Understanding GPON Technology

This workshop introduces participants to GPON (Gigabit Passive Optical Network) technology , one of the most widely adopted fiber-optic access solutions used globally by service providers. The session explains how GPON works, its architecture, real-world use cases, and why it has become essential for modern broadband networks.

The workshop is designed for network engineers, telecom professionals, and ICT students interested in fiber-optic access networks and next-generation broadband technologies.

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Learning Objectives

By the end of this workshop, participants will:
- Understand what GPON is and how it differs from other fiber technologies.
- Learn the main components of GPON architecture: OLT, splitters, and ONT/ONU.
- Explore GPON features such as bandwidth capabilities, long-reach performance, and cost efficiency.
- Learn how GPON supports triple-play services (voice, video, data).
- Discover key deployment models: FTTH, FTTB, FTTC, enterprise networks, smart cities, and backhaul.
- Understand the evolution toward XG-PON and next-generation fiber technologies.

Key Topics Covered

1. Introduction to GPON
2. GPON Architecture & Components
3. GPON Capabilities
4. Real-World Deployment Scenarios
5. Future of GPON

Target Audience

- Network engineers & NOC teams
- ISP & telecom professionals
- University students in ICT and computer engineering
- Anyone interested in fiber-optic and broadband technologies

Expected Outcomes

Participants will leave with:
- A practical understanding of how GPON networks are designed, deployed, and operated
- Knowledge of different fiber deployment models
- Awareness of GPON’s role in national broadband and smart-city projects
- Insights into future fiber technologies and capacity upgrades

Session Recording

https://drive.google.com/file/d/1c5UUNXgA76FGAQJr7P312v5LTD5J_bWY/view?usp=share_link

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Revision #3
Created 6 December 2025 13:32:43 by sara
Updated 23 December 2025 13:31:25 by sara