Welcome to Non-Terrestrial Networks (NTN) in 5G

5G_124d | On-Demand | 5G Core | Express
Course Duration: 1 hour

In this Welcome to Non-Terrestrial Networks (NTN) for 5G course, you will delve into the world of NTN designed to extend 5G services over land and sea where traditional coverage falls short. You will explore how NTN utilizes satellite infrastructure as a crucial component of the comprehensive 5G network and gain insights into the capabilities and hurdles of merging 5G technology with satellites. This course covers essential aspects including air interface implications, services impacts, NTN operations, and aligning specific application requirements with deployment strategies.

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:

- Describe satellite-based 5G Non-Terrestrial Networks (NTN)
- List capabilities, design considerations, and limitations of NTN
- Sketch an end-to-end architecture of 5G NTN
- Identify use cases for interworking NTN with terrestrial networks

Course Prerequisites

No Prerequisites

Outline

1. What and Why NTN?
1.1 Defining NTN
1.2 Benefits of NTN and Usage Scenarios
1.3 Requirements for NTN

2. NTN Architecture Overview
2.1 NTN Architecture
2.2 NTN and Terrestrial Network Interworking

3. 5G Air Interface for NTN
3.1 5G Air Interface for NTN
3.2 Key Challenges of Air Interface in NTN
3.3 Beam Management

4. NTN Operations
4.1 Signaling Flow for NTN
4.2 Roaming and Security

5. NTN Deployment Considerations
5.1 Deployment Considerations

Putting It All Together