

KAÏNA-COM TRAINING CATALOGUE

Introduction to 5G



KIS003 – Introduction to 5G

Reference KIS003

Experience

- Beginner
- Intermediate
- Advanced

Duration Training Program:

- 1 day

Training Method

- I: i-learning, individual training (web-based training)
- V: v-learning, virtual class
- C: c-learning, classroom training

KAÏNA-COM
LE CARRÉ HAUSSMANN II,
6 Allée de la Connaissance
77127 Lieusaint - France

Price 688,50 € HT

Prerequisite Basic telecom knowledge

Audience Service providers, Network Equipment vendors, Value-added services developers, Regulators, Entrepreneurs and Everyone who seeks to better understand where the mobile Internet industry is heading.

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KIS003 – Introduction to 5G, Continued

Objective

The course reviews some of the key concepts that will shape the next generation of mobile systems – the 5G 5G standard, to be ready by 2020, is not only about new radio technologies, but also network architecture revolutions providing a full convergence of mobile network and Internet industries. It is single end-to-end protocol standard for the future mobile Internet! The course reviews the 5G cutting-edge technologies and architecture like heterogeneous networks, device-to-device communications, and others, as well as looks at 5G Internet of Things (IoT) solutions and virtualization methods like SDN and NFV. The course also deals with the 5G major challenge of integrating technologies and concepts that were separately developed, into one network.

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KIS003 – Introduction to 5G, Continued

Course Contents

Course Contents :

Table 1: KIS003 - Course Contents

Chapter	Description
5G vision and approach overview	<ul style="list-style-type: none"> • 5G Challenges requirements <ul style="list-style-type: none"> – The Network slicing concept – interoperability and scalability – Intelligent Connections – D2D Communications – E2E Security and law enforcement requirements • IMT2020 vision, roadmap and standardization activity
IoT	<ul style="list-style-type: none"> • IoT vertical applications review • Alternative technology solutions: LoRa, NB-IoT, Sigfox • Addressing different IoT services profile by 5G network architecture and performance • Data Analytics • IoT security challenges and solutions

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KIS003 – Introduction to 5G, Continued

Course Contents,
continued

Chapter	Description
Virtualization	<ul style="list-style-type: none"> • SDN – Software Defined Networking <ul style="list-style-type: none"> – The SDN concept – SDN Controller – The Northbound and Southbound APIs – OpFlex and other controllers – OpenFlow protocol • NFV – network functions virtualization <ul style="list-style-type: none"> – ETSI ISG for NFV – VNF – Virtualized Network Functions – network function SW implementation – NFVI – NFV Infrastructure – The physical resources (compute, storage, network) and the virtual instantiations that make up the infrastructure – NFV MANO – Management and Orchestration – OPNFV – Linux Foundation NFV Open Platform – General NFV Solutions • SDS – SW Defined Security and security virtualization • vRAN /C-RAN <ul style="list-style-type: none"> – RRH (BBU) – Remote Radio Head (Baseband Unit)
HetNets 2020	<ul style="list-style-type: none"> • Core based / RAN based HetNets concept • ANDSF (Access Network Discovery and Selection Function) and PCRF

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KIS003 – Introduction to 5G, Continued

Course Contents, continued

Chapter	Description
Management and Orchestration for 5G Networks	<ul style="list-style-type: none"> • Distributed Vs. Centralized Network Architecture Management • SON – Self Organized Network • Cloud Orchestration Platform (e.g. OpenStack and Ryu controller)
ICN – Information Centric Networking	<ul style="list-style-type: none"> • The ICN concept • Novel topologies to support edge-based storage and computing • NDN – Named Data Networking and CCN – Content Centric Network • Security Aspects
The End	<ul style="list-style-type: none"> • Q&A • Course's Evaluation

