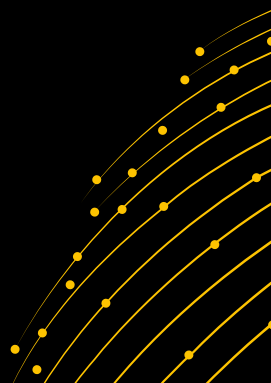




***FASTWEB LONG-  
DISTANCE NETWORK***

***FASTWEB***



# FASTWEB LONG-DISTANCE NETWORK

Fastweb's long-distance fibre-optic network extends for over **7,600 km**. It is a **DWDM network** integrated with OTN technology, which enables the evolution of DWDM systems in terms of reliability and overall increase in bandwidth at the transport layer.

The long-distance network primarily interconnects FASTWEB's main POPs, present over the entire Italian territory, through advanced techniques of **consolidation and optimisation of bandwidth use**. In this perspective, the employment of advanced protection and recovery mechanisms, automated by an optical and electrical GMPLS Control Plane, guarantees **high levels of performance and availability**.

The introduction of optical components based on Wavelength Switch and Select technology, along with the use of OTN-based electrical arrays governed by a unified Control Plane, enables **automatic rerouting of traffic** across the backbone network. This occurs even in the event of multiple fiber cuts or failure on an intermediate node.

The long-distance network is able to collect GE or 10GE traffic and transport it to 100Gb or, where available, even through higher capacities (200 Gb and 400 Gb).

Fastweb's network enables the delivery of native 100GE and 400GE signals and, thanks to strategic partnerships, extends beyond national borders to **Europe's main DC** interconnection hubs.

## MAIN FEATURES OF THE NETWORK

- **Long-distance transport of protected and unprotected services**, combined with an optimised design in terms of intermediate regeneration stages even in the event of traffic rerouting due to restoration actions.
- **Flexibility in the configuration of the network node** as single-shelf or multi-shelf, which adds dynamism to the expandability of the node.
- **Flexibility and reconfigurability of the optical domain**, through the use of a reconfigurable optical add-drop multiplexer (ROADM). Any service, on any wavelength, in any direction, through flexible use of the spectrum (Flexigrid).
- **Multi degree Node**. Functionality that allows a network node to handle up to 8 outgoing directions, resulting in **increased capacity and resilience**.
- **Flexibility in managing traffic** over a single wavelength: multi-layer OTN, Ethernet over ODUk switching.
- **Coexistence of photonic (DWDM) and electrical (OTN) domains**, coordinated by a fully integrated Control Plane, Data Plane and Management Plane, in order to optimise all network protection and resilience mechanisms.
- **Flexibility and scalability of capacity**: standards and technology capable of supporting bit rates over 100G.
- **Integration** with standard linking technologies (DWDM Metro services with long distance crossing).
- Service **automation** and network **optimisation** thanks to T-SDN ready architecture.

# FASTWEB DWDM LONG-DISTANCE INFRASTRUCTURE



- Long Distance POP
- ..... Available from 2025
- Cable Landing Stations
- Cross Borders
- ① Number of European Hubs