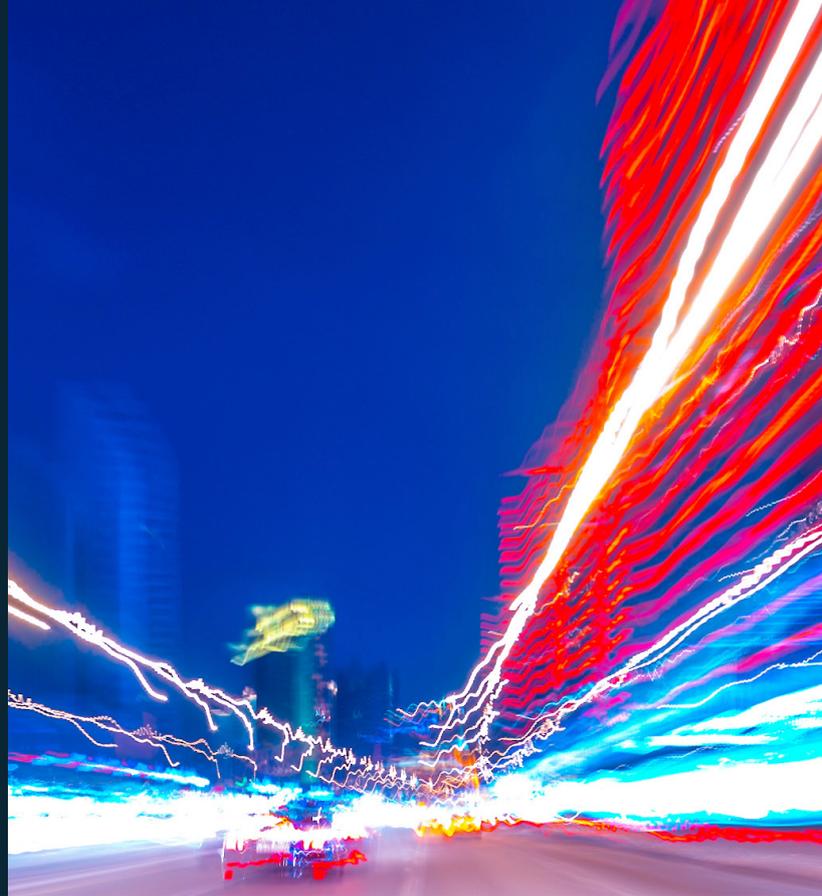




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Self Organizing Networks

Course Description

The need to densify mobile network radio coverage means that smaller cells and HetNets are a vital part of the overall RAN solution, which unfortunately makes the management of the radio environment extremely complex. This course therefore sets out to describe the concepts behind self organizing networks, including explanations of self configuration, optimization and healing.

Prerequisites: LTE Air Interface Operation, or equivalent knowledge.

6

Hours Learning
(OnlineAnytime)

6

CPD Learning
Credits



Level: 3
(Advanced)

This course will contain the following sections:

1. SON Concepts

Topic areas covered include:

- Introducing SON:
 - SON Driving Factors.
 - SON Architectures.
 - SON in 3GPP Releases.
- Self Configuration:
 - Automatic Configuration.
 - ANR (Automatic Neighbour Relation).
 - Self Test.
- Self Optimization:
 - Mobility Robustness Optimization.
 - Access Optimization.
 - Load Balancing Optimization.
 - Inter-Cell Interference Coordination.
 - CCO (Coverage & Capacity Optimization).
 - Minimization of Drive Testing.
 - Energy Savings.
- Self-Healing.
- LTE-Advanced Features:
 - Carrier Aggregation.
 - Relay Nodes.
- SON for HetNets.

2. SON Operation

Topic areas covered include:

- Self Configuration:
 - Automatic Configuration.
 - Automatic Neighbour Relation.
 - Automatic PCI Assignment.

SON Operation

- Self Optimization:
 - MRO (Mobility Robustness Optimization).
 - RO (RACH Optimization).
 - LBO (Load Balancing Optimization).
 - ICIC (Inter-Cell Interference Coordination).
 - CCO (Coverage & Capacity Optimization).
 - MDT (Minimization of Drive Testing).
 - ES (Energy Saving).
- Self Healing:
 - Cell Outage Detection.
 - Cell Outage Compensation.

3. SON for Hetnets

Topic areas covered include:

- Introducing HetNets.
- Self Configuration in HetNets:
 - Network Management.
 - Automatic Configuration.
- Site Identification.
 - Automatic Neighbour Relation in HetNets.
 - Automatic PCI Assignment.
- Self Optimization for HetNets:
 - ES (Energy Saving).
 - MDT (Minimization of Drive Testing).
 - CCO (Coverage & Capacity Optimization).
 - HetNet CCO.
 - ICIC in HetNets.
 - MRO (Mobility Robustness Optimization).
 - Load Balancing/Traffic Steering.
 - Load/Traffic Steering Options.
- Self Healing for HetNets.



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