



# STERLITE POWER AT A GLANCE

Sterlite Power is a leading global developer of power transmission infrastructure with projects of over 13,700 circuit km and 26,100 MVA in India and Brazil. It is the only company in a leadership position in both India and Brazil, which are two of the largest greenfield transmission markets globally. With an industry-leading portfolio of power conductors, EHV cables and OPGW, Sterlite Power offers solutions for upgrading, uprating and strengthening existing networks. The company has set new benchmarks in the industry by using cutting-edge technologies such as helicranes, drones and robotics to deliver complex projects ahead of schedule, with the highest standards of quality and safety.

Sterlite Power believes that electricity access transforms societies and delivers a long-lasting social impact and is uniquely positioned to solve the toughest challenges of energy delivery. Sterlite Power is also the sponsor of India's first Power Transmission InvIT - IndiGrid - which attracted global investors such as KKR and GIC in 2019. The company has established its unique asset monetisation model successfully in both India & Brazil and has monetised assets worth US \$ 1Bn till date. Sterlite Power has been recognised amongst The Economic Times Best Brands 2020 and is a recipient of prestigious global awards from S&P Global Platts and International Project Management Association (IPMA).

- Leading global developer in power transmission
- Focussed on transmission for renewable energy
- Developer of projects worth \$ 5.6 Bn across India and Brazil
- Sponsor of India's first Infrastructure Investment Trust in Power Sector
- Leading manufacturer of bare overhead conductors, exporting to 60+ countries
- Recipient of global accolades S&P 2019 Global Energy Award, IPMA
   2019 Gold Award, and ET Best Brands 2020

### **KEY MILESTONES**



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#### 2006 - 2009

- Acquisition of Power business from Sterlite Industries Ltd.
- Sterlite Technologies Ltd. (STL) forayed into the power transmission business
- · Expanded power conductor manufacturing capacity

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#### 2010 - 2013

- Sterlite Power (as a division of STL) awarded India's 1<sup>st</sup> independent power transmission project under TBCB regime
- Awarded India's 1st 765 kV private project BDTCL
- Established power cable manufacturing facility in Haridwar, Uttarakhand
- Awarded RAPP Transmission Company Ltd. (RTCL) project with 403 ckm in Madhya Pradesh and Rajasthan, and PKTCL with 545 ckm in Jharkhand and West Bengal



#### 2014 - 2015

- Awarded NRSS-29, a project in the challenging terrain of J&K with route length of 887 km
- 1st private transmission developer to win MoP award for early commissioning of 765/400 kV Dhule substation
- Attracted private equity investment of INR 500 Cr (US \$ 714 Mn) from Standard Chartered Private Equity
- Commissioned our 2<sup>nd</sup> project BDTCL in Bhopal Dhule

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#### 2016 - 2017

- Became 1st developer to commission a TBCB project, RTCL (RAPP Transmission Company Ltd.), ahead of schedule
- Won two projects in Brazil, making us the 1st Indian transmission infrastructure developer to enter the global market
- IndiGrid listed on Indian stock exchange; Sterlite Power transferred 2 projects to IndiGrid
- Commissioned the Jalandhar-Samba line a key section of NRSS-29, the transmission corridor in Northern India, 12 months ahead of schedule
- Raised India's first AAA (SO) rated infrastructure bonds with Govt. guarantee for transmission projects



#### 2018 - Now

- Won 6 new transmission projects in Brazil taking the total capex to US \$ 2 Bn
- Agreement with IndiGrid for sale of five transmission assets from Sterlite Power
- OPGW manufacturing facility at Piparia received ISO 17025:201
   General Requirements for the Competence of testing and
   Calibration Laboratories by NABL
- Received the largest global order of Rs 300 Cr (US \$ 42 Mn) from GS South Korea for supply of High-Performance Conductor (ACCC)
- Commissioned NRSS-29 ahead of schedule; the project was dedicated to the people of J&K by Prime Minister Shri Narendra Modi
- Advanced commissioning of Arcoverde Project in Brazil 28 months ahead of schedule
- Successfully heralded 'Zero Shutdown' capability in India, with the reconductoring of a 66 kV transmission line in 'live-line conditions' in Bengaluru
- Executed 1st ever Railway Electrification project by successfully charging railway line from Mathura to Kasganj
- Concluded sale of three Brazilian assets: Arcoverde, Novo Estado and Pampa
- Acquired our 1st Green Energy Transmission Corridor Project LVTPL and VNLTL project in India
- Won prestigious global honours from IPMA Global Project Excellence Award, S&P Global Platts Global Energy Awards, the Asset AAA Infrastructure Excellence Awards, & ET Best Brands 2020



# TECHNOLOGY LEADERSHIP



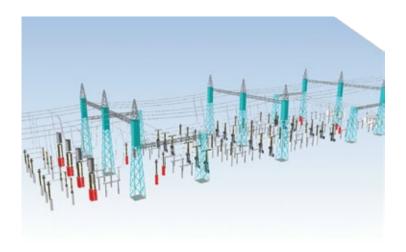
#### An Evolving World Needs Revolutionary Solutions

Sterlite Power has led the way in adopting the state-of-the-art global best practices in a legacy driven power transmission sector. We are actively pursuing Innovation opportunities with universities, start-ups and third parties.



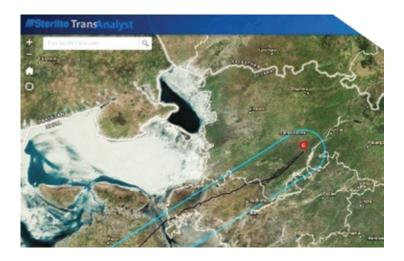
### AERIAL TECHNOLOGY FOR ACCELERATED PROJECT EXECUTION

- Planning & automated inspection services by unmanned aerial vehicles
- · First use of helicopter stringing in India
- Heli-crane based tower erections in tough terrains
- Investor in tech start-up SharperShape (www.sharpershape.com)



### DIGITALISATION OPERATIONAL EFFICIENCY

- Digital prototypes for high quality design
- QHSE effectiveness through e-audits & remote inspections
- SPEX and 5D BIM for project excellence



## BIG DATA ALGORITHMS/PREDICTIVE SIMULATIONS

- Route planning, elevation models and resource optimisation using in-house smart algorithm platform TransAnalyst
- Improving predictability of soil characteristics through data analytics for foundation design (Subsurface Terrain Model or STeM)
- Pan-India power system studies
- · Tower test simulations for design validation



### ROBOTICS FOR SAFE STRINGING & TECHNOLOGY INTENSIVE PRODUCTS

- SkyRob<sup>™</sup> safe & efficient optical ground wire stringing through robotics
- Largest manufacturer of high-performance conductors in India
- Low loss high ampacity cable, fiber integrated power cable
- Largest optical ground wire (OPGW) player in India
- SmartValve<sup>™</sup> modular power flow control



#### **SMART PROJECTS FOR MODERN GRID**

- India's first vertical GIS Substation with smaller footprint leading to reduced CO<sub>2</sub> emissions
- Re-conductoring of 66 kV transmission line in 'Live Line Condition' to achieve a 2x increase in power transfer capacity in Electronic City, Bengaluru



#### **TECHNOLOGY FOR GREENER ECOSYSTEM**

- Translocating bigger and mature living trees
- Green co-location from Convergence

# GLOBAL INFRASTRUCTURE

Our global infrastructure business bids, designs, construct, owns and operates power transmission assets across multiple geographies. We operate both in India and Brazil with 25 projects\* spanning ~13,700 circuit km of transmission lines.

#### **Operating Model**

#### Bid



- Rich track record of winning lucrative inter-state transmission service agreements; robust pipeline in place
- 15 projects in India, through tariff-based competitive bidding (TBCB)
- Strong regulatory regime in India enables fully contracted long-term cash flows, low counter-party risk and long concession periods

#### **Award**

- · Government tenders
- Credit-worthy counter party ensuring bankability
- · Annuity period of 25-35 year

#### Develop



- Deep innovation and execution skills that help complete projects within stipulated costs; often commissioning ahead of schedule
- Adherence to the highest standards of safety & equality
- Collaboration with partners who are in their respective fields

#### **Build**

- Sub-contract to EPC partner
- · Back-to-back guarantees

#### Manage and Refinance



- Strong operations & maintenance team that manages the assets post commissioning
- Pursuit of refinance opportunities
- IndiGrid India's first power sector infrastructure Investment Trust (InvIT) - has proven to be a successful way of raising capital by transferring mature, fully operational assets to the Trust and redeploying the capital for developing new assets

#### **Asset Flip**

- Flip assets to IndiGrid
- Recycled equity for new project

#### Portfolio at a Glance

#### 25 Projects

won under Public Private
Partnerships (15 in India under
TBCB and 10 in Brazil)

#### ~26,100 MVA

of Transformation Capacity

#### ~13,700 ckm

of power transmission lines commissioned or under construction

#### **9 Operational Assets**

won under PPP

#### 21 substations

#### 31.5% Market Share,

by tariff of inter-state projects awarded under competitive bidding in India

#### Rs 40,778 Cr Capital Expenditure

(US \$ 5.83 Bn planned & incurred)

#### **68 EHV Lines**

#### 99.84% Availability

achieved across our commissioned assets in Q4 - FY20



Our assets are in strategically important areas from the perspective of transmission connectivity, transferring power from generating centres to load centres to meet inter-regional power deficit. We now have a portfolio of 15\* transmission projects in India, spanning more than 9000 ckm, through a total capex of Rs 25,262 Cr (US \$ 3.60 Bn).

\*includes assets developed or under construction, and assets sold

Footprint in India

4,500

(KMS) ROUTE LENGTH

**9,262** (CKM) LENGTH

Rs 25,262 (US \$ 3.60 Bn)

PROJECT CAPEX













(Assets Managed by SIML)





Power utilities are facing increasing pressure due to rapid urbanization, demand growth and ageing infrastructure. They have an urgent need for augmentation and upgrades to meet their needs. We help power utilities tackle their network congestion challenges by providing solutions that upgrade and uprate corridor intensity. Our strategic solutions ensure improved performance in the short and long-term through system design, engineering, procurement and construction practices.

#### Portfolio at a Glance

#### Overhead Products Business

#### **Conductors**

- Complete range of power conductors from ACSR to High Performance Conductors (HPC) like composite core, INVAR, ACSS and GAP type
- 3 NABL-accredited manufacturing facilities with production capacity of 1,62,00 MT/year and 12,000 km/year of HPC
- Supply to 60+ countries
- First player in India with upstream integration of molten metal for manufacturing conductors
- Conductor facilities at Rakholi and Piparia scored 97% and 93% respectively in the Workplace Conditions Assessment audit

#### **Optical Ground Wire (OPGW)**

- India's only fully integrated manufacturer and solutions provider of OPGW; NABL-accredited manufacturing facility
- · Capacity of 18,000 km/year
- Planning, application, design engineering and execution capabilities to meet requirements of power systems/utilities for communication, protection and commercial purposes
- First conductor and OPGW
   manufacturer in India to obtain a
   landmark assessment and certification
   for measurement and reporting of
   Greenhouse Gas Emissions as per
   ISO 14064-:2006

### Underground Products & Turnkey Business

#### **Cables and Solutions**

State-of-the-art NABL-accredited facility for manufacturing cables

Wide product range covering 6.6 kV to 400 kV power cables

- New products like three core EHV cables, per integrated power cables, high ampacity low loss cables and CCD are in focus
- Range of 110+ innovative designs to meet industry requirements
- EHV turnkey projects include cable laying and substation development
- · Best-in-class manufacturing facility

#### Master System Integrated (MSI) Business

Sterlite Power has successfully transformed into a Master System Integrator delivering multifold increase in throughput, upgrades to existing infrastructure, uprate of Overhead Conductors, OPGW based communication system & reliable EHV underground network, in shortest possible time.



#### Capabilities

- Expertise in power systems capability studies and network optimization
- End to end design expertise; digital tools for substations, conductor, cable systems
- · Zero shutdown (live line reconductoring) capability
- Industry leading global partnerships for state-of-art technical solutions
- Use of robotics and aerial technology for safe stringing of optical ground wire (OPGW) and power conductors

#### **Differentiators**

- Engaging deeply with customers ro solve challenges of time, space & capital in developing their transmission networks
- Faster turn-around times for feasibility assessment & for execution engineering
- Pioneer to introduce this methodology in the country, allowing line uprates with no disruption in supply through the line
- Bringing best & latest of solutions such as power flow controller, dynamic line rating, tower coating, to utilities in India, to maximize asset utilization
- Passionate proponents of innovation, for faster execution and for better safety & quality standards

#### 3,500+ ckm

of uprate and upgrade to existing transmission line (completed or under execution)

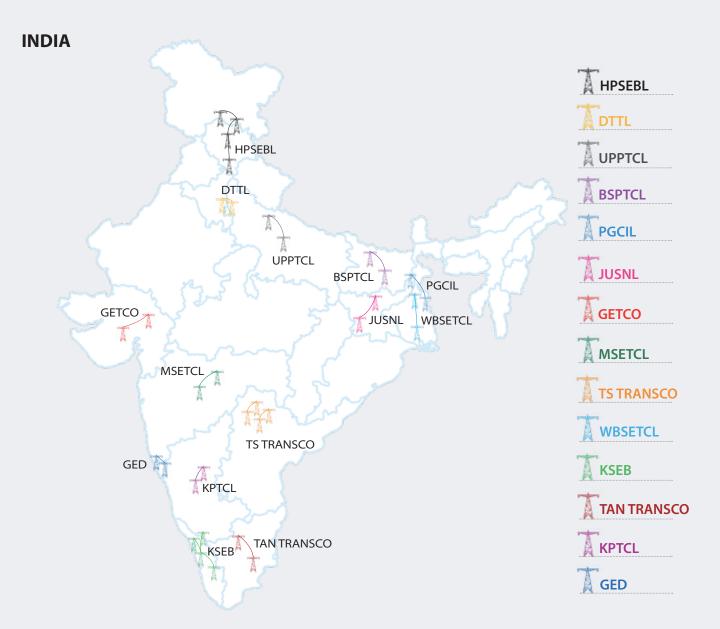
#### 90

critical corridors in 14 states

#### 13,500+ km

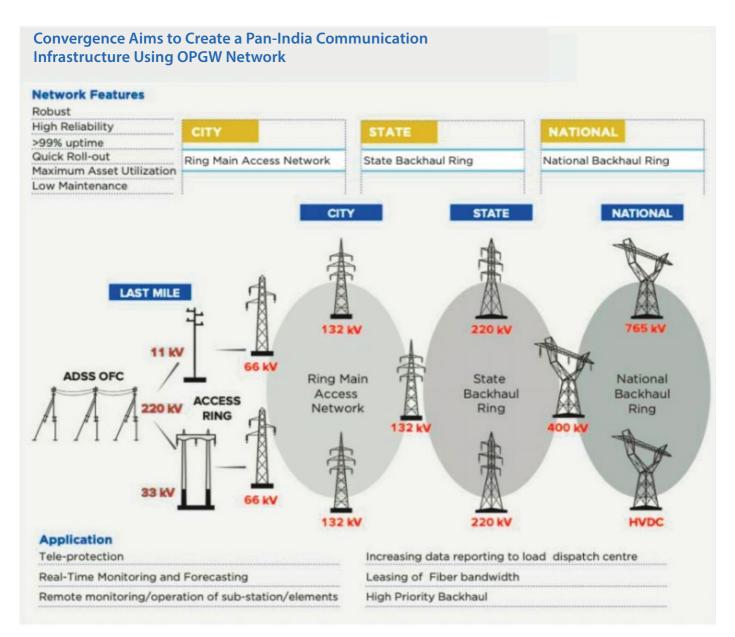
OPGW-based communication projects under live line condition

The below map shows only Uprate/Upgrade Projects or New Line with HPC projects. Sterlite Power's Solution Business also undertakes OPGW-based reliable communication projects and have delivered over 8500+ km under live line condition.





Convergence works at the confluence of power and telecom infrastructure. We are an aggregator of overhead (using optical ground wire or OPGW) and underground optical fibre cable infrastructure through strategic alliances and partnerships with power utilities, gas utilities and power distribution companies. The aim of Convergence is to be the best-in-class communications infrastructure and solutions provider by creating the most reliable network.



#### Portfolio at a Glance

**Neutral Dark Fiber Services** 

**Colocation Facilities** 

Edge Data Centers Providers

**EPC Work in Fiber Rollouts** 

Telecom BTS Antenna Infrastructure

PPP with Smart City for Intracity Fiber

Access to ~6500+ Route km of OPGW

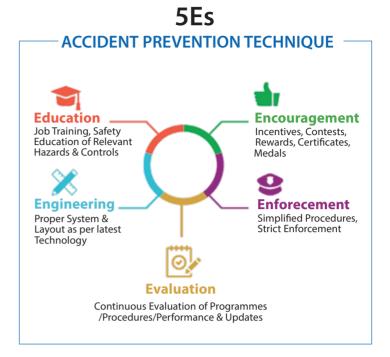


### **QUALITY, HEALTH, SAFETY & ENVIRONMENT**

We believe working at Sterlite Power means working safely. Zero harm to people, property and planet is non-negotiable for us. We have developed a 5E Concept of Accident Prevention that enables us to operate our business safely by preventing any form of accidents that may harm our employees, contractors, communities or assets adversely.

#### **Quality Excellence**

We are committed to delivering reliable projects and products through a first-time right approach. Our engaged leadership, digitalisation and risk-based process approach ensures quality assurance, first-time right products and customer satisfaction.



# CORPORATE SOCIAL RESPONSIBILITY

At Sterlite Power, we are committed to making a meaningful impact to the communities. From the marginalised in North East, to villages in Kashmir and communities in Kerala, our efforts have been instrumental in bringing smiles to people's faces.

#### **Building a Better Tomorrow with EdIndia**

We support EdIndia, a social impact start-up that leverages technology and data analytics to create innovative solutions that improve the quality of education at scale. EdIndia is active across Maharashtra, Rajasthan and Tripura, with over 50,000 teachers and 6 lakh students under its wing.

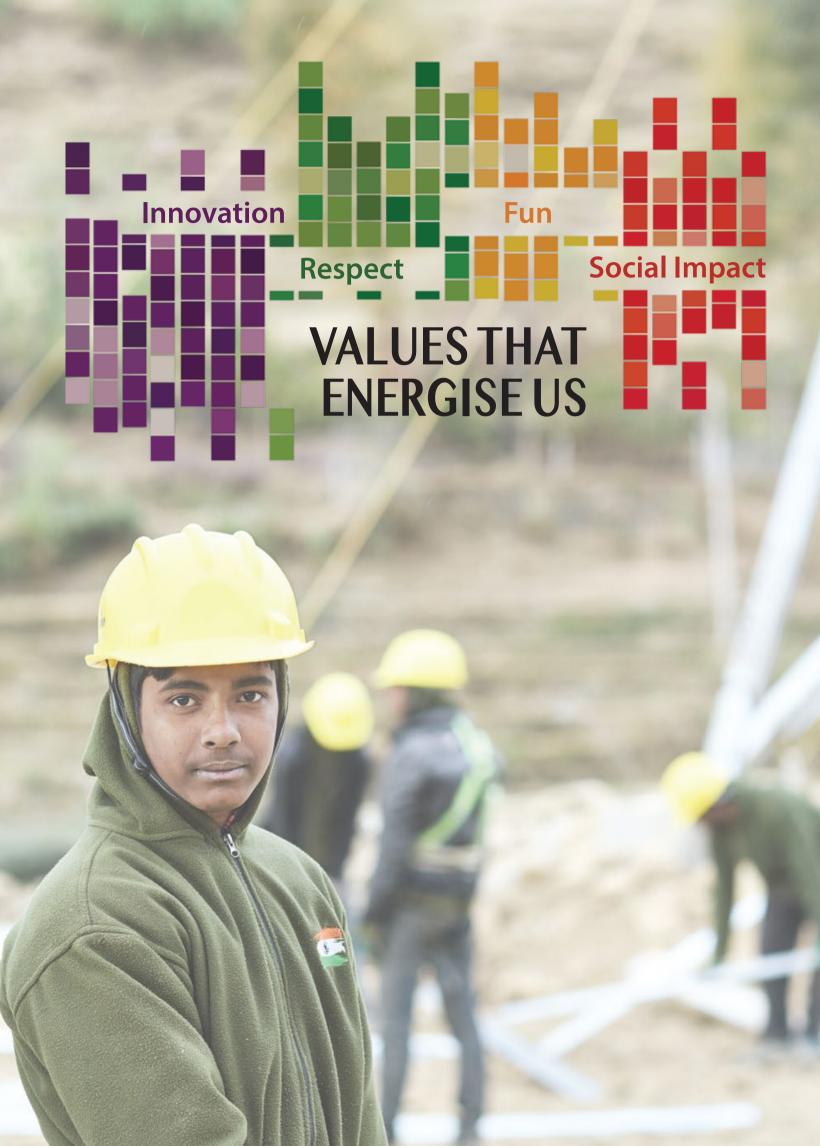
#### **Standing Together During the Pandemic**

During the lockdown, our project teams across multiple sites joined the relief efforts and touched 100+ villages through positive healthcare interventions. From organising contactless health check-up to providing state-of-the-art ambulance, distribution of protection gear and other other essential items, our small steps went a long way positively impacting thousands of lives in rural India.

#### **Ensuring Reliable Power While Preseriving Biodiversity**

At Sterlite Power, we are committed to the pursuit of global environmental sustainability. From tree translocation to addressing the human-elephant conflict in the North-Eastern region of India and leveraging the best of aerial technologies like heli-cranes, drones stringing, we have been able to ensure minimal impact on the environment, while lighting up the darkest corners.





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