

O-RAN Architecture and Implementation for 5G Networks

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Lisbon (Portugal)

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O-RAN Architecture and Implementation for 5G Networks

2022-11-22 to 2022-11-26 **1440-7200** **08:30** **Location:** Lisbon (Portugal) **Fees:** 5900 GBP

Why This Course

The future of mobile networks is open, intelligent, and flexible. This intensive 5-day program equips participants with in-depth knowledge and practical skills in Open Radio Access Network O-RAN for 5G networks. Attendees will explore O-RAN architecture, components, and interfaces, gaining hands-on experience with RAN Intelligent Controllers, Open Fronthaul, and integration with 5G core networks. The course combines theoretical insights with practical applications to prepare professionals for designing, deploying, and optimizing O-RAN solutions.

What You'll Learn and Practice

By attending this course, you will be able to:

- Understand O-RAN architecture, components, and interfaces.
- Analyze deployment scenarios and real-world use cases for O-RAN.
- Gain practical skills in implementing O-RAN solutions and xApps.
- Leverage RAN Intelligent Controllers RIC to optimize network performance.
- Apply Open Fronthaul specifications and virtualization strategies.
- Integrate O-RAN with existing 5G core networks effectively.

The Program Flow

Day 1: Introduction to O-RAN

- Evolution of RAN and introduction to O-RAN concepts
- Overview of the O-RAN Alliance and ecosystem
- Key drivers, benefits, and opportunities of O-RAN
- High-level O-RAN architecture overview

Day 2: O-RAN Components and Interfaces

- O-CU, O-DU, and O-RU components
- RAN Intelligent Controller RIC architecture
- Open Fronthaul Interface fundamentals
- E2, A1, and O1 interface specifications

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A graphic of a chessboard with several chess pieces (king, queen, rook, knight, and pawns) on it. The board is white and black, and the pieces are gold and silver. The text 'UK Training PARTNER' is overlaid on the board.

Day 3: RAN Intelligent Controllers and xApps

- Functions of Near-RT RIC and Non-RT RIC
- xApp development and deployment practices
- AI/ML integration for RAN optimization
- Real-world use cases and performance enhancements

Day 4: Open Fronthaul and Virtualization

- Open Fronthaul specifications, protocols, and implementation
- Virtualization and cloudification in O-RAN networks
- Network slicing applications in O-RAN
- Security considerations and best practices

Day 5: O-RAN Deployment and Integration

- Planning and deploying O-RAN in diverse scenarios
- Integration with 5G core networks
- Performance tuning and optimization techniques
- Emerging trends and the O-RAN roadmap

Individual Impact

Participants will leave this course with:

- The ability to design and plan O-RAN architectures for multiple deployment scenarios.
- Hands-on experience with RIC and xApp development.
- Skills to implement and optimize Open Fronthaul interfaces.
- Knowledge to integrate O-RAN solutions seamlessly with 5G core networks.

Organizational Impact

Organizations will benefit from:

- Efficient deployment of flexible, open, and intelligent RAN solutions.
- Optimized 5G network performance leveraging RIC and AI/ML tools.
- Future-ready infrastructure capable of supporting advanced 5G services.
- A skilled workforce capable of implementing and managing O-RAN technologies.

The graphic features the text 'UK Training' in a small, sans-serif font above the word 'PARTNER' in a large, bold, black sans-serif font. This text is positioned over a background of concentric white circles and a chessboard pattern. In the foreground, three chess pieces (a king, a pawn, and a knight) are visible on the board.

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Training Methodology

- Interactive lectures combined with practical exercises
- Hands-on labs for xApp development and RIC configuration
- Case studies and real-world deployment scenarios
- Group discussions to design and optimize O-RAN networks

Beyond the Course

By the end of this 5-day program, participants will be ready to:

- Architect, deploy, and optimize O-RAN solutions for 5G networks.
- Utilize RIC and Open Fronthaul to enhance network efficiency.
- Integrate O-RAN seamlessly with existing network infrastructures.
- Apply best practices for security, virtualization, and future network expansion.

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A graphic illustration of a chessboard with several chess pieces. A large gold king piece is prominent in the foreground, with a silver pawn and a gold pawn nearby. In the background, there are concentric circles emanating from a point, suggesting a signal or network. The text 'UK Training PARTNER' is overlaid on this graphic.