Telecoms & Tech Academy

LTE FOR MISSION CRITICAL NETWORKS

Understanding the challenges and opportunities found in mission critical LTE.

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2-DAY PROGRAMME

PROVIDING INSIGHT INTO THE KEY QUESTIONS RAISED BY THE DEPLOYMENT OF LTE FOR MISSION CRITICAL NETWORKS

This course will provide vendors, operators and those working for critical enterprises with an understanding of how best to prepare for the transition into LTE.

As a society, we place high pressure on the performance of public safety bodies to respond swiftly at times where every second counts. It is, therefore, necessary to have the correct tools in place to enable seamless communication that can further response efficiency and ultimately allow us to save more lives. For this reason, critical industries are starting to look to LTE as the next necessary step to help us achieve this – with the technology boasting seamless connectivity and coverage allowing for improved response time and situational awareness. Yet, beyond public safety, mission critical LTE is set to benefit various industries, with HIS Markit reporting a significant increase in revenue generated by mission critical LTE across sectors including utilities and transportation.

Despite the benefits, however, there are various challenges affecting the transition to LTE for mission critical networks and with the widespread use of legacy systems, such as TETRA and DMR, the advantages proposed by LTE can appear to be outweighed by the risks.

Utilising real-life examples through the aid of first-hand deployment accounts and case studies, this programme will look to deliver in-depth understanding on LTE as applied to mission critical networks and guidance on what can be done to prepare for the transition.

WHAT SETS THE PROGRAMME APART?

- Short focused training tailored for technical professionals looking to further their understanding on LTE as applied to mission critical networks
- In-depth evaluation of the advantages and disadvantages of LTE for mission critical networks
- First-hand accounts on deploying LTE for public safety use globally including Europe, Asia and Africa
- Utilisation of case studies, including the UK's Emergency Services Network (ESN), to demonstrate real-life LTE deployment scenarios for mission critical networks
- Developed and delivered by expert course leaders with real-world experience in LTE

REVENUE FORECASTS BY SECTOR:

IHS Markit predicted that revenues generated by the mission critical LTE market are forecast to increase across all major mission critical industries by 2021.

UTILITIES
From $75m in 2018 to $165m in 2021
increase of 120%

PUBLIC SAFETY
From $3bn in 2018 to $5.9bn in 2021
increase of almost 100%

TRANSPORT
From $472m in 2018 to $849m in 2021
increase of 80%

INDUSTRIAL
From $362m in 2018 to $633m in 2021
increase of 75%

IS IT FOR YOU?

This is a technical course designed to provide an in-depth understanding on LTE as applied to mission critical networks.

Therefore, functions including: system and solution architects, project managers, radio planners, developers, technical managers or any other function related to the deployment of mission critical LTE, will find this course beneficial.

CRITICAL ENTERPRISES

- For critical industries, the reliability, availability and clarity of communication is vital to everyday operations.
- This course will benefit those deriving from these industries by equipping them with the knowledge needed when preparing for the transition into LTE.

VENDORS

- This course will help vendors to understand key challenges and opportunities in mission critical LTE enabling them to identify new areas for innovation.

TELECOM OPERATORS

- With most telecom operators providing LTE on a commercial level, they are now tasked with delivering a reliable service for mission critical use.
- This course will help operators identify key concerns and potential obstacles accompanying the transition into LTE, so that they can provide necessary support to their customers.

THE TELECOMS & TECH ACADEMY HAS PREVIOUSLY TRAINED COMPANIES SUCH AS:

vodafone · BAE SYSTEMS · Deutsche Telekom · T··Mobile· · ERICSSON

CURRICULUM
LTE FOR MISSION CRITICAL NETWORKS

DAY 1

1. UNDERSTANDING LTE AS APPLIED TO MISSION CRITICAL NETWORKS

- Why mission critical networks are turning to LTE
- An overview of LTE network architecture
  - Managing connection priorities
- Service management and delivery
- Arguments for operating on a private or public domain
- Examining the standardisation roadmap towards mission critical LTE

2. LTE VERSUS LEGACY SYSTEMS AND THE OPTION OF A HYBRID SOLUTION

- An overview of features offered by DMR/TETRA for public safety networks
- An analysis of what LTE will offer over legacy systems
- Evaluating the option of a hybrid solution
  - Discussing short or long-term solutions
  - Demonstrating examples of hybrid solutions

3. LTE AND THE EVOLUTION OF HARDWARE AND SOFTWARE FOR MISSION CRITICAL NETWORKS

- Investigating the availability of end-user devices
- Understanding the backward and forward compatibility of LTE

4. FIRST-HAND ACCOUNTS IN DEPLOYING LTE FOR MISSION CRITICAL NETWORKS

- Dr Amanat Hussein will discuss his work in implementing LTE for public safety use in Africa and Asia and the key challenges encountered

DAY 2

5. MISSION CRITICAL FEATURES FOR LTE

- Voice and Group communication over LTE
  - Voice over LTE (VoLTE)
  - Group communication principles
  - Group communication service enablers (GCSE)
  - GCSE architectural requirements
  - GCSE principal functions and interfaces
  - GCSE services
  - GCSE signalling
  - Access control
  - Mission critical PTT over LTE (MCPTT)
- Proximity services (ProSE)
  - An overview of ProSE concepts
  - Understanding how ProSE will operate
- Multi-media Broadcast Multicast Service (MBMS)
- What does LTE mean for security?
  - Authentication, Air Interface Encryption (AIE) and End-to-End encryption
- Ensuring a reliable network

6. LTE FREQUENCY BANDS AND SPECTRUM ALLOCATIONS

- Investigating the availability of end-user devices
- Understanding spectrum allocations for public safety networks in the United States and EMEA
- Analysing the benefits and disadvantages to various frequency bands
- Examining licenced and unlicensed spectrums (U-LTE)
  - Motivations for using U-LTE
  - U-LTE design principles
  - U-LTE deployment scenarios
  - Shared spectrums
- Discussing the possibility of a standardised approach

7. 5G AS APPLIED TO MISSION CRITICAL NETWORKS

- A discussion on additional possibilities to be expected from 5G

COURSE LEADERS

DR AMANAT HUSSAIN

Dr Amanat Hussain is a Programme Director with a proven track record of delivering large and complex transformation programmes. Amanat has managed complex transformation programmes in diverse market sectors including defence, financial markets and the public safety environment. He has successfully designed or delivered numerous emergency command and control and safer city transformation programmes around the World including Command, Control, Communication and Information (C3i) for Metropolitan Police Service (UK), Safe City Projects in Nairobi and Mombasa (Kenya), Safe City Projects in Lahore and Islamabad (Pakistan), Nigeria Emergency Control Centre (Nigeria) and Command, Control, Communication and Crisis (C4) Centre Project (UAE).

MILTOS TRICOPOULOS

Miltos has worked in the telecoms training field since 1989 and, after working for Ericsson and Teledrom, specializes in delivering training in a range of technology and business programmes.

Beginning his career at Ericsson, Miltos' responsibilities were in field support and providing on the job training for fixed and mobile operators. In recent years, Miltos continues to act as a consultant to Ericsson. In addition to this, he has participated in various telecommunication projects related to the development of new telecom products and training material in Sweden, Malaysia, Brazil and Ireland, acquiring in-depth knowledge on mobile and fixed telecommunication systems including GSM, GPRS/EDGE, IMS, UMTS, HSPA, WiMAX, and LTE.

Miltos' key areas of expertise include network operation and maintenance, radio interface protocols and procedures, core network protocols and procedures, RAN tuning and dimensioning, RAN features. RAN functionality, RAN design, RAN Performance and Management, HSPA technique, VoLTE, IMS, as well as extensive radio planning activities on GSM, WCDMA, LTE and WiMAX systems.

WHAT ARE DELEGATES SAYING ABOUT OUR COURSES?

> Very good and recommendable course and institute which provided the expected overall and specific knowledge with good organization and continued learning programmes after graduating.
>
> **HUAWEI**

> It really has broadened my knowledge of current technologies used in the mobile telecom industry.
>
> **AS, M-TEL**

> The trainer was passionate and exhumes a broad knowledge of the subject matter.
>
> **UA, ETISALAT**

BENEFITS
LEARNING OUTCOMES

FOR INDIVIDUALS
Attendees will be empowered to:

- Recommend deployment strategies for mission critical LTE
- Recognise the implications of LTE and make appropriate preparations for its deployment
- Understand key challenges in transitioning to LTE and propose solutions to help overcome these
- Identify devices being developed for LTE and comprehend the feasibility of their use
- Identify new revenue streams
- Recognise spectrum allocations and the advantages/disadvantages to operating on certain frequency bands

FOR BUSINESSES
This course will enable:

CRITICAL ENTERPRISES TO:

- Recognise the benefits in using LTE for mission critical communication
- Understand how mission critical networks will be prioritised alongside commercial networks
- Identify products in development and the feasibility of their use
- Realise the challenges accompanying LTE and strategies that can be undertaken to minimise any risks
- Comprehend what LTE will mean for legacy systems

VENDORS TO:

- Understand the needs of their customers
- Recognise certain trends in the market
- Identify key challenges on deploying LTE for mission critical networks and how their products can be made to address these
- Unlock new revenue streams

TELECOM OPERATORS TO:

- Understand the concerns of their customers using mission critical networks
- Realise how they can tailor their service to support mission critical networks
- Ensure that mission critical enterprises have access to current LTE technology
- Understand various spectrum allocations and make informed decisions when choosing top operate their network at a certain frequency.

> “The course was good and very helpful, the teacher was well up to the task!”
>
> **GCL ECONET**

> “Excellent, comprehensive. The trainer was very good and extremely good at explaining the concepts.”
>
> **BUSINESS DEVELOPMENT – CLOUD, CISCO, UK'**

ABOUT
TELECOMS & TECH ACADEMY

Telecoms & Tech Academy is a leading training partner to the telecoms, media and technology (TMT) industries, having trained more than 30,000 professionals and 500 businesses globally.

We were borne out of the telecoms industry and understand the challenges the sector has been facing. Our training portfolio continues to evolve to help address new and emerging skills gaps faced by telecoms & tech businesses. To provide you with leading-edge knowledge, our learning is influenced by our partners including Ovum and Google.

What competencies are you looking to build in your teams? Here's a snapshot of where we can help:

BUILD TECHNICAL SKILLS

- Big Data, Analytics & Artificial Intelligence
- Network Virtualisation (NFV & SDN)
- 5G Network Technology
- Emerging Services Including: Internet of Things, Smart Cities & Connected Innovation

BUILD TELECOMS MANAGEMENT SKILLS

- Telecoms & Leadership: Our flagship Telecoms Mini MBA has trained over 15,000+ professionals
- Innovation & Digital Transformation
- Customer Focus

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For group booking discounts available please contact us for details

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