

# Open RAN Fundamentals

This course gives an overview about the trends in 4G and 5G mobile networks into the concepts of Open RAN and its terminology and architecture with new network elements. Upon completion of the course the participants will be able to understand different news around Open RAN and evaluate them manufacturer independently.

## Target Group / Requirements

Technicians, engineers and technical management personnel which work on tasks in mobile networks. The participants should have a basic knowledge on the existing mobile network standards, i.e. LTE and NR.

## Course Content

### Motivation

- Why do we need to learn about Open RAN?
- What is this hype around Open RAN all about?
- Forecast of Open RAN networks from GSMA and ABI Research

### Introduction

- Typical mobile network architecture
- Definition of Open RAN, OpenRAN, O-RAN, ...
- Benefits of Open RAN

### Organizations & Specifications

#### Migration to Cloud-RAN

- From traditional RAN to Cloud-RAN

#### Why do we need Open RAN?

- Which interfaces should be open?
- Cloud-based network architecture

#### Architecture and Functional Splits

- Functional split of a Base Station in 3GPP
- Functional split of a Base Station in ITU
- Split options and their use cases
- Network transformation in Open RAN
- Virtual RAN versus Open RAN
- O-RAN network architecture

#### RAN Intelligent Controller (RIC)

- Non & Near-Real-Time RIC
- Centralized near-RT RIC Serving 4G & 5G Simultaneously
- RIC Implementations in Real Life

**Course Duration:**

1 day

**Course Number:**

NW1268

**Requirements:**

Basic Knowledge in mobile network standards (4G & 5G)

### **Use Cases**

- Use case overview
- Deployment scenarios

### **Challenges and Potential Risks**

- View from different vendors
- System integration models

### **Open RAN Deployments**

- Main Open RAN deployments
- Existing Open RAN hardware

### **Summary and Key Take-away**

## **Certification**

- Certificates are given to all participants at the end of the course about the successful completion.

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### **Course Registration:**

Please contact us via

- phone: +49 89 1894354-0
- email: [training@tfk.de](mailto:training@tfk.de) or
- via our website [www.tfk.de/training](http://www.tfk.de/training)

You will receive a confirmation of your registration. We can also advise you concerning the best combination of course contents.

For clients with special requirements the optimal training concept can be customized. Modules from our training portfolio can be combined to meet your company-specific needs.