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# Introduction to LTE V2X

## Course Description

As LTE Advanced Pro technologies become more prevalent on the road to 5G, vehicular based communication is seen as a key element of the future network ecosystem. This short course is designed to introduce the main concepts behind V2X technology. As such, V2X will be considered on a high-level basis, with focus on the architecture required, as well as key aspects such as authorization, operation over both the PC5 and LTE-Uu interfaces, network procedures and also the intended approach to V2X security.

This course has no prerequisites.

**1/2** day  
(LiveOnsite,  
LiveOnline)

**2** hours  
learning  
(OnlineAnytime)

**2**

CPD Learning  
Credits



Level: 1  
(Beginner)

**This course will contain the following sections:**

## **1. Introduction to V2X**

### **Topic areas covered include:**

- V2X Concepts and Drivers:
  - Concept and drivers.
  - V2X communication types (V2V, V2P, V2I, V2N).
  - Use cases.
- V2X Architecture:
  - Modes of operation.
  - V2X subsystem architecture.
  - Reference points, identities and functions.
- V2X Authorization and Provisioning:
  - Authorization process and parameter provisioning.
  - Sidelink communication overview.
- V2X over PC5:
  - Direct communication enhancements and key characteristics.
  - V2X over PC5 identities.
  - Direct communication overview.
  - QoS handling and charging support.
- V2X over LTE:
  - V2X message delivery methods and MBMS service area mapping.
  - V2X communication with eMBMS.
  - V2X Application Server discovery.
  - QoS handling and charging support.
- V2X over LTE Network Procedures:
  - Attach procedure.
  - Service Request procedure.
  - S1 Handover and X2 Handover procedures.
  - Tracking Area Update procedure.
- V2X Security:
  - V2X security approach.
  - V2X security requirements and security solutions.



**Watch a Sample  
Video Online**

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**2**

**CPD Learning  
Credits**



**LiveOnsite, LiveOnline,  
OnlineAnytime**

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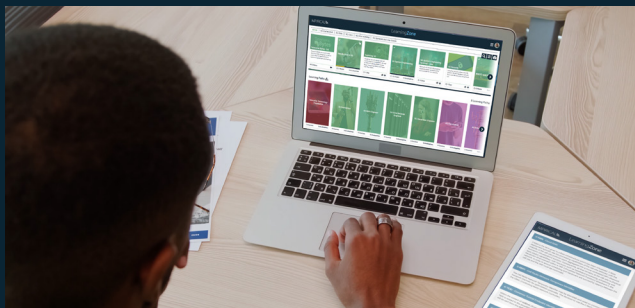
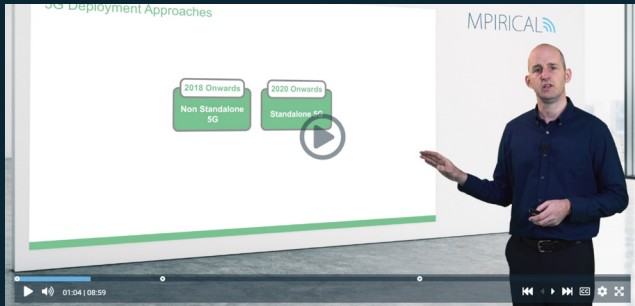
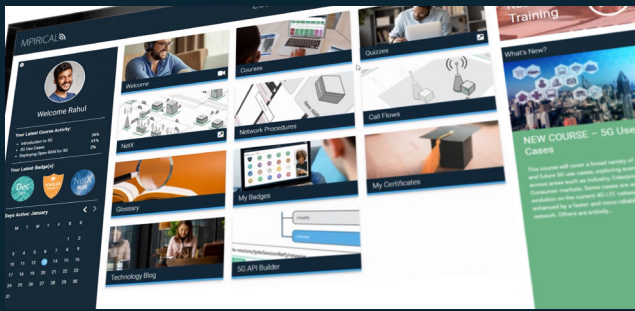
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- Technology and learning blogs
- Virtual network application, NetX

...and so much more!

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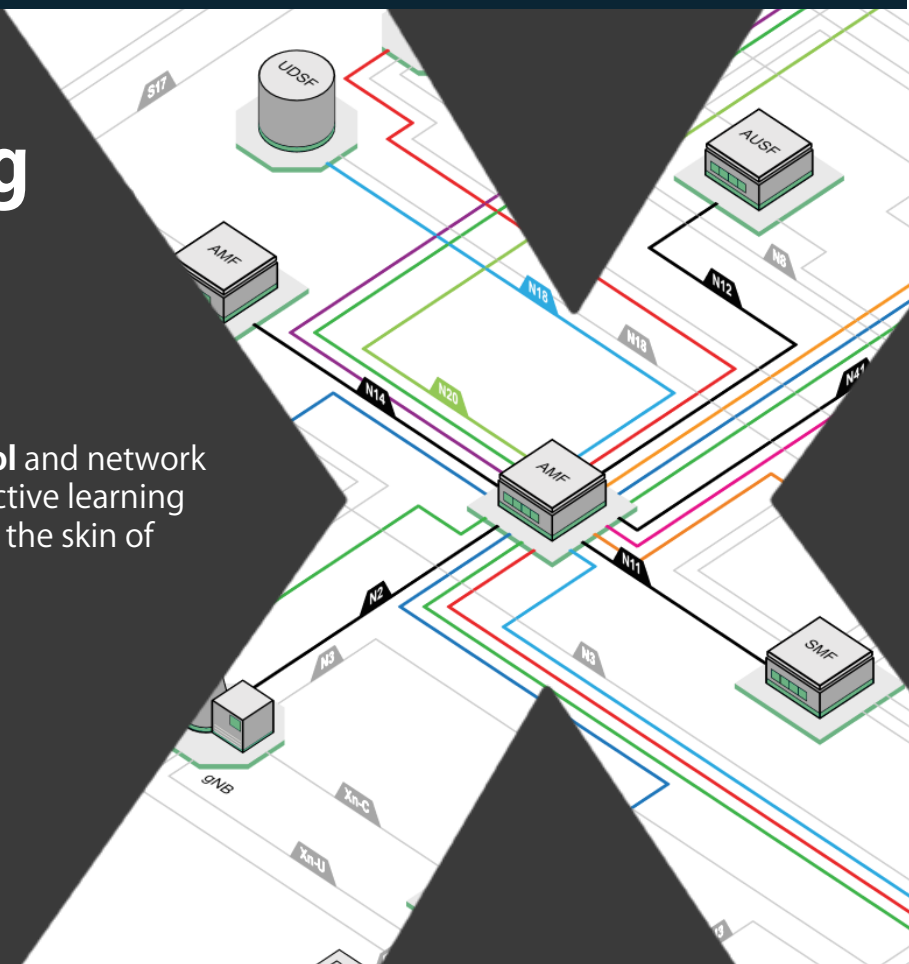


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