

Course ID

**IoT3D**

Course Duration

**3 days**

Course Title

**IoT Training: In Depth**

**Aimed At**

Technical professionals who need to understand the technology and applications of the Internet of Things (IoT).

**Prerequisites**

Understanding of networking, wireless, and Internet technologies.

**Course  
in a Nutshell**

The Internet of Things (IoT) brings together many diverse Information and Communications Technologies (ICT) to facilitate the internetworking of devices, vehicles, building, and other smart, connected products/objects. This course, *IoT Training in Depth*, undertakes an in-depth study of the business, enablers, technology, standards, planning considerations, and applications of IoT.

**Customize It!**

We can customize the course to add/delete topics, include relevant content on IoT devices, networking, wireless (e.g., LTE, LTE-A, 5G) or short-range wireless, LiFi (VLC), MIMO, or case studies relevant to your industry and applications (Smart Cities, green technologies, e-Health, etc).

**Course  
Outline**

- IoT Training in Depth: Introduction
  - What is IoT?
  - Why IoT?
  - IoT business trends
  - IoT benefits and barriers
  
- IoT Standardization
  - ITU
  - IEEE
  - IETF
  - 3GPP
  - 5GPPP
  - IoT Forum
  
- Key IoT Technologies
  - Sensors for IoT
  - Sensor networks
  - Zigbee
  - Z-wave

- Bluetooth
- RFID
- Cloud computing
  
- Network Infrastructure and IoT
  - Power over Ethernet (PoE)
  - IoT over cellular: GPRS
  - IoT over cellular: LTE
  - IoT over cellular: LTE-U
  - IoT over cellular: LTE-M
  - IoT over WiFi
  - IoT and 5G standards
  - IoT and Mesh Networks
  - IoT and Wireless Ad Hoc Networks (WANET)
  - IoT and White Space
  - IoT over satellite
  - NFC: Near Field Communication (mm-wave technologies)
  
- IoT Enablers and Applications
  - SigFox
  - LoRA alliance
  - KNX association
  - IoT applications
  - Case studies based on real-world projects
  
- IoT and Network Planning
  - IoT requirements on coverage
  - IoT requirements on capacity
  - IoT requirements on accessibility
  - GPRS network planning for IoT services
  - HSPA network planning for IoT services
  - LTE-A network planning for IoT services
  - 3GPP LTE-A pro optional features for IoT services
  - Case study: LTE-A radio planning for IoT deployment
  
- IoT Training in Depth: Course Recap and Discussion

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