4G LTE Fundamentals

With 3G mobile technologies already rolled out, operators are looking towards the next broadband engine of growth. This is the UMTS Long Term Evolution (LTE). This course provides participants who are in sales, marketing and commercial business, the necessary background information about the state of the LTE technology, the key areas of changes happening in the mobile industry market, as well as the economics. It will demystify aspects of LTE for the non-technical or semi-technical personnel.

Expected Accomplishments

- Describe the evolution of mobile technologies towards LTE
- Identify the market triggers for implementing LTE
- Describe the LTE value proposition of LTE for operators and customers
- Discuss the data rates and performance targets of LTE
- Identify the LTE frequency bands and estimate LTE data rates for specific speeds
- Discuss the main factors that affect the ‘speed’ of a mobile data connection
- Outline the LTE/SAE network elements and interfaces
- Discuss the methods provided to allow voice communication to take place via LTE
- Outline the LTE rollout options for new and existing network operators and demonstrate an understanding of the cost implications
- Describe how LTE Advanced enhances data rates further
- The LTE Value Proposition
  - Enhanced performance
  - Throughput, latency and capacity
  - Quality of Service (QoS)
- LTE Network Architecture
  - Network Architecture Evolution
  - Evolved Packet System
  - UE Categories and capabilities
- LTE Air Interface Technologies
  - OFDMA
  - SC-FDMA
  - MIMO
- LTE Voice Deployment
  - Voice over LTE (VoLTE)
  - Voice over LTE over Generic Access (VOLGA)
  - Circuit Switched Fall Back (CSFB)
  - Single Radio Voice Call Continuity (SRVCC)
  - Voice over IP
- LTE Advanced
  - LTE Advanced targets
  - Key Technology Enablers
    - Carrier Aggregation
    - Coordinated multipoint transmission
    - Relays
    - Self organizing networks (SON)
    - Femto cells
    - Heterogenous networks
    - Light radio, liquid radio, AIR

Course Outline

- The LTE Market
  - Evolution to LTE
  - Market triggers
  - Growing data traffic
  - Distribution of mobile traffic by application
  - Rising tariffs, Falling traffic
Who Can Benefit
Sales and marketing personnel.

Related Training
- Telecom Fundamentals

**Duration**
1 day

**Mode**
Consultant led class

**Prerequisites**
- Basic knowledge of the telecom industry

**Course Code**: TRC-806