

Registration information

Wholesale bitstream services over fiber networks (FTTH/NGA)

Organized by:



Training details

Modality: Face to Face

Location: Lisbon, Portugal

Dates: 03 Sep 2026 - 04 Sep 2026

Training fees: \$600.00

Language: English

Application deadline: 30 Jun 2026

Payment methods: bank_transfer, Bank transfer

Training code: 26WS500560EUR-E-D

Contact: s.laskowski@il-pib.pl

Training description

This course provides a comprehensive and regulator-focused content on wholesale bitstream services over fiber networks (FTTH/NGA), including technical, regulatory and business/economic aspects. It starts with coverage of the telecom networks evolution, fundamental Internet technologies and architectures, and main optical access technologies including NGA/FTTH architecture, P2P (Point-to-Point), GPON (Gigabit PON), XG-PON (10G PON) and XGS-PON (10G Symmetrical PON), followed by a detailed examination of wholesale bitstream architectures and handover models,

including L2 (Ethernet layer) and L3 (IP layer) models, local and central handovers, VLAN models, as well as Virtual Unbundled Local Access (VULA).

Further, the course covers regulatory and economic aspects of wholesale bitstream access over fiber, including regulatory frameworks (EECC, BEREC), market definitions, SMP obligations, pricing approaches, as well as and Equivalence of Inputs (EoI) and competition role of wholesale bitstream access. Participants will gain insight also into the technical implementation of bitstream over FTTH, as well as QoS management, KPIs, and SLA design, with a strong focus on regulatory monitoring and enforcement as applied by NRAs. The course also covers the design and evaluation of reference offers, international practices in migration from copper to fiber, and the growing role of AI in provisioning, monitoring, and compliance. It concludes with future trends in optical access networks and their impact on wholesale bitstream services and broadband competition.

For more information about the training objectives, target population, entry requirements, methodology, evaluation and content, consult the page [here](#).

How to apply

In order to register for the training, applicants should:

1. Create an ITU Academy account [here](#)
2. Apply for the course [here](#)
3. The selection of participants for the course will be made by the course coordinators, based on the course's entry requirements, selection criteria and available number of seats. If selected, you will receive a notification by email.

How to pay for the training

This course is organized by International Telecommunication Union (ITU), National Institute of Telecommunications (NIT), an ITU Academy Training Centre, which will collect the training fees directly.

You will find details about the payment process of this Centre at the following [link](#) or alternatively in your ITU Academy account under [My courses](#).

Kindly note that payment must be made by 30 Jun 2026

Group registration and payment

Registration and payment for multiple people from an organization is possible through institutional contacts.

To become an institutional contact:

1. Go to your profile page by clicking on the “My account” button in the user menu and click on the “Apply to be an Institutional Contact” button

2. Fill in the required information and click “continue”, a request will be created.
3. An ITU Academy manager will manually review this request and accept or deny it accordingly.
4. If accepted, you will find a new menu tab “Institutional Contact” appearing in the top bar. You can now request multiple seats in a course and assign them to people from your group. Kindly note, each individual must create an ITU Academy account.



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