

# 5 Days Workshop: Telecommunication System Engineering





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Ref: 321819\_147588 Date: 15 - 19 Sep 2025 Location: Rome (Italy) Fees: 4200 Euro

#### **Course Description**

This intensive 5-day workshop provides a comprehensive overview of telecommunication system engineering. Participants will gain in-depth knowledge of network architecture, digital transmission systems, wireless communications, and emerging technologies. The course combines theoretical concepts with practical applications, preparing engineers for the challenges of modern telecommunications.

#### **Learning Objectives**

- Understand the fundamentals of telecommunication system architecture and design
- Master digital transmission techniques and protocols
- Analyze wireless communication systems and mobile networks
- Explore emerging technologies in telecommunications
- Develop skills in network planning and optimization

#### **Course Modules**

#### **Day 1: Introduction to Telecommunication Systems**

- Overview of telecommunication networks
- System engineering principles
- Network architecture and protocols
- Transmission media and signal propagation

#### **Day 2: Digital Transmission Systems**

- Digital modulation techniques
- Multiplexing and multiple access methods
- Error detection and correction
- Optical fiber communications

#### **Day 3: Wireless Communication Systems**

- Cellular network principles
- Mobile network technologies 2G to 5G
- Wireless LAN and satellite communications
- Radio frequency planning and management

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#### **Day 4: Network Management and Security**

- Network performance monitoring
- Quality of Service QoS management
- Cybersecurity in telecommunications
- Disaster recovery and business continuity

#### **Day 5: Emerging Technologies and Future Trends**

- Internet of Things IoT in telecommunications
- Cloud-based network services
- Software-defined networking SDN
- 6G and beyond: future of telecommunications

#### **Practical Wins for Participants**

- Ability to design and optimize telecommunication networks
- Skills to troubleshoot complex system issues
- Knowledge to implement cutting-edge technologies
- Expertise to lead telecommunication projects effectively



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