Online Training Course on

EMERGING TECHNOLOGY FOR THE LAST MILE CONNECTIVITY

12-14 July 2021

TRAINING COURSE OUTLINE

COURSE DESCRIPTION

Title	Emerging Technology for the Last Mile Connectivity
Objectives	Raising awareness and enhancing knowledge for decision-making using ITU tools in identifying the most connection options, identification potential partners for projects in the field of development of broadband infrastructure and improving the quality of communications data.
Dates	12-14 July 2021, 10 AM to 1 PM (CEST, GMT+2, UTC+2)
Duration	3 days
Registration deadline	1 July 2021
Training fees	Free
Course code	21OI26644MUL-E

DESCRIPTION OF THE TRAINING COURSE

ITU is taking many significant steps to develop human capital, including the creation of useful information products and tools. This course provides an overview of the emerging technology for the last mile connectivity. This course is based on two ITU products: The Last-Mile Connectivity Internet Solutions Guide and Broadband Connectivity Toolkit.

The Last-Mile Connectivity Internet Solutions Guide was developed to support the design and development of programmes and interventions that address two of these main issues: the lack of Internet infrastructure availability in certain areas; high Internet service prices that make Internet connectivity unaffordable for local populations.

Broadband Connectivity Toolkit is a set of methodologies, software tools and parameters that allows decision makers, network designers or infrastructure owners to support their decisions about connecting of unconnected.

LEARNING OUTCOMES

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

- Identify Required Bandwidth for a specific object (locality's access network, school, hospital etc.)
- Select affordable technology for connecting a locality to broadband transport backbones (Middle-Mile connections for localities, schools, hospitals etc.), including choosing the best network topology for the multiple objects network
- Select technology for implementation broadband access networks in localities
- Determine of the cost of LAN organization, including the cost of solar energy generator

TARGET POPULATION

The target audience for this course is telecommunication engineers/technicians, software developers or government professionals working on strategic/technical projects and/or software products targeting cost-effective, quality and affordable technical solutions.

ENTRY REQUIREMENTS

No prior knowledge or qualification in QoS is required, however it is important for participants to be working for a regulator, or in the ICT/Telecoms sector.

TUTORS/INSTRUCTORS

NAME OF TUTOR(S)/INSTRUCTOR(S)	CONTACT DETAILS
Dr Aminata Amadou Garba	aminata.amadou-garba@itu.int
Dr Vadym Kaptur	vadim.kaptur@onat.edu.ua

TRAINING COURSE CONTENTS

The topics covered in this module are:

1. **The Last-mile Internet Solutions Guide: General Overview**

   This topic will cover general concept of the identifying the geographic limits of network infrastructure in relation to the population's location; will cover also examples of existing solutions in different categories and highlights the characteristics of solution components; will highlight process of selecting sustainable, affordable solutions that can operate within the constraints posed by each unique scenario and also will cover process determination what additional actions may be required to support connectivity solutions implementation.

2. **Broadband Connectivity Toolkit: Middle-Mile connectivity**

This topic will discuss Identification of the bandwidth requirement for a specific object/node such as a locality's access network, a school, a hospital, etc.) and also will cover selecting affordable technology for connecting a locality to broadband transport backbones (Middle-Mile connections for localities, schools, hospitals etc.), including choosing the best network topology for the multiple objects network by using special algorithms of optimizations based on key economical indicators like NPV and cost of ownership.

3. **Broadband Connectivity Toolkit: Last-Mile connectivity**

This topic will discuss technology selection for implementation broadband access networks in localities and also determination of the cost of LAN organization, including the cost of solar energy generator in the different type of buildings.

TRAINING COURSE SCHEDULE

Week / Session	Topic	Exercises and interactions
Day 1	**Topic 1** **The Last-mile Internet Solutions Guide: General Overview**	This day, each participant has to: • Read of the PPT slides uploaded in the course page for day 1 • Attend online session **10:00h-13:00h** (CEST) • Complete a self-test quiz **Day 1 Topics**: • Identification of digitally unconnected (and underserved) geographies • Reviewing options from the classification of existing solutions • Selecting sustainable solutions by matching viability subject to constraints • Implementation of interventions to extend sustainable connectivity service
Day 2	**Topic 2** **Broadband Connectivity Toolkit: Middle-Mile connectivity**	This day, each participant has to: • Read of the PPT slides uploaded in the course page for day 2 • Attend online session **10:00h-13:00h** • Complete a self-test quiz •

		Day 2 Topics:
		• Identification of Required Bandwidth for a specific object (locality's access network, school, hospital etc.) • Methodology for selecting affordable technology for connecting a locality to broadband transport backbones (Middle-Mile connections for localities, schools, hospitals etc.), including choosing the best network topology for the multiple objects network
Day 3	**Topic 3** **Broadband Connectivity Toolkit: Last-Mile connectivity**	This day, each participant has to: • Read of the PPT slides uploaded in the course page for day 3 • Attend online session **10:00h-13:00h** • Complete a self-test quiz **Day 3 Topics**: • Methodology for technology selection for implementation broadband access networks in localities • Determination of the cost of LAN organization, including the cost of solar energy generator

METHODOLOGY (Didactic approach)

This course will be delivered using instructor-led online learning. The course is delivered using power-point slides posted on the course page and selected reference materials that the participants have to study, participate in scheduled activities and undertake self-assessments. Students will reinforce their understanding of the topics studied by drawing on their specific environments and are encouraged to consult with experienced colleagues who are working on a relevant topic. The following methods will be used for this course
   • Self-study of PPTs and reference materials
   • Instructor led presentations made through Zoom or MS Teams
   • Interactive chat sessions and forum discussions

EVALUATION AND GRADING

Quiz (70%) + participation (30%)

Pass mark is 70% to obtain the ITU certificate

TRAINING COURSE COORDINATION

Course coordinator:	ITU coordinator:
Name: Dr Vadym Kaptur Email address: vadim.kaptur@onat.edu.ua	Name: Dr Aminata Amadou Garba Email address: aminata.amadou-garba@itu.int

REGISTRATION

ITU Academy portal account

Registration should be made online at the ITU Academy portal.
To be able to register for the course you **MUST** first create an account in the ITU Academy portal at the following address: https://academy.itu.int/user/register

Training course registration

When you have an existing account or created a new account, you can register for the course online at the following link: https://academy.itu.int/training-courses/full-catalogue/emerging-technology-last-mile-connectivity

You can also register by finding your desired course in our training catalogue
https://academy.itu.int/training-courses/full-catalogue