

Course Description

Course title	LTE Crash course
Course code	Tailored
Duration	10 days
Target group	Radio planning and optimization as well as performance and configuration engineers.
Aim/ Objectives	The course explains generally the LTE system, but focuses on E-UTRA, starting with the protocols and procedures on the different E-UTRA interfaces. A detailed description is given especially for the air interface, radio planning and the most important parameters. The course introduces the participants also to performance monitoring by counters and KPIs and in to the transport network. All aspects discussed during the training are based on 3GPP.
Contents	<p>LTE and EPS objectives, standardization and milestones</p> <ul style="list-style-type: none"> - Evolution path towards 4G - LTE and SAE objectives and standardization - 3GPP evolution towards LTE advanced <p>LTE and EPS network, architecture and interfaces</p> <ul style="list-style-type: none"> - Architecture of the LTE radio access network - Network elements, interfaces and protocols - Non access stratum - LTE procedures <p>E-UTRAN radio</p> <ul style="list-style-type: none"> - E-UTRA(N) radio protocols and resource allocation - E-UTRAN interfaces S1 and X2 – protocol and procedures - E-UTRA layer 1 overview and OFDM(A) principles - E-UTRA transmission by OFDMA and SC-FDMA - MIMO - Transport channel processing - Physical layer – channels and procedures - LTE advanced <p>LTE radio planning</p> <ul style="list-style-type: none"> - Physical layer overhead - LTE frequencies - Link budget - Coverage calculation - Capacity calculation and extension by LTE advanced - PCI and PRACH planning <p>LTE 3GPP parameters</p> <ul style="list-style-type: none"> - Parameter databases, system info and signaling timers - Physical channel configuration - Principles of admission, load and congestion control - Link adaptation and MIMO - Principles of packet scheduling - Power and interference control - Idle and connected Mode Mobility <p>LTE 3GPP network monitoring</p> <ul style="list-style-type: none"> - Accessibility - Retainability - Mobility - Re-establishment - Integrity and quality - Utilization and traffic - Availability and coverage <p>Introduction to LTE transport:</p> <ul style="list-style-type: none"> - E-UTRA S1 and X2 transport features - eNodeB VLAN/IP configuration - E-UTRA IP SECC - E-UTRA transport QoS
Prerequisites	Good knowledge about both 2G and 3G.
Seminar level	1-2 – Introduction to Intermediate Level.
Price per participant	Up on request