



Integrated Power Transmission  
& Lighting Solutions





# ABOUT TRANSRAIL

Transrail Lighting Limited provides comprehensive Power Transmission and Distribution as well as high mast lighting solutions from design, testing to fabrication, supply of materials, erection, stringing and commissioning on turnkey basis all over the globe.

We have multi-centre manufacturing facilities within India for producing galvanised steel towers, aluminium conductors and steel poles/masts.

Our vision is to become market leaders in Transmission & Distribution and Poles business through strong focus on customer relationships along with quality and cost consciousness; and a concern for environment and safety both in domestic and global markets.

## OUR IN-HOUSE CAPABILITIES:

- ❖ Design Development
- ❖ Proto Testing
- ❖ Manufacturing of Lattice Towers, Monopoles, High Mast Lighting Poles
- ❖ Manufacturing of Conductors
- ❖ Construction



*R&D - Tower Testing Facility, Wardha*



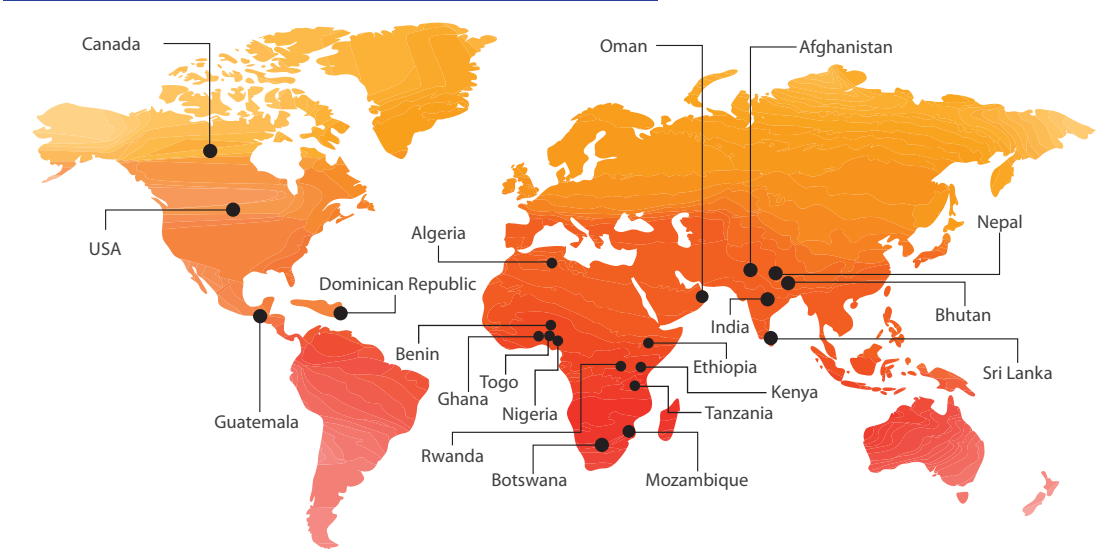


# TRANSMISSION AND DISTRIBUTION

Erstwhile known to be a part of Gammon India Limited, the T&D and conductor businesses are now an integral vertical of Transrail Lighting Limited through a process of business transfer & a scheme of arrangement. For our T&D business, we have been one of the leading EPC players with global exposure in extra high voltage transmission line and distribution projects since 1984.

We possess an in-house facility for design, proto testing, tower and conductor manufacturing and construction. We have a record of supplying over 600,000 tonnes of Galvanised steel towers, including over 87,000 tonnes supplied to clients overseas; and constructing over 21,000 circuit Km of transmission lines up to 765kV / 800 kV as on March, 2016.

## OUR PRESENCE



## DESIGN ENGINEERING



We have one of the modern design facilities located at Mumbai. Our design team comprises of highly qualified and experienced design engineers and detailers. We possess the latest design software of international repute. The design team has the competency to design towers compliant to all international standards.

We have licensed software for design and drawing development including PLS CADD, PLS Pole, PLS Tower, Auto CAD and i-Tower. Tower spotting is done using PLS-CADD software and Method-4 to optimise quantity estimation. The design drawing data are

automatically transferred to CNC machines at the factory. The design facility is well equipped to do Lattice tower designs upto 1200 kV and design of poles upto 400kV using latest softwares.

We have an expertise to conduct voltage upgrade studies through structural analysis of towers/poles in existing lines as well as for strengthening for higher voltages and re-conducting.



TOWER TESTING STATION



We possess state-of-the-art tower testing facility that is fully automatic with Supervisory Control & Data Acquisition (SCADA) software technology. We have designed and tested more than 170 types of towers upto 800 kV for our Indian as well as global clients till Sepetmber 2016.

The testing facility can test towers with maximum height of 85 m (280 ft), maximum base width of 30 m (100 ft) with multiple loading combinations upto 63 numbers.

Our capability to test self-supporting towers upto 1200 kV, Guyed Towers upto 765 kV and Transmission Monopoles upto 500 kV adds to our competencies. We have tested towers for our clients across Canada, Mexico, Malaysia, Italy, Botswana, Nigeria, Ethiopia, Mozambique, Thailand and India.



MANUFACTURING FACILITIES

We possess an in-house facility for design, proto testing and tower manufacturing and construction.

Product	Location	Est.	Area (acres)	Built-up (sq.ft.)	Capacity (tonnes/year)	Product Speciality
Towers	Vadodara, India	1994	11	32,000	24,000	Galvanised steel towers
	Butiori, Nagpur, India	2004	14	85,000	36,000	Galvanised steel towers
	Deoli, Wardha, India	2010	40	355,000	60,000	CE certified ultra-modern unit, with state-of-the-art CNC machinery, galvanising furnace and bath for manufacturing steel towers including tower testing station
Conductors	Silvassa, India	2008	16	132,000	50,000	Ultra-modern unit, with state-of-the-art machinery and in-house Properzi Mill to produce EC/ Alloy Wire Rods and Bare Aluminum/Alloy Conductors
Poles	Silvassa, India	2010	16	132,000	25,000	CE certified ultra-modern unit, with state-of-the-art CNC machinery to produce galvanised poles

TOWER MANUFACTURING

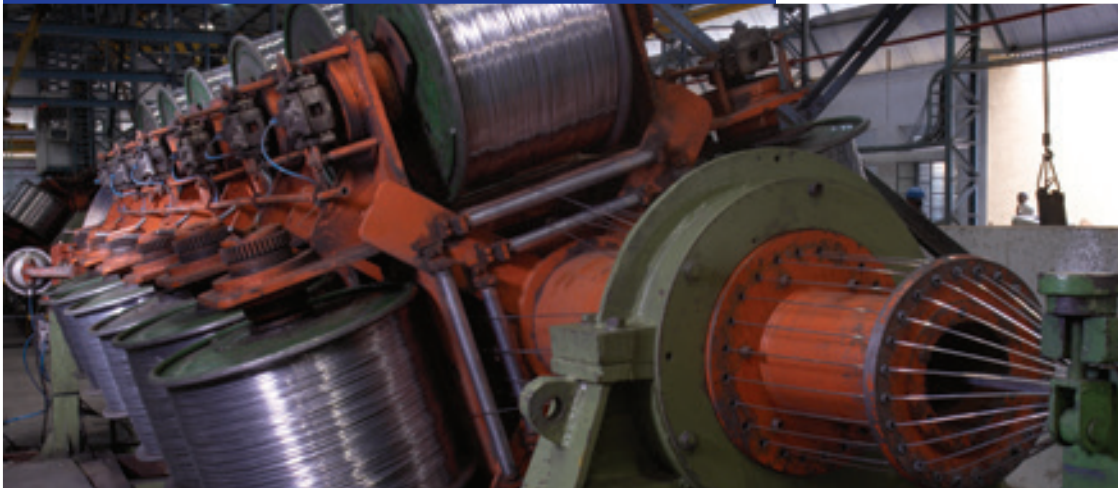


Our transmission line business is complemented by an in-house manufacturing facility for towers. We are an ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 certified company. We are well equipped with state-of-the-art machines and equipment that not only help in bringing efficiencies, but also enhance the quality of our products. We are well equipped with latest CNC machines from FICEP (Italy). We also possess one of the largest galvanising shops, which include five galvanising baths with lengths ranging from 7.0 m, 8.0 m, 9.0 m and 14.3 m, which can handle all sizes and shapes of materials.





CONDUCTOR MANUFACTURING



Established in 2008, we were the first and the only one amongst the Transmission and Distribution turnkey contractors in India to have integrated backwards into the manufacturing of Aluminium and Aluminium Alloy Conductors.

OUR SUPPLY RECORD (2008-2016)		
	Kms	MT
Domestic Markets	60,764	77,946
Exports	12,372	14,782

We have an export presence in Botswana, Nigeria, Bhutan, Ethiopia, Algeria, Mozambique, Dominican Republic, Guatemala, Kenya, Afghanistan, Ghana, Benin and Togo.

MANUFACTURING /TESTING FACILITIES

Our facility is well equipped with latest technology to manufacture EC Grade Aluminium & Aluminium Alloy Wire Rods and Aluminium, Aluminium Alloy Conductors (with or without steel reinforcement) upto 765/800kV. Our Conductor manufacturing facility at Silvassa has a manufacturing capacity of 50,000 MTPA.

We are technically qualified to supply to various Electrical Utilities globally across the following locations:

- Europe
- Canada
- Africa
- Asian
- Latin America

We strictly adhere to our predefined process techniques to maintain high product quality standards as per customer requirements.

- Properzi continuous Casting and Rolling Mill along with Melting & Holding furnaces and online solutionising furnace to provide superior metal treatment to get best quality of Alu/Alloy Wire Rods.

- Monoblock Stands to produce wire rods through high reduction process
- Wire drawing machines to convert wire rod coils into wires of reduced diameter as per finished conductor parameters.
- High Speed Skip Stranding machines for high productivity of Distribution Conductors.
- Rigid Multistrand machines for production of Conductors upto 61 Strands as per Customer Specifications.

PRODUCT PORTFOLIO

- EC Grade Aluminium Wire Rods
- Aluminium Alloy Wire Rods (6201 Alloy in M&T4 temper – online solutionized)
- AAC (All Aluminium Conductor)
- AAAC (All Aluminium Alloy Conductor)
- ACSR (Aluminium Conductor Steel Reinforced)
- ACSR/ AS (Aluminium Conductor Aluminium Clad Steel Reinforced)
- AACSR (Aluminium Alloy Conductors Steel Reinforced) for River Crossing and Earthing applications.
- AACSR/ AS (Aluminium Alloy Conductor Aluminium Clad Steel Reinforced)
- ACAR (Aluminium Conductor Aluminium Alloy Reinforced)
- AL59 High Conductivity Alloy Conductors

Products under development

- We are in the process of acquiring the technical knowhow to develop the following High Temperature Low Sag Conductors (HTLS):
- ACCC- Aluminium Composite Core Conductor
  - INVAR Conductors

TESTING FACILITIES

To ensure consistent Quality Standards, our products are run through several tests using following testing facilities:

- Metallurgical Analysis with Spectro Meter (German make) for Aluminium and Aluminium Alloy along with grain structure
- Tensile Testing / UTS Test with computerised tensile tester
- Torsion Test
- Wrapping Test
- Electrical Resistance / Conductivity
- Elongation percentage
- Diameter
- Mass of Zinc
- Uniformity of Zinc Coating Test
- Grease drop point test



QUALITY STANDARDS

We manufacture Aluminium/Aluminium Alloy Conductors (with or without Steel Reinforcement) as per following Indian and International Standards.

Reference Standards	
Indian	IS 398 Part 1, Part 2, Part 4 and Part 5
British	BS 215 Part 1, BS 215 Part 2 and BS 3242
American	ASTM B 231, ASTM B 232, ASTM B 399 and ASTM B 524, among others
Canadian	CSA C 49
German	DIN 48201 Part-V & VI, DIN 48204
French	NFC 34-120, NFC 34-125
IEC	IEC 61089
Swedish	SS 424 08 07, SS 424 08 12, SS 424 08 13
South African	SANS 182 Part II & III
Australian	AS 1531
European	EN 50182



EHV Type Test Certifications

The Conductor Division possesses EHV Type Tests certification by following Agencies.

- SAG-Germany
- VEIKI VNL-Hungary
- SABS-Johannesburg
- TAG Corporation-Chennai
- ERDA-Gujarat

IMS Certification

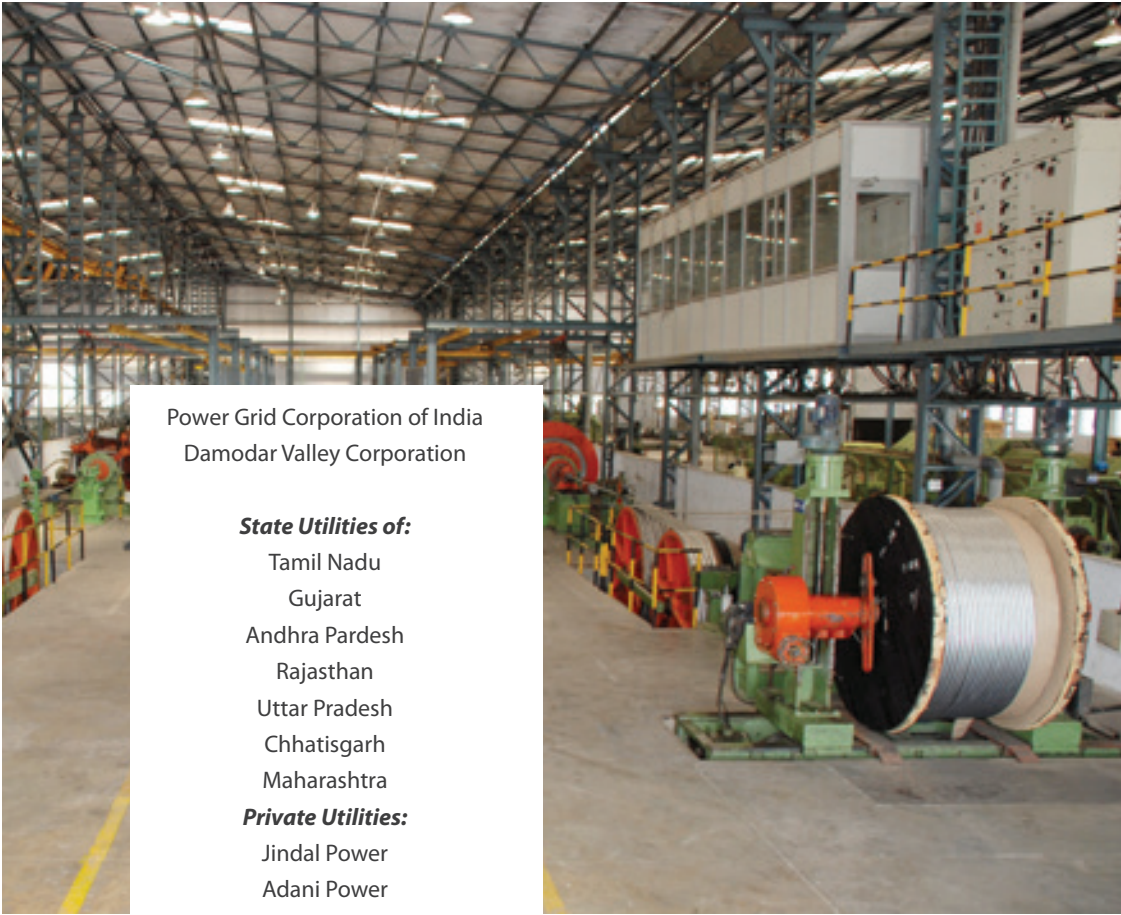
The Conductor Division possesses IMS certification by DNVGL.

- ISO 9001: 2008 (Quality Management System)
- ISO 14001: 2004 (Environmental Management System)
- OHSAS 18001: 2007 (Occupational Health & Safety Management System)



LIST OF DOMESTIC REGISTRATIONS/ QUALIFICATIONS/CLIENTS

Our major client-base in India includes Public as well as Private Sector Transmission and Distribution companies and all Electrical Utilities.



Power Grid Corporation of India  
Damodar Valley Corporation

**State Utilities of:**

- Tamil Nadu
- Gujarat
- Andhra Pradesh
- Rajasthan
- Uttar Pradesh
- Chhatisgarh
- Maharashtra

**Private Utilities:**

- Jindal Power
- Adani Power

LIST OF INTERNATIONAL REGISTRATIONS/QUALIFICATIONS/CLIENTS			
Country	Clients	Country	Clients
Sellihca Qualification	Nordic Utilities	RETIE Certification	Colombian Market
Spain	Cobra and Elecnor S.A	Nigeria	Dextron Engineering
Finland	Fingrid	Nigeria	PHCN/TCN
Norway	STATNETT	Ecuador	CELEC
Nepal	Nepal Electricity Authority	Sweden	Eltel Networks
Zambia	ZESCO	Iraq	MEW
Tanzania	TANESCO	Jordan	NEPCO
Algeria	Sonelgaz SpA.	Afghanistan	Ministry Energy & Water
Ghana	GRIDCO	Botswana	Botswana Power Corporation
Togo-Benin	CEB	Mozambique	EDM
Kenya	Kenya Power Corporation	Bhutan	Bhutan Power Corporation Limited
Ethiopia	EEPCO	Colombia	EEB

POLES MANUFACTURING



MANUFACTURING FACILITY

Our manufacturing facility at Silvassa has the most advanced state-of-the-art manufacturing technologies and machines. We possess world-class equipments that ensure quality, accuracy and enhance productivity. We also possess one of the largest galvanising baths in India (14.3 m length, 2.5 m deep and 1.5 m wide). Further, the various stages of manufacturing are closely monitored and controlled right from fabrication, welding to galvanisation.



PRESENCE AND CLIENT BASE

Transrail is a global player with a sizeable presence in Middle East and Africa. We are amongst the largest suppliers of distribution poles to Africa from India. Domestically, we are a pan-India player supplying products across the country through our sales network that is spread over 16 cities. Our key clients includes leading

corporates like Zeeco, Reliance Industries Limited, ONGC, IOCL, SAIL, Indus Towers, Bharat Petroleum, Shapoorji Pallonji, Dimo Technology, Power Grid Corporation of India, MP-SEB and Gammon India among others.



## PRODUCT RANGE



*High Mast Lighting Systems*

High mast lighting systems are reliable, efficient and maintenance friendly systems for area lighting. The structural design of high mast is in conformation with the 'Technical Report no.7' of Institute of Lighting Engineers of UK, an internationally accepted standard.

### Product application

- Industrial premises area/security lighting
- Airport apron lighting
- Sea ports lighting
- Yard/Storage/ Packing area lighting
- Railway's circulating area and station area lighting
- Highways and Expressways lighting
- Sports arena lighting
- City junctions and flyover lighting
- Oil installations
- Power plants/other large engineering plants



*GI Street Lighting Poles*

These poles are aesthetic, easy to maintain and long lasting solutions to street lighting needs. We design and manufacture galvanised poles of all types - Conical Poles, Octagonal Poles and Swaged Poles.

- Galvanised Conical and Octagonal Pole  
Primarily used in road lighting, our galvanised conical and octagonal poles are sleek and highly aesthetic.
- Galvanised Swaged Poles  
Swaged poles are manufactured as per IS 2713 (Part I & III) – 1980. These are galvanised as per BS EN ISO 1461 or customer specifications.
- Curved and Bent Poles  
Transrail has developed special techniques and machines to curve and seamlessly bend conical/octagonal poles to give a modern look to street lighting architecture.
- Hinged Poles/Masts for various applications

## OUR ACHIEVEMENTS

- Design, supply and installation of stadium masts at 18 stadiums in India and abroad
- Executed the first ever transmission line in Monopoles in India from design, testing, stringing to commissioning
- Completed more than 100 illumination projects across India
- Executed a 35 Km distribution line in Indore – the largest project of its kind in India



*T&D Monopoles*



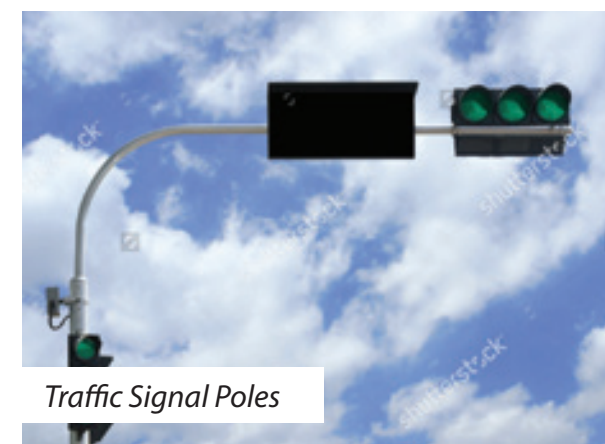
*Stadium Masts*



*Street Light Poles*



*Telecom Towers*



*Traffic Signal Poles*



*Signage Poles and Structures*



*Flag Poles*



*Derrick Structures*



# CONSTRUCTION

With a track record of successfully executing complex transmission line projects, we are amongst the few players to have constructed some of the heaviest and tallest transmission towers. We have also constructed towers in difficult terrains like deserts, mountains, and rivers.

One of the most important factors in turnkey projects is to have strong relationships with the best-in-class vendors. For this reason, our Company enjoys reputation of having strong vendor relationship and is able to source quality materials at competitive prices.



## WE HAVE EXECUTED A TOTAL TRANSMISSION LINE OF 22,700 CIRCUIT KM (MARCH, 2017)

Voltage	Length (Circuit km)
765 kV	3156
400 kV	10454
220/132/66 kV	7972
Hot Line Stringing 132/220 kV	729
Dismantling & Re-stringing	388





## CORPORATE OFFICE

### **Transrail Lighting Limited**

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Poles  
[mktgpoles@transraillighting.com](mailto:mktgpoles@transraillighting.com)

## MANUFACTURING UNITS

### **Deoli Plant (Tower)**

B-1/1, MIDC Growth Centre,  
Deoli, Wardha – 442101,  
Maharashtra, India  
Phone: +91-7158 203308/9

### **Vadodara Plant (Tower)**

Vadadla, Jarod-Samlaya Road,  
Taluka – Savli,  
Vadodara – 391520,  
Gujarat, India  
Phone: +91- 787 4798 535

### **Butibori Plant (Tower)**

G-55, MIDC, Butibori,  
Nagpur -441108, India

### **Silvassa Plant (Conductor)**

Survey No.:178/182,  
Village: Amboli,  
Silvassa – 396230, (D&NH), India  
Phone: +91-260-3086 305

### **Silvassa Plant (Poles)**

Survey No. 227, Khanvel-Khardi Road,  
Village –Khardi,  
Silvassa – 396230, (D&NH), India  
Phone: +91-260-2641 666