

Emerging technologies Training

Type of Training:

Live training for 3 days

Overview of the Training

The Emerging Technologies course establishes a general understanding of what emerging technologies are and may be in the future, providing an overview of the impact, applications, and implications of emerging technologies as a whole. We will be talking about 5G, Open RAN, IoT, Private Network, Security, V2X, NTN and also 6G Technology

Training description

Module 1: 5G Enablers and end to end architecture

- 5G Concepts
- 5G Technology enablers
- 5G End to end architecture
- 5G Slicing
- 5G Electromagnetic Field (EMF)

Module 2: Internet of Things

- Definition of IoT LPWA networks
- IoT technologies : Nb-IoT, LTE-M, and Lora
- Description of IoT use cases
- Evolution of IoT technologies to 5G

Module 3: The move to Open RAN Technologies

- From D-RAN to Open RAN
- Open RAN Groups and ecosystem
- View on the O-RAN Architecture
- RAN Intelligent Controller (RIC)
- Benefits and examples from current deployments

Module 4: Private networks and Mobile Edge Computing

- What is a private Network
- Challenges of Private Network and evolution to 5G
- Private network use cases
- Spectrum requirements for Private Network
- MEC and its Architecture
- Key drivers of MEC

Module 5 : Security concepts and mechanisms

- The Three Pillars of Security
- Lack of standardization for network security
- Addressing weaknesses in mobile Security
- Poor subscriber privacy protections
- 5G Security players and threats
- Security in 5G versus 4G

Module 6: Artificial intelligence application and adoption in Telcos

- What is Artificial Intelligence?
- Application field of AI
- Machine Learning and deep learning
- Deep dive into ChatGPT, and Its applications
- Artificial intelligence adoption in Telcos
- 4G/5G Artificial intelligence use cases

Module 7: Vehicle to everything technology (V2X)

- What is trend behind V2X (Vehicle-to-Everything)
- ITS Architecture
- 3GPP NR-V2X Architecture and PC5 interface
- V2X Services and Use Cases

Module 8 : Satellite and Non Terrestrial network

- The need of Satellite technology
- NTN in 3GPP Standards
- 5G NTN frequencies and NTN commercial market
- 5G NTN architecture and terminologies

Module 9 : 6G Technology

- 6G Technology Requirements
- The Future of Mobile Devices
- 6G Use Cases
- Deployment Challenges