



Training course outline

Title	The Last Mile Internet Connectivity
Modality	Online instructor-led
Dates	28 June – 30 June 2022 Daily virtual sessions 2 PM -5 PM (CEST, GMT+2, UTC+2)
Duration	3 days
Registration deadline	23 June 2022
Training fees	Free
Description	<p>This course is based on two ITU products: The Last-Mile Connectivity Internet Solutions Guide and Broadband Connectivity Toolkit.</p> <p>The Last-Mile Connectivity Internet Solutions Guide was developed to support the design and development of programmes and interventions that address the lack of Internet infrastructure availability in certain areas and high Internet service prices that make Internet connectivity unaffordable for local populations.</p> <p>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.</p>
Code	22OI500077MUL-E-D

1.LEARNING OBJECTIVES

The objectives are to enhance the quality of information for projects related to the development of broadband infrastructure and to present tools that could be used to identify connectivity gaps and options.

2. 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 appropriate and affordable technology for connecting a locality to broadband transport backbones (Middle-Mile connections for localities, schools, hospitals etc.),
- Determine optimum network topology for a multiple objects network
- Select technology for implementation of the last mile connectivity/access networks in localities
- Determine of the technical architecture and the cost of a LAN in an organization

3.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.

4.ENTRY REQUIREMENTS

No prior knowledge or qualification in QoS is required

5.TUTORS/INSTRUCTORS

Name of tutor(s)/instructor(s)	Contact details
Aminata Amadou Garba	aminata.amadou-garba@itu.int
TBC	

6.TRAINING COURSE CONTENTS

The topics covered in this module are:

1. Identification the needs of digitally unconnected

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. 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. 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.

7. TRAINING COURSE SCHEDULE

Day	Topic	Exercises and interactions
Day 1	Topic 1: Identification of the needs of digitally unconnected <ul style="list-style-type: none"> • Identification of digitally unconnected (and underserved) geographies • Identification of Required Bandwidth for a specific object • Data collection 	<ul style="list-style-type: none"> • Presentations and discussions 2M-3PM (CEST, GMT+2, UTC+2) • In class exercise 3 PM - 4h30 PM (CEST, GMT+2, UTC+2) • Discussions: 4h30-5PM (CEST, GMT+2, UTC+2) • Quiz
Day 2	Topic 2 : Middle-Mile connectivity <ul style="list-style-type: none"> • Reviewing options from the classification of existing solutions • Methodology for selecting affordable technology for connecting a locality to broadband transport backbones (Middle-Mile connections for localities, schools, hospitals etc.) • designing a network topology for the multiple objects network • Selecting sustainable solutions by matching viability subject to constraints 	<ul style="list-style-type: none"> • Presentations and discussions 2M-3PM (CEST, GMT+2, UTC+2) • In class exercise 3 PM - 4h30 PM (CEST, GMT+2, UTC+2) • Discussions: 4h30-5PM (CEST, GMT+2, UTC+2) • Quiz



Day 3	Topic 3 : Last-Mile connectivity <ul style="list-style-type: none">• Implementation of interventions to extend sustainable connectivity service• Methodology for selection of access networks technology• Methodology and template for blueprint (including data collection)	<ul style="list-style-type: none">• Presentations and discussions 2M-3PM (CEST, GMT+2, UTC+2)• In class exercise 3 PM - 4h30 PM (CEST, GMT+2, UTC+2)• Discussions: 4h30-5PM (CEST, GMT+2, UTC+2)• Quiz
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8.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
- In class exercises
- Interactive chat sessions and forum discussions

Preparation: Each participant should:

- Read of the PPT slides uploaded in the course page for the day
- Attend scheduled online sessions

9.EVALUATION AND GRADING

Participation (40%) + Quiz (50%) + Discussion forum (10%)

Pass mark is 60% to obtain ITU certificate

10.TRAINING COURSE COORDINATION

ITU coordinator:

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