

CASE STUDY: STATE FIBERGRID NETWORK BHARATNET Phase-II PROJECT

Project Name: Implementation of Package-C of Telangana Fiber Grid (T-Fiber) in state of Telangana by Telangana Fiber Grid Corporation Limited (T-Fiber LTD.)



Project Location: Across the State of Telangana in the districts of Karimnagar, Peddapalle, Rajanna Sircilla, Jagityal, Adilabad, Asifabad, Mancheriyal, Nirmal, Nizamabad & Kammareddy

Project Duration: 15 months

Company Name: QuadGen Wireless Solutions Pvt Ltd

Project Overview

The Government of Telangana has undertaken the T-Fiber project to establish a **state-of-the-art, resilient, secure, and scalable digital network infrastructure** across the State. The initiative aims to deliver **affordable, high-speed broadband connectivity** from the State Headquarters to households, government institutions, and enterprises, while enabling a **non-discriminatory, carrier-grade network** for licensed service providers.

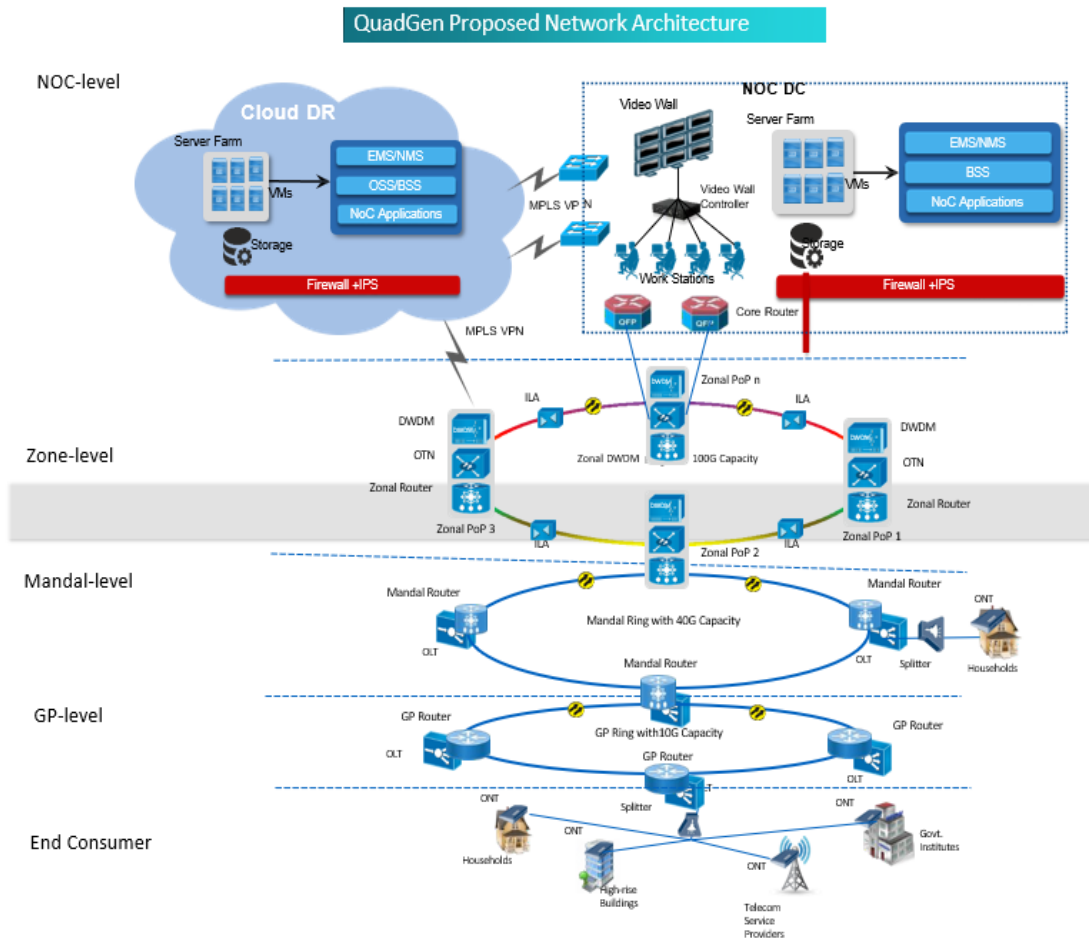
To implement this vision, Telangana Fiber Grid Corporation Ltd. was formed to roll out **optical fiber and network infrastructure** statewide. The project targets connectivity across **10 zones covering 33 districts, 589 mandals, 12,769 Gram Panchayats, and 141 Urban Local Bodies (ULBs)**, along with **97,000+ government institutions**, including priority sectors such as Education, Health, Agriculture, and Public Services.

T-Fiber leverages the existing **Mission Bhagiratha water pipeline infrastructure** for efficient fiber deployment, ensuring cost optimization and faster rollout. The network is designed using a **layered architecture**, enabling scalable bandwidth delivery ranging from **4 Mbps to 1 Gbps for households** and **20 Mbps to 1 Gbps for institutions and enterprises**, supporting future-ready digital services and statewide connectivity.

2. Scope of Work

- Network Design & Planning, Survey,
- Supply, Installation, Integration, Testing and Commissioning of
 - OFC based IP-MPLS Network,
 - GPON Network,
 - Wireless Network
 - Setting up & Integration with Network Operations Centre (T-NOC)
- Integration with existing BharatNet infrastructure
- Operation & Maintenance (O&M)
- Service provisioning of the created network

3. Solution & Architecture



Key Project Metrics

- Number of Gram Panchayats Covered: 3775 GPs

- Fiber Length (Km): 11,270/- Kms of OFC
- Active IP/MPLS Routers at GP (1228 Nos), Mandal (182 Nos) and Zonal PoPs (3 Nos), Metro Ethernet Switch (1228 Nos) along with its EMS at NoC.
- GPON network elements including (OLT, ONT and its accessories) at GP (1228 OLT) & Mandal PoPs (182 OLTs) and ONT (11,763 Nos) along with its EMS at NoC.

Project Status

Implementation completed and under O&M