GSM Fundamentals (2 days)

2G/2.5G

ETSI GSM today is the most widely deployed wireless network worldwide. This second generation mobile standard has revolutionized wireless industry since its inception. This course provides a good understanding of GSM history, technology, protocols, architecture and services. A good knowledge of telecommunication would be beneficial for anyone attending this course.

Who Should Attend

This is advanced level course and suitable for telecom professionals including design, testing , support & sales engineers requiring good GSM knowledge.

Objective

After completing this course, the audience will be able to:

- Understand 2 G architecture, access and core network
- Define GSM interfaces
- Describe GSM location area / cell/frequency/frame/Modulation concepts
- Explain E2E signaling procedures and protocols

Course Contents

Introduction

- History of wireless communications
- Motivation for GSM
- Current GSM status
- Key characteristics of a GSM network

GSM Network Architecture

- Radio Subsystem
- Network Subsystem (NSS)
- Operation Subsystem (OSS)
- BTS/BSC/MSC

GSM Radio/Physical Layer

- Concept of radio channels
- Time Slots, frames, and multiple access
- System acquisition
- Traffic channel operations

GSM Protocols & Interfaces

- SS7 protocols
- LAPDm/RR
- BTS-BSC Interface
- BSC-MSC Interface
- MS-MSC Interface
- Core Network

GSM Network Mobility and Call Processing

- Attach and location update
- MO/MT calls
- Handover
- Security in GSM

GSM Services

- Teleservices
- Bearer services
- Supplementary services
- Short message
- CAMEL and location services