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Registration information

Digital Highways: Technologies behind modern transmission networks

Organized by:

Training details

Modality: Online instructor led
Dates: *11 May 2026 - 15 May 2026*
Training fees: $0.00
Language: English
Application deadline: 13 Apr 2026
Training code: 26OI500432MUL-E-D
Contact: ddg.tx-nti@gov.in

Training description

Modern societies are powered by digital highways—the transmission networks that connect people, businesses, and governments across the globe. As the demand for bandwidth grows with cloud services, video, 5G, and the coming era of 6G, building resilient, high-capacity transport networks has become a strategic priority for nations.

This course provides participants with a comprehensive understanding of the technologies, standards, and policy frameworks that underpin modern transmission infrastructure. It traces the evolution of transport networks from PDH and SDH to Optical Transport Networks (OTN), Dense Wavelength Division Multiplexing (DWDM) and packet-optical convergence.

Beyond fibre optics, the course explores wireless backhaul, microwave, mm Wave, and satellite

integration, reflecting the hybrid reality of today's networks. Critical enablers such as synchronization, latency management, resilience, and cybersecurity are addressed through technical insights and global case studies. Participants will also examine the future of digital highways, including multi-core fibre, AI-driven network optimization, and quantum communication for secure transmission.

A unique highlight is a session deep dive into the BharatNet project, India's ambitious nationwide fibre rollout that aims to connect over 250,000 Gram Panchayats(Village level local body). These sessions provide practical exposure to large-scale deployment challenges, GPON technologies, rural connectivity models, and policy frameworks such as USOF and PPP. The socio-economic impact of BharatNet on digital inclusion will be discussed, with lessons for other regions seeking to bridge the digital divide.

The course employs interactive lectures, hands-on exercises, case studies, and a capstone project, ensuring participants gain both theoretical knowledge and applied skills. By the end, learners will be equipped to design national or regional transmission strategies that are future-ready, resilient, and inclusive.

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.