

2G 3G 4G and Future Mobile Technologies

Course Introduction

Since the early 1970's the Mobile Evolution has seen the number of mobile phones in use grow to 4.9 billion – with continued growth forecast into the future (Statista).

This two (2) day course considers the key drivers behind this phenomenal growth, as well as the challenges faced by Operators and Manufacturers in keeping pace. The 2G, 3G and 4G technologies are examined in turn before participants are given a glimpse of the future on Mobile Communications – devices, terminals, networks and technologies.



Course Objectives

After attending the training, participants will be able to

- Understand the fundamentals of cellular and mobile networks and technologies
- Understand the differences between mobile networks i.e. 2G, 3G, 3G+ and 4G, and their evolutions
- Be able to identify benefits of each cellular network and how they inter-operate in commercial scenarios
- Understand alternative wireless data and voice network technologies e.g. Wi-Fi/WiMAX, UMA and Small Cell Networks and their roles as substitutes – and how they inter-connect with traditional 2G, 3G and 4G networks
- Learn about the future trends of Mobile Communications

Who should attend?

Telecommunications Professionals and others who wish to understand traditional cellular networks (3GPP networks i.e. GSM/UMTS/LTE) and also alternative technologies (non-3GPP networks i.e. Wi-Fi/WiMAX, Small Cell networks etc.) of mobile communication that can provide voice and data services.

High Level Executives who wish to have an overview knowledge of each technology and a better understanding of the industry.

Course Duration

2 days which are an interesting mix of Slide Presentations, Interactive Sessions, Quizzes, Embedded Multi-Media Sessions and Case Scenarios.

COURSE OUTLINE

MODULE ONE

An examination of the capabilities, functions and fundamentals of second generation (2G) and third generation (3G) cellular and mobile networks, technologies and systems

- Basic 2G, 2G+, 3G and 3G+ network architecture and functions
- Mobile / Cellular network voice and data service connection, routing and management basics
- Mobile / Cellular Radio Access Network
- Mobile / Cellular Core Switching Network

MODULE TWO

An examination of the new 4G mobile communication system

- How 4G differs from 2G and 3G networks and technologies
- Overview of 4G network architecture
- 4G convergence / interoperation issues with 2G and 3G networks and technologies
- How 3G networks are evolving to compete with 4G networks

MODULE THREE

How and why mobile and cellular communication networks, technologies, services and terminals are changing and evolving

- Wi-Fi / WiMAX and Cellular Convergence (WCC), Unlicensed Mobile Access (UMA) and the Het-Net are changing Mobile Communications
- How they work
- Impact on cellular networks, market and services
- Understanding WCC, UMA and Small Cell network architectures and cellular network interconnection
- How WCC, UMA and Small Cell networks benefits carriers

ABOVE TOPICS WILL COVER THE FOLLOWING

- Basic Architecture and major components
- Basic functions, capabilities and limitations
- Key Interfaces
- Differences between generations and standards

