



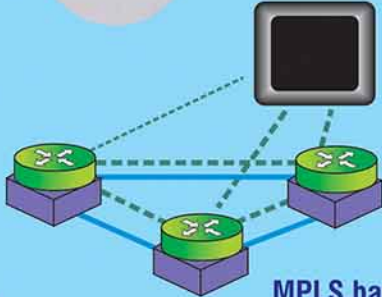
Point to Point
Bandwidth



Internet Services



Infrastructure
Service

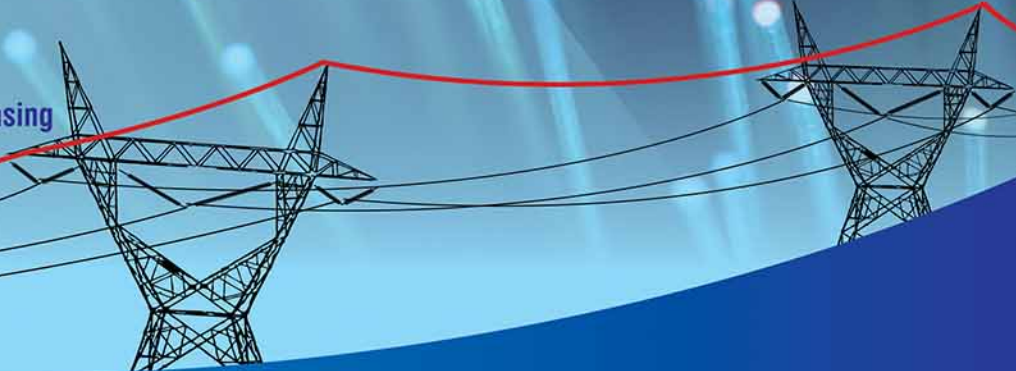


MPLS based VPN



Other IT Services,
Data Centre, Wi-Fi

Tower Space Leasing



A SYNERGY THAT BRINGS OUT THE BEST OF
POWER & TELECOM



PAN INDIA TELECOM NETWORK

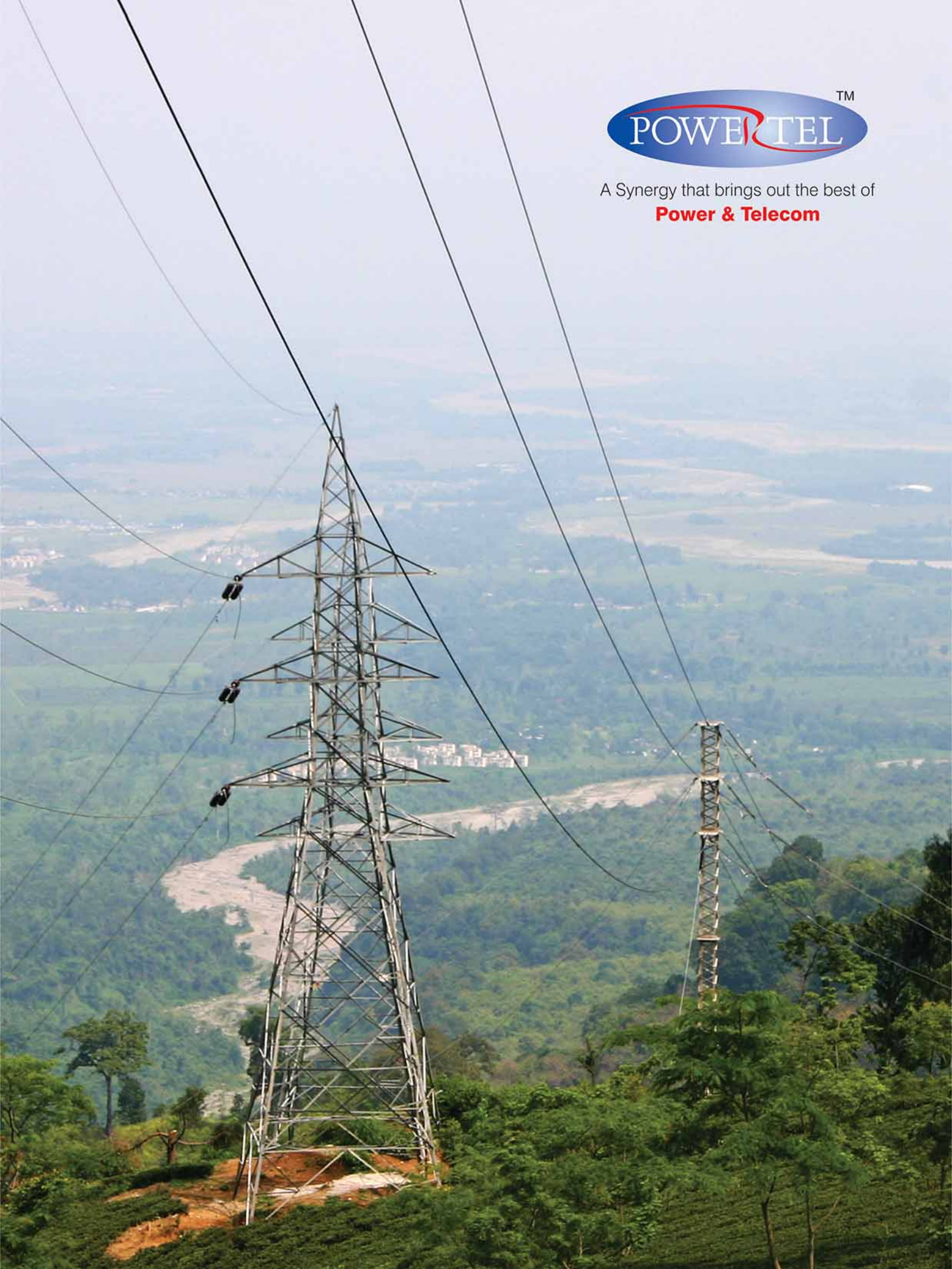
POWERGRID's Overview

- A Navaratna Company
- Incorporated in 1989 for transmitting bulk power across the country
- Central Transmission Utility of India
- One of the largest Transmission utilities of the world
- A listed company in India with 57.9% shares owned by Government of India and rest by the public/institutions
- AAA Credit ratings in both domestic and international domain

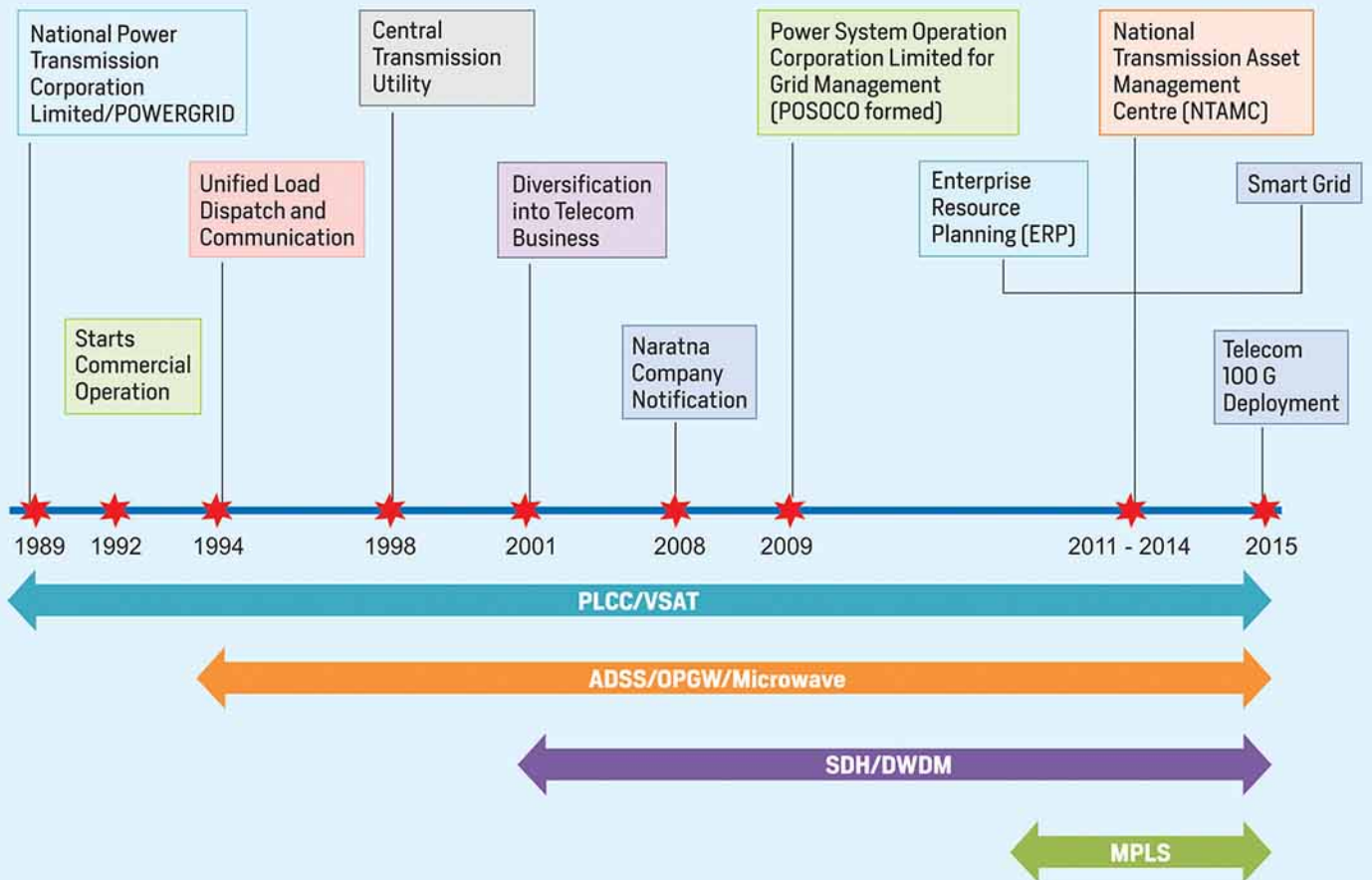


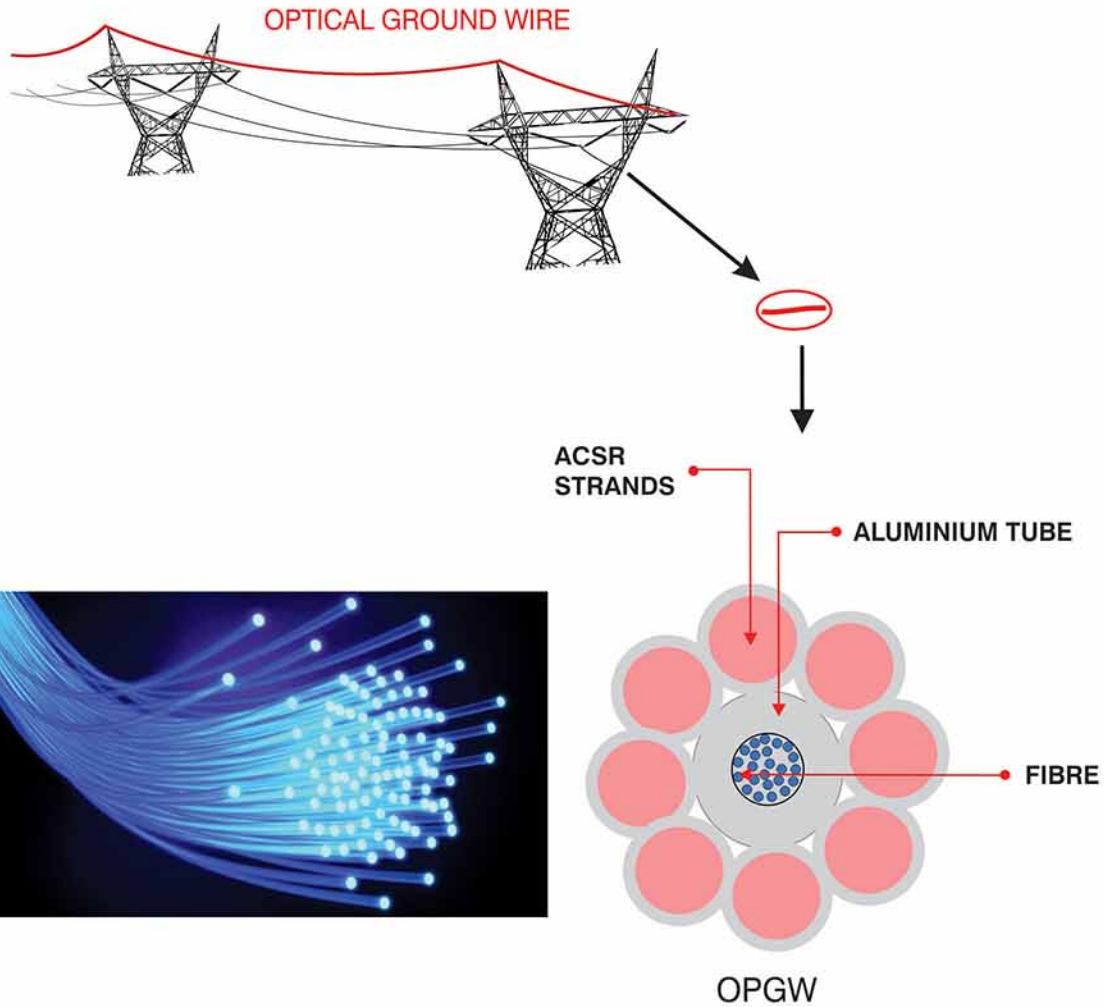


A Synergy that brings out the best of
Power & Telecom



POWERGRID (Telecom Journey so far)





Network Details

- Total existing Network: 33,241 Km
- Network under execution : 33,766 Km
[Approved and under implementation]
- No. of PoPs: 352
- Cities with Intra-City Network: 105

Telecom Licenses

- National Long Distance Operator (NLD)
- Internet Service Provider 'A' (ISP)
- Infrastructure Provider – I (IP-I)

POWERGRID's | TELECOM NETWORK

- Only Telecom Service provider in the country having Pan India overhead optic fiber network on its Extra high voltage transmission lines
- One of the few to have a reach in J&K and NE states
- Free from cuts, rodent menace and vandalism
- One of the implementing agencies for major Telecom Projects of Govt. of India viz. **National Knowledge Network (NKN)** envisaging gigantic 3 layer high speed [10 GBPS] Telecom Network connecting major Knowledge centers such as IITs, IISs, NITs, DHQ etc.
- One of the implementing agencies for **National Optic Fiber Network (NOFN)**.
- **National Transmission Asset Management Centre (NTAMC):** POWERGRID has started state of the art computerized control centres NTAMC & RTAMC with associated telecommunication system and adapted substation for enabling remote centralized operation, monitoring and control of POWERGRID Transmission system The substations and various control centres are being connected by redundant broadband communication network through POWERGRID (Telecom) communication links.
- **ERP:** POWERGRID's Telecom also provides for the connectivity for its own **Enterprise Resource Planning (ERP)**.





Telecom Services

Lease Lines (Point to Point Lease Line)

- SDH/DWDM
- E1/E3/DS3/STM-1/STM-4/STM-16/STM-64/10G/100G Capacity
- Scalable from present capacity of Gigabit to Terabit Capacity
- Capable of both Layer-1 DWDM/SDH, Layer-2-Layer Switching
- Backbone Network Reliability of 99.95%+
- Multiple self resilient rings of complete redundancy in backbone as well as intra-city access networks

MPLS/VPN

- Three tier architecture with Core, Edge and Access layers
- Dual home connectivity to avoid Single point of failure in Backbone
- Network is designed to cater to real time critical Power Transmission applications
- Layer-2 & Layer-3 VPN technologies to serve all type of connectivity requirements and different Class of Service
- Network is scalable to 500 Gbps in core
- Up to 10G Capacity can be provisioned for customer requirements

Infrastructure Services

- Dark Fiber on UGOFC
- Co-Location Services
- PoP Infrastructure
- Tower-Space Leasing

Other Services

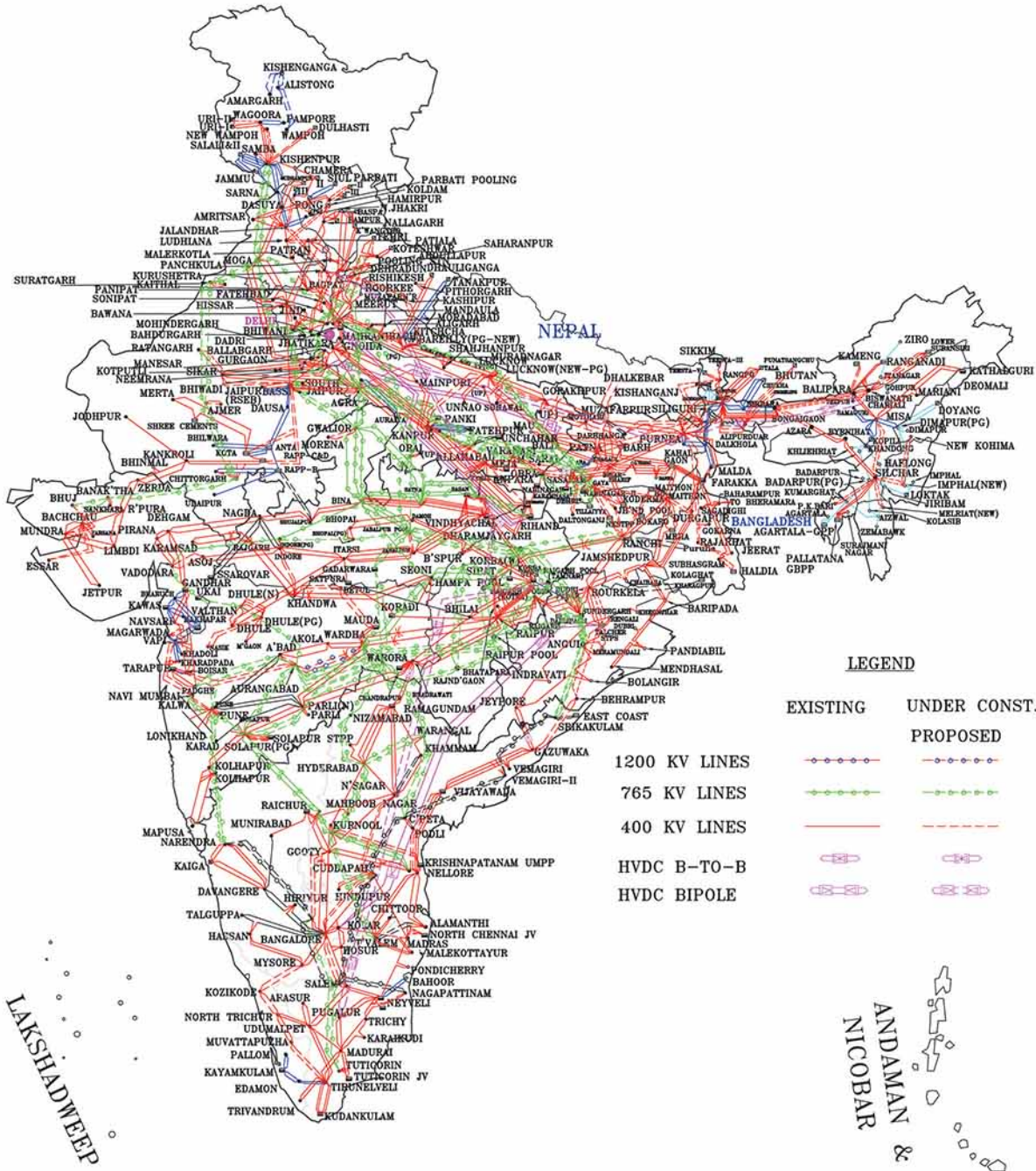
- Data Center Services
- Video Conferencing
- Communication Services
- ICT for Smart Cities
- VOIP
- Managed Services
- Wi-Fi

Highly Satisfied Customers

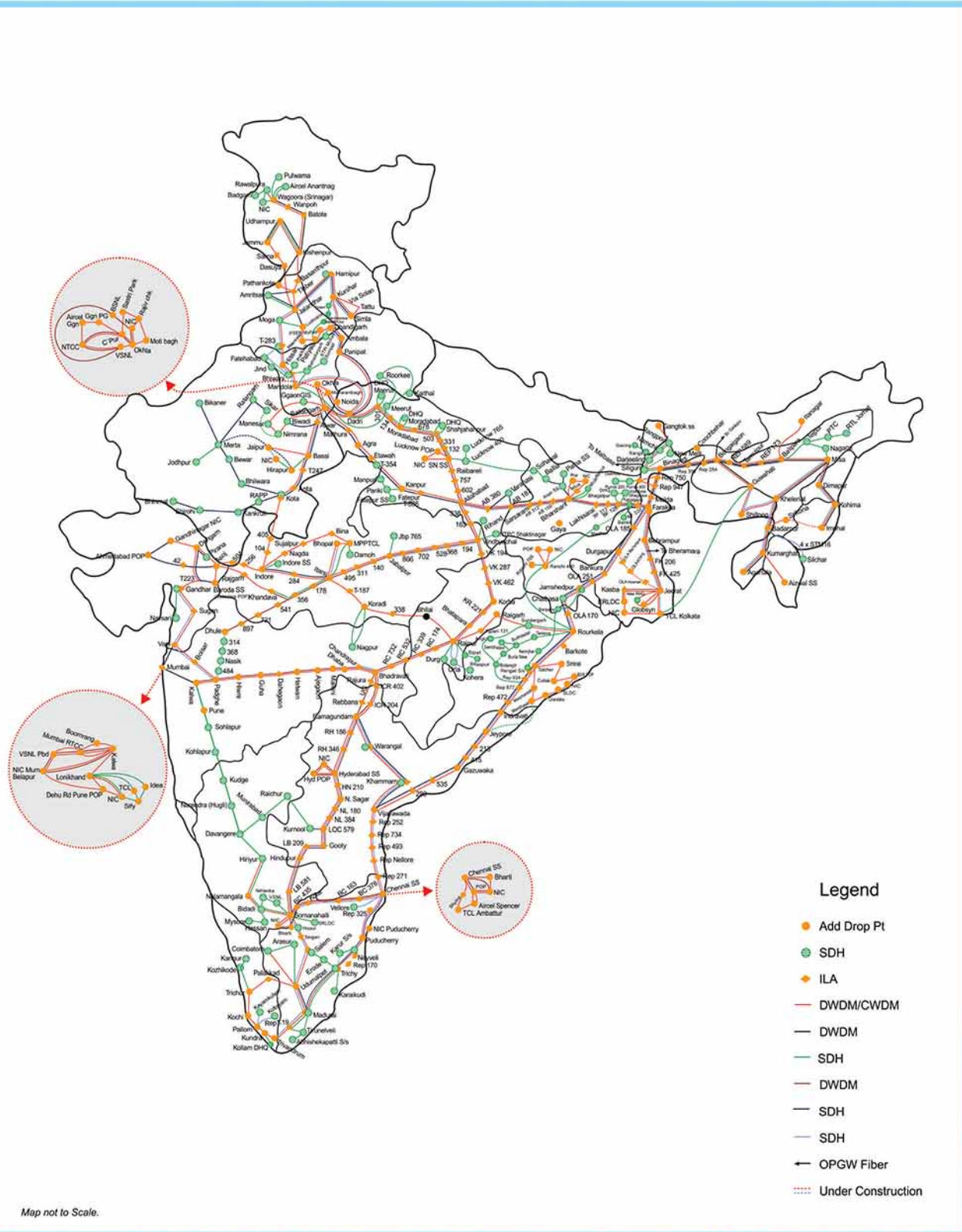
- Unified Access Service Providers
- NLDs
- ILDs
- ISPs
- Content Providers
- Call Centers/Media Houses/Cable TV Operators
- Government Agencies & PSUs
- Corporate Customers & MNCs

POWER MAP OF INDIA

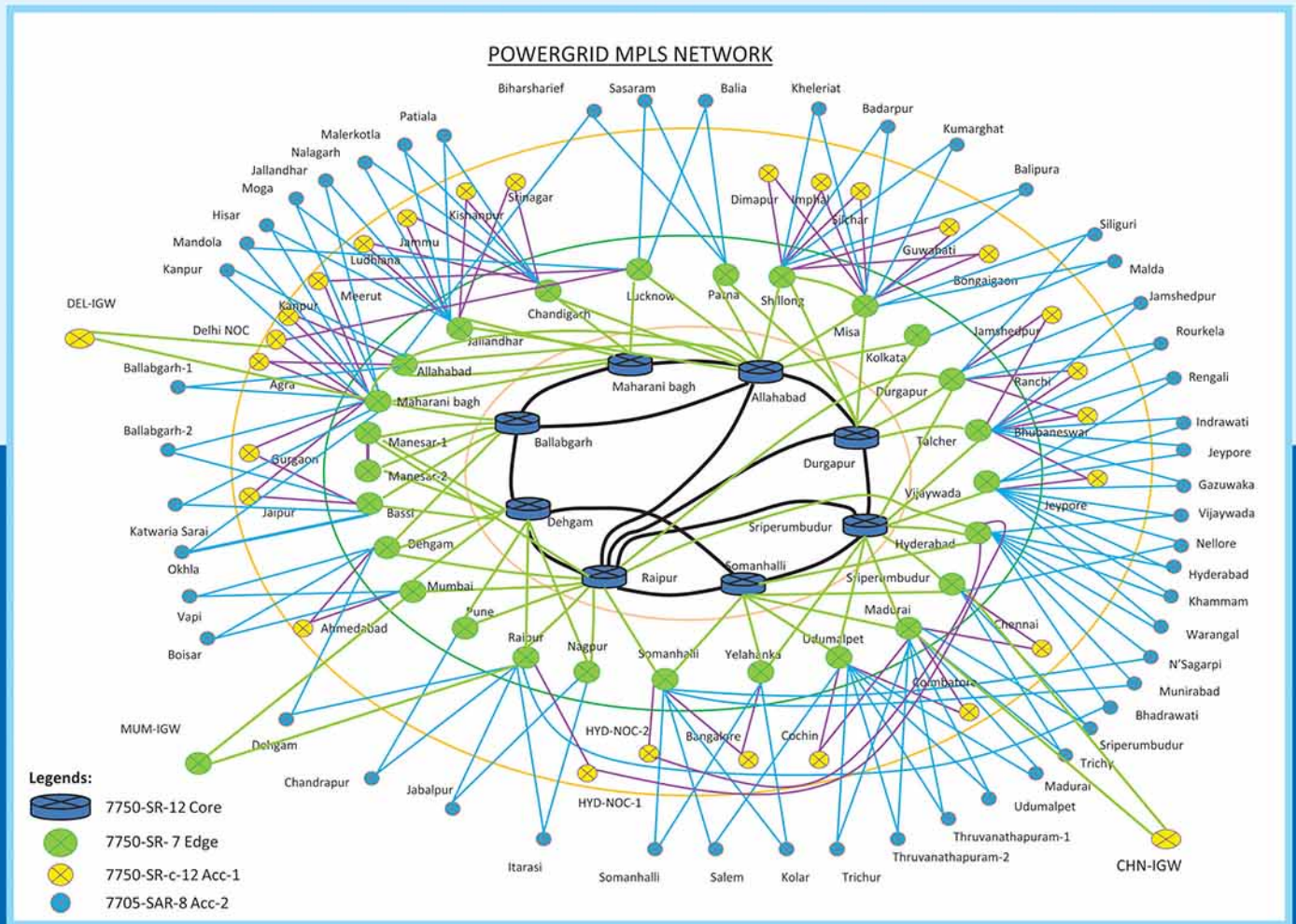
POWERGRID Transmission Lines



Detailed Backbone Network

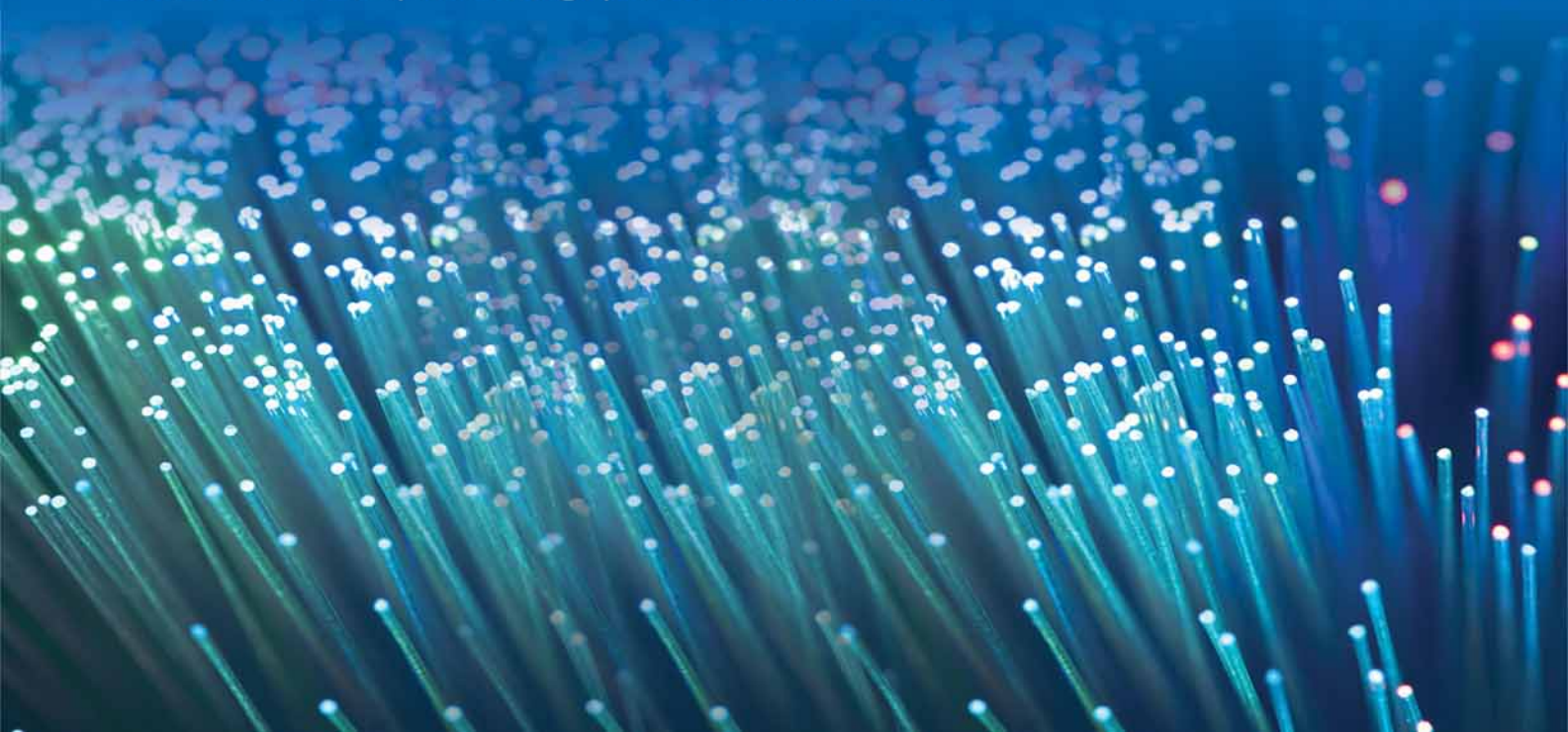


POWERGRID MPLS Network



Three tier architecture with Core, Edge and Access layers

Dual home connectivity to avoid Single point of failure in Backbone





International Connectivity

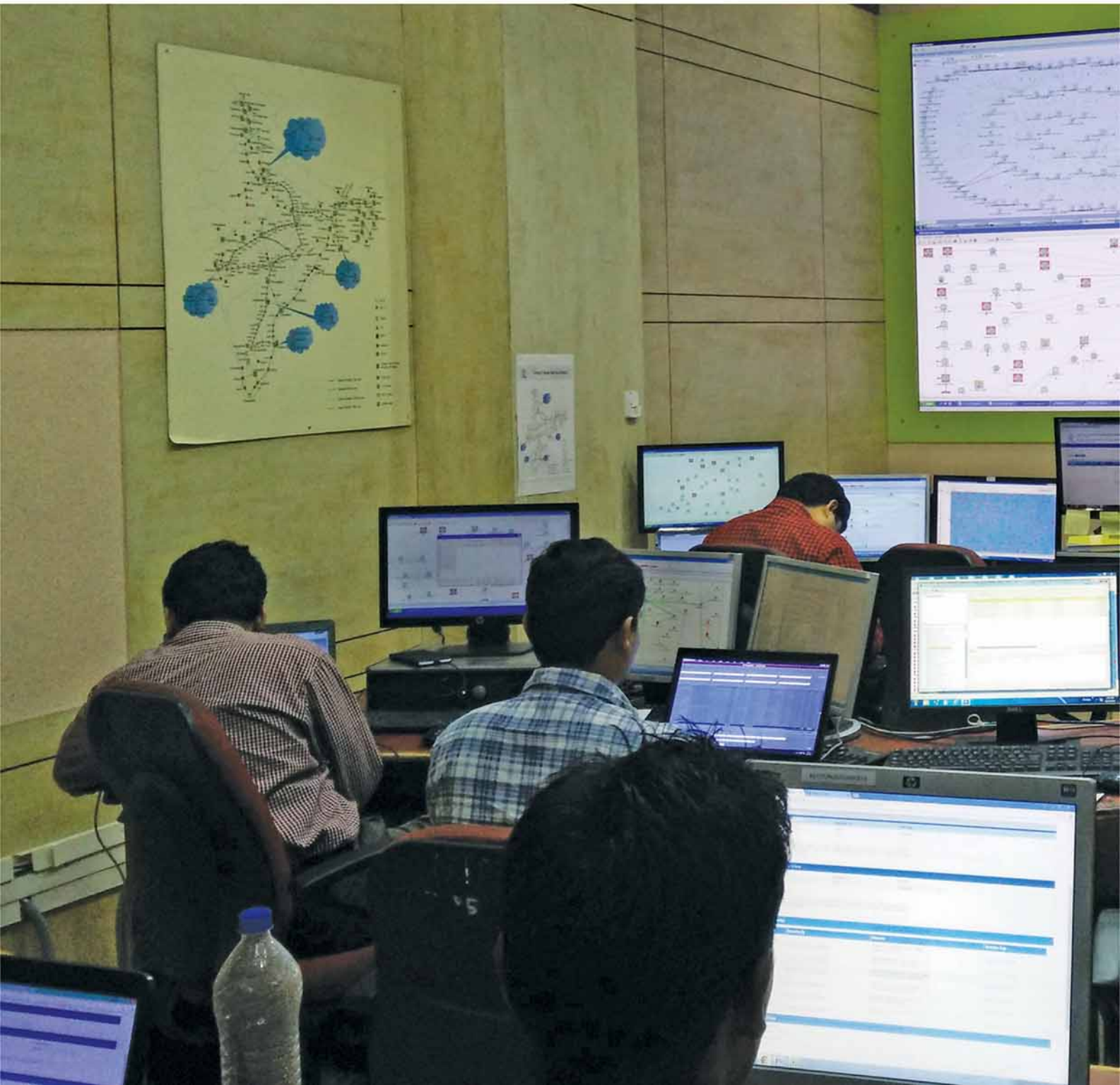
- POWERGRID offering domestic leg for International connectivity to neighbouring countries for ILD operators
- Connectivity established to Bhutan over OPGW on full redundancy on two different routes.
 - Bongaingaon (India)-Galepu (Bhutan) Link (50Km)
 - Siliguri (India)-Malbase(Bhutan) Link (98Km)
- Connectivity established to Bangladesh over OPGW
- OPGW links also being established to Nepal & Sri Lanka
- Exploring Telecom consultancy opportunities in International Market



Network Management System

Main NOC at New Delhi.

Data Recovery Center for NLD is in Bangalore and that of MPLS is in Hyderabad

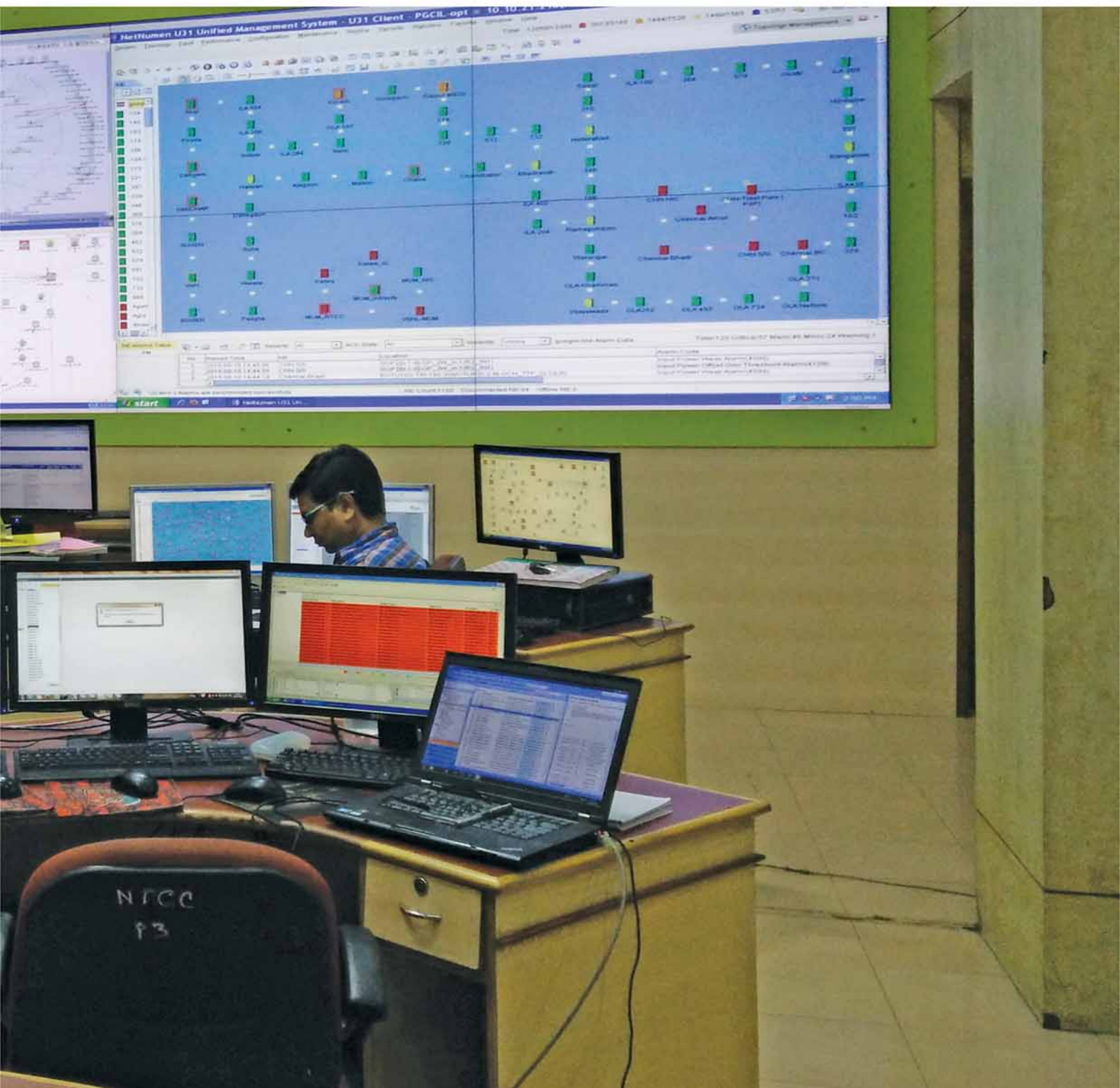


24X7 Customer Support Helpdesk

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Landline No.: +91-11-26525591/92

email: powertel.helpdesk@powergrid.co.in



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Northern Region

(Haryana, Rajasthan, U.P (West), Uttarakhand,
Punjab, Himachal Pradesh, Jammu & Kashmir)

Northern Region Head Office (New Delhi):

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Eastern Region & North Eastern Region

[U.P (East), Bihar, Orissa, Jharkhand, West Bengal,
Assam and North East]

Eastern & North Eastern Region

Head Office [Kolkata]:

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Western Region

[Madhya Pradesh, Chattisgarh, Gujarat,
Maharashtra and Goa]

Western Region Head Office [Mumbai]:

POWERGRID Corp. of India Ltd.

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Southern Region

[Andhra Pradesh, Telangana, Tamilnadu, Kerala, Karnataka]

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पावरग्रिड

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