Welcome to 5G RAN Evolution

5G_106d | On-Demand | 5G Access | Express
Course Duration: 1 hour

This course provides a technical introduction to evolution of the Radio Access Network (RAN) to 5G RAN. You will learn the key RAN components and their connectivity, the architecture of centralized / distributed RAN. The 5G deployment steps through Non-Stand-Alone and Standalone configurations are illustrated. The short-comings of the 4G RAN architecture are described, and shows how the 5G RAN evolution to split architecture, enhanced transport and evolution to virtualized and Open RAN are used to overcoming these issues.

Intended Audience

This course is designed for a broad audience of personnel working in the wireless industry.

Objectives

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

- Show the evolution of wireless networks from 3G to 5G
- What do we mean by Radio Access Network (RAN)?
- Define Distributed and Centralized RAN
- 5G Deployment steps from Non-Stand-Alone to Stand-Alone
- Describe the gNB Functions
- Identify the need for split architecture in 5G RAN
- Identify the three transport networks in 5G RAN
- Define the role for Virtualized and Open RAN in 5G

Course Prerequisites

No Prerequisites

Outline

1. Introduction to RAN
1.1 Wireless Networks Evolution
1.2 What is the RAN?
1.3 Centralized RAN and CPRI
1.4 Limitations of 4G RAN
1.5 5G RAN Deployments
1.6 RAN Deployment Infographic

2. 5G Split RAN and Fronthaul Upgrade
2.1 5G RAN Evolution
2.2 gNB Functions
2.3 Split Architecture of 5G RAN
2.4 Transport connectivity in the Split 5G RAN

3. Virtual and Open RAN
3.1 Virtualized and Open RAN
3.2 O-RAN architecture overview

Putting It All Together

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