC, Architecture in case of circuit-switched Fallback, Procedure Description, Architecture in case of VoLGA

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## How to earn Money Tomorrow?

- **The Value Chains in Telecommunication ...**

- ⇒ ... today ...

- Telecom Operator, Unrelated Services, Money Streams

- ⇒ ... and tomorrow

- Split of the Telecom Operator, New Role of "Content / Services" Domain, Money Streams