



Training course outline

ITU Centres of Excellence for Asia-Pacific - IoT Academy

Title	Acquiring 5G & IoT Services for Smart Cities & Smart Villages
Modality	Online
Dates	7-20 November 2022
Duration	14 Days
Registration deadline	3 November 2022
Training fees	USD 100
Objectives	<p>The Internet of Things (IoT) technology can be regarded as the building block for next-generation Smart Cities (SC) due to its potential in exploiting sustainable information and communication technologies. Initially, the concept of SCs (urban settlements) has originated from the Internet of Things (IoT) technology. However, the use of IoT can be extended to the Smart Villages (SV) in rural settlements as well, improving the lives of the communities as a whole, demonstrating that the IoT is not limited to either context or does not exclude the understanding that there exists a difference in priorities of planning these solutions on distinct levels and contexts. In the nearby future, new generation networks such as 5G technologies will connect the world from the largest megacities to the smallest villages, and this training course will focus on the connectivity of smart cities and smart villages by using IoT and 5G services with the concern of the sustainability.</p>
Course code	22OI27831ASP-E

1.LEARNING OBJECTIVES

This course aims to introduce participants to the concept and pillars of the Internet of Things in the areas of the Smart Cities & Smart Villages. Participants will be introduced to concepts, goals, frameworks, key aspects and KPIs of IoT and related technology solutions and services such as Big Data and Blockchain area and some use cases for the Smart Cities & Smart Villages. The role of 5G technologies and connecting the megacities to small villages by using IoT and 5G services will also be trained in this course.

2. LEARNING OUTCOMES

Upon completion of this training course, participants will be able to:

- identify different IoT concept, main elements, trend and the different IoT verticals related to smart cities and smart villages;
- understand concepts, goals, and frameworks related to a smart city and smart village, including key aspects and KPIs required to develop smart cities and smart villages;
- identify different IoT verticals such as smart transportation, smart building, smart water and energy, and smart healthcare for smart cities and smart villages;
- identify 5G solutions and strategies related to connections and their concerns related to smart cities and smart villages; and
- review the various case studies in the area of using emerging technologies in smart cities and smart villages.

3. TARGET POPULATION

Governments, mobile operators, municipalities, organizations, industries, ICT experts, policymakers, regulators, service & solution providers and academia that are involved in the Internet of Things and smart cities.

4. ENTRY REQUIREMENTS

Those interested in the field of Acquiring 5G & IoT Services for Smart Cities & Smart Villages can participate in this training course.

5. TUTORS/INSTRUCTORS

Experts from the IoT Academy and the invited international experts.

6. TRAINING COURSE CONTENTS

Week 1

Week 1-1 Internet of Things concept, trend and market related to smart cities and smart villages
Week 1-2 Smart cities and smart villages: concept and goals
Week 1-3 5G technology, architecture, and protocols
Week 1-4 5G solutions for IoT connectivity infrastructure in urban and rural areas
Week 1-5 The capabilities of 5G technology for IoT application

Week 2

Week 2-1 Cybersecurity, data protection and cyber resilience in the smart cities and smart villages
Week 2-2 5G operations and market introduction related to smart cities and smart villages
Week 2-3 5G and IoT capabilities for realizing connected cars
Week 2-4 5G-based solutions and use cases for smart cities and smart villages – Use cases
Week 2-5 IoT-based solutions and use cases for smart cities and smart villages – Use cases

7. TRAINING COURSE SCHEDULE

Week	Topic	Exercises and interactions
Week 1	<ul style="list-style-type: none"> - Week 1-1 Internet of Things concept, trend and market related to smart cities and smart villages - Week 1-2 Smart cities and smart villages: concept and goals - Week 1-3 5G technologies, architecture, and protocols - Week 1-4 5G solutions for IoT connectivity infrastructure in urban and rural areas - Week 1-5 The capabilities of 5G technologies for IoT application 	<p><u>This week, each participant has to:</u></p> <ul style="list-style-type: none"> - Read of the PDF slides uploaded in the course page for week 1 - Post their questions or ideas to the discussion forum - Attend a live zoom session scheduled for Saturday - 14:00hrs-15:00hrs (GMT+4.30) - Complete a self-test quiz 1 <p>Note: Participants should pay attention to the course announcements they receive in their panel and email.</p>
Week 2	<ul style="list-style-type: none"> - Week 2-1 Cybersecurity, data protection and cyber resilience in the smart cities and smart villages - Week 2-2 5G operations and market introduction related to smart cities and smart villages - Week 2-3 5G and IoT capabilities for realizing connected cars - Week 2-4 5G-based solutions and use cases for smart cities and smart villages – Use cases - Week 2-5 IoT-based solutions and use cases for smart cities and smart villages – Use cases 	<p><u>This week, each participant has to:</u></p> <ul style="list-style-type: none"> - Read of the PDF slides uploaded in the course page for week 2 - Post their questions or ideas to the discussion forum - Attend a live zoom session scheduled for Wednesday - 14:00hrs-15:00hrs (GMT+4.30) - Upload an assignment in the course panel that considered by the tutors - Complete a self-test quiz 2 <p>Note: Participants should pay attention to the course announcements they receive in their panel and email.</p>

8. METHODOLOGY (Didactic approach)

Course Materials: The relevant course material will be made available on the website.

Online Discussion Forums: Participants are expected to participate actively in discussion forums on selected topics throughout the week.

Chat Sessions: Online chat sessions with the tutors will take place Saturday and Wednesday from 14:00– 15:00 Hrs. Iran Time (GMT+4.30). All participants are expected to join the chat sessions as they will be graded.

Quizzes: Two mandatory online quiz will be held at the end of each week.

Assignment: There will be a mandatory assignment for the course.

9. EVALUATION AND GRADING

Besides the tests and their assignment score, participants will be evaluated according to their substantive posts on the discussion forum, active participation in the online chat sessions and other course activities, reflecting both the quantity and quality of time spent on the course. The evaluation details and criteria for certificates is as follows.

Quiz #1:	30%
Quiz #2	30%
Individual Assignment:	20%
2 Chat Sessions (5% per session)	10%
2 Discussion Forum (5% per forum)	10%
Total Evaluation:	100%

IMPORTANT: A PASSING MARK OF 60% IS REQUIRED FOR OBTAINING A COMPLETION CERTIFICATE.

10. TRAINING COURSE COORDINATION

Course coordinator: Name: Mr. Hamid Naghizadeh Email address: edu@iotaci.com	ITU coordinator: Name: Mr. Sean Doral Email address: sean.doral@itu.int
---	--