

**//// Sterlite Power**



Leadership with purpose

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EMPOWERING

**HUMANITY**

by addressing the toughest  
challenges of energy delivery

FUN | INNOVATION | RESPECT | SOCIAL IMPACT

# Sterlite Power is India's leading power transmission company...

- Share lineage with London-listed US \$ 17 b **Vedanta Group** metals & minerals Company
- **22** projects (12 India, 10 Brazil), running over **+12,000 cKm**
- **~\$5.4 billion** capital commitment
- **60+** EHV transmission lines
- **21** new Sub-Stations/Voltage expansions
- **21000+** MVA transformation capacity

## We are the first..

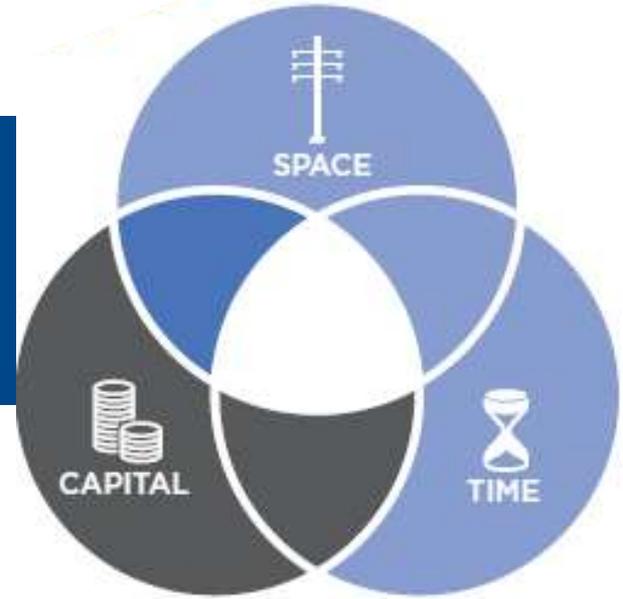
- To complete a transmission project **12 months ahead of schedule**
- Indian **OPGW manufacturer and solution provider**
- Transmission company to form an **Infrastructure Investment Trust (InvIT)**
- To use **aerial technologies** (LiDAR, Heli-cranes, UAVs) for projects
- To execute OPGW and conductor **stringing by helicopter** in India

## Global footprint

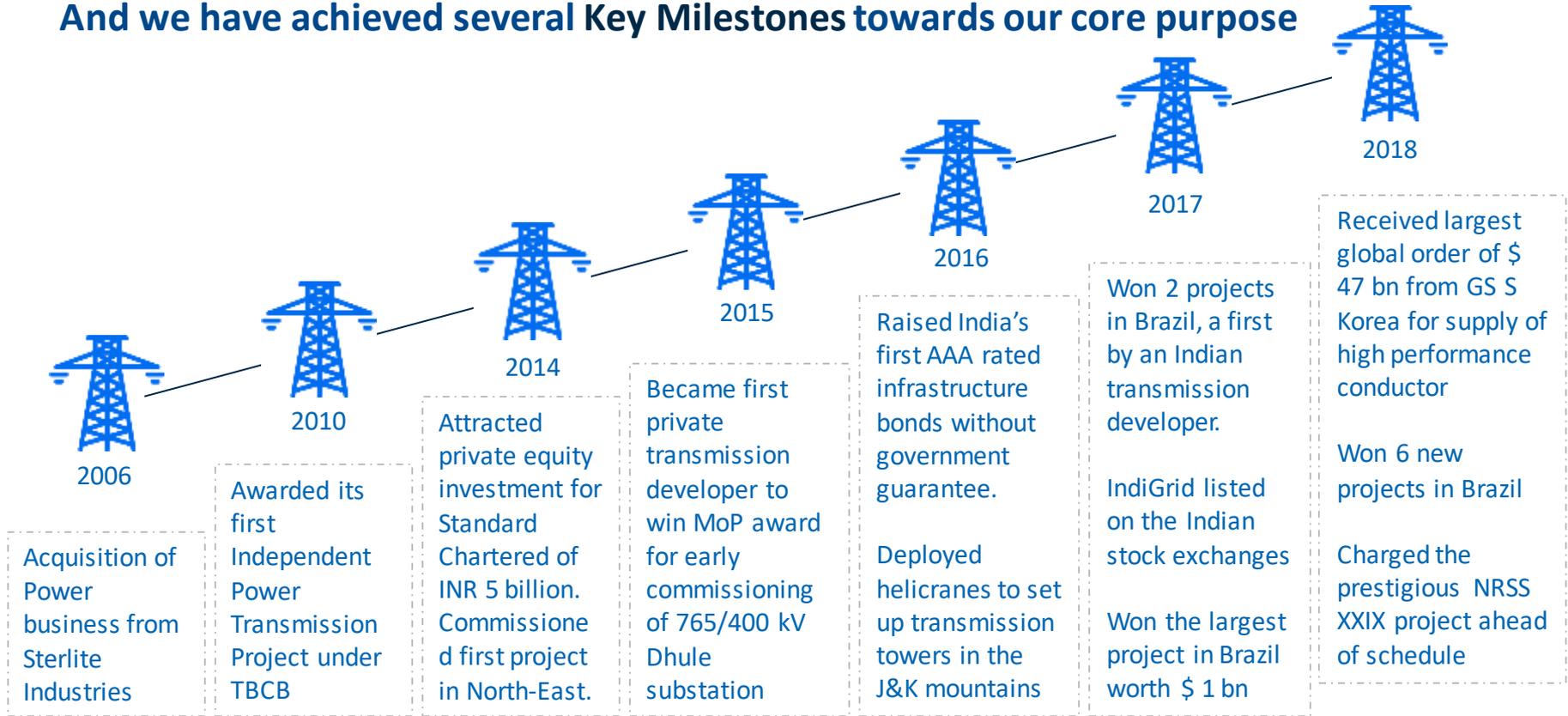


# Our Core Purpose addresses the toughest challenges of energy delivery across space, time and capital paradigms

Empowering humanity by addressing the toughest challenges of energy delivery



# And we have achieved several Key Milestones towards our core purpose



# Sterlite Power operates across 4 Business Lines



## INFRASTRUCTURE



India's leading private sector independent power transmission infrastructure owner

Set up intra and interstate power transmission infrastructure (transmission grid) on long term BOOM (build, own, operate and maintain) model



## SOLUTIONS



Leading manufacturer of power cables, power conductors and OPGW

Supply to leading utilities

Export to over 40 countries

Four state-of-the-art production units

Undertake bespoke MSI (master system integration) projects



## CONVERGENCE



OPGW fibers and transmission towers are leasing to Communication Service Providers

Services offered include:

- Dark fiber lease
- Colocation
- Tower leasing



## INDIGRID



Infrastructure investment trust ("InvIT"), established to own interstate power transmission assets in India.

'Right of first offer' to acquire Sterlite Power projects



## The Global Infrastructure Business owns 22 power transmission projects....

**22**

power transmission projects

Won under PPP  
(12 in India under TBCB,  
9 in Brazil)

**6**

operational assets

3,800 ckms of transmission lines and 2 substations

INR **37**<sup>bn</sup>  
aggregate annual tariff

Average of first 5 years tariff collected for all projects (including those commissioned under construction and transferred to Indgrid)

**~21,250**

MVA of transformation capacity

**36**

substations

**40**

extra high voltage (EHV) lines

**~12,500**

ckms of power transmission lines commissioned/under construction

**30%**

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

**99.8%**

availability achieved across our commissioned assets for 2017-18





# The Solutions Business offers industry leading products and solutions...

## Diverse Products Portfolio

### Conductors

- Full range power conductors from ACSR to high performance conductors (Composite Core, INVAR, ACSS, GAP-Type, etc.)
- Market Leadership in product & customer segments
- Capacity of 1,60,000 MT. to serve global markets; supply to over 40 countries
- Only facility in India with upstream integration of molten metal for conductor manufacturing

### Cables

- State of art manufacturing facility established in 2011
- Product range from 6.6 kV to 220 kV Power Cables
- Focus on new products: 3-Core EHV Cables, Fiber integrated Power Cables, High Ampacity Low Loss Cables, Cables in Co-extruded ducts
- Best-in-class raw material: only Company in India, which is a 'Dow-Inside' partner

### OPGW & Accessories

- India's only fully integrated OPGW manufacturer & solution provider
- Capacity 15,000 km per annum



## Master System Integration (MSI) Projects

Sterlite Power has successfully transformed into a Master System Integrator delivering increased throughput, upgrade to existing infrastructure, OPGW based communication system & reliable EVH underground network in shortest possible time.

### Power Systems Planning and Forecasting

Our in house expertise on power systems helps us support our customers in their planning and forecasting needs. We help our customers specify their needs and co-create solutions that help them upgrade existing infrastructure in preparation for the future.

### Engineering Assessment and Design

Our design and engineering team develops solutions that optimize space and time constraints. We design solutions that minimise corridor footprint by using technologies such as monopoles and compact power designs, micro piling and GIS substations.

### Project Management and Delivery

We leverage our core strengths of technology and project management to deliver solutions to our customers that help them uprate, upgrade and strengthen their existing infrastructure, with minimal outage and disruptions. We are building capabilities of various aerial technologies for execution and live-line reconductoring.



## ... with 11 MSI projects across India (Asset Portfolio)

### GETCO

#### Overview

220Kv D/C Chorania-Salejada  
220Kv D/C Bhogat-Ranavav  
440Kv D/C Bhachunda-Varsana

### GOA

#### Overview

110Kv D/C Tivim-Ponda  
110Kv D/C Palsarem-Kadamba LLIO

### HIMACHAL PRADESH

#### Overview

66Kv D/C Kotla-Ghanvi  
66Kv D/C Kotla-Nogi  
22Kv S/C Gumma to Andhra  
66Kv S/C Nogli-Samoli  
22Kv S/C Rukti-Shaung  
Power House

### JUSNL

#### Overview

132Kv S/C Hatia-Kamdara

### KSEB

#### Overview

400/220/110Kv MCMW  
Madakkathara - Areacode - Kizhisseri  
400/220Kv, 400/110Kv, 220/110Kv  
MCMW lines  
400Kv D/C, 220Kv M/C lines  
110KV D/C Kakkayam- Nallalam-  
Koyilandy  
66Kv S/C to 110Kv D/C  
Malappuram - Manjeri  
All the lings with HPC for  
Carrying double power

### PGCIL/DTL

#### Overview

220 Kv D/C Wazirabad -  
Geeta Colony  
220 Kv D/C Sarita Vihar  
Pragati IP

### TSTRANSCO

#### Overview

132 Kv D/C Nagarjuna  
Sagar - Halla  
132 Kv D/C Warangal - Jangon  
132 Kv D/C Aleru- Bhongiri  
132 kv D/C Dichpally - Janakampet  
132 Kv D/C Medhchal - Medhchal  
132 Kv D/C Janakampet - Renzal  
132 Kv D/C Ramannapet- Narketpally  
132 Kv D/C Medhchal - Shapurmagar

### MSETC

#### Overview

132Kv D/C Ambazari - Hingna  
line

### UPPTCL

#### Overview

132 Kv S/C Muradanagar-  
B.S. Road Line  
132 Kv S/C Sikandara (Agra)-  
Badola Line.  
132 Kv S/C Varanasi Cantt  
132 Kv S/C Sarnath-Manduadih line  
132 Kv S/C Gajokhar-Mandudih line  
132 Kv S/C Vaishali-Sahababad

### WBSETCL

#### Overview

132 Kv d/c Malda - Malda  
132 Kv D/C Gokarna -  
Berhampore  
132 Kv D/C Durgapur - Ukhra  
Transmission Project

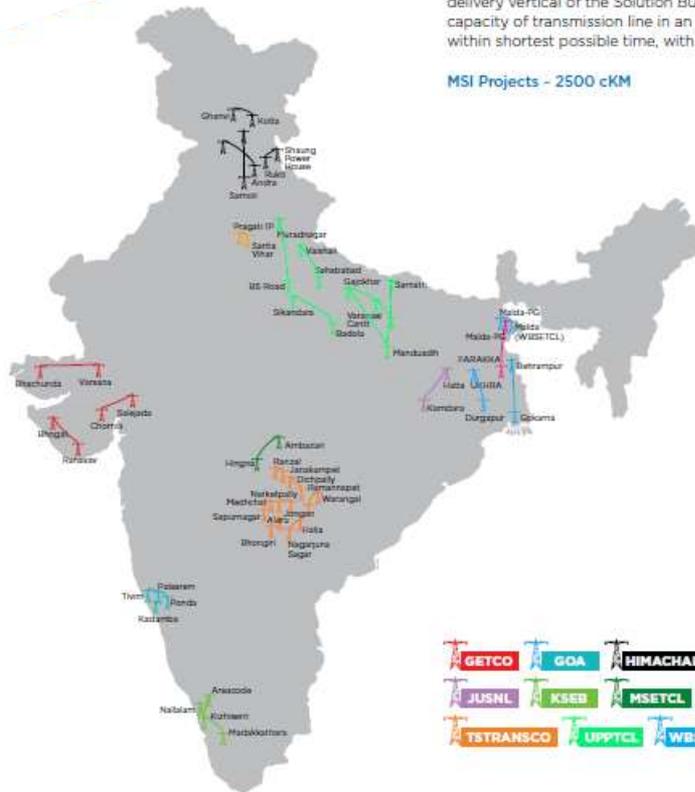
### WB/PGCIL

#### Overview

400 Kv D/C Farakka-Malda

Sterlite Power has oriented all its offering to address coinciding challenges of Time, Space & Capital. MSI delivery vertical of the Solution Business augments capacity of transmission line in an economic manner, within shortest possible time, with minimum disruption.

### MSI Projects - 2500 cKM



# Convergence offers a unique business model that combines the best of both power and telecom solutions

Convergence operates at the confluence of power and telecom infrastructure aggregating overhead (OPGW) and underground optical fibre cable infrastructure

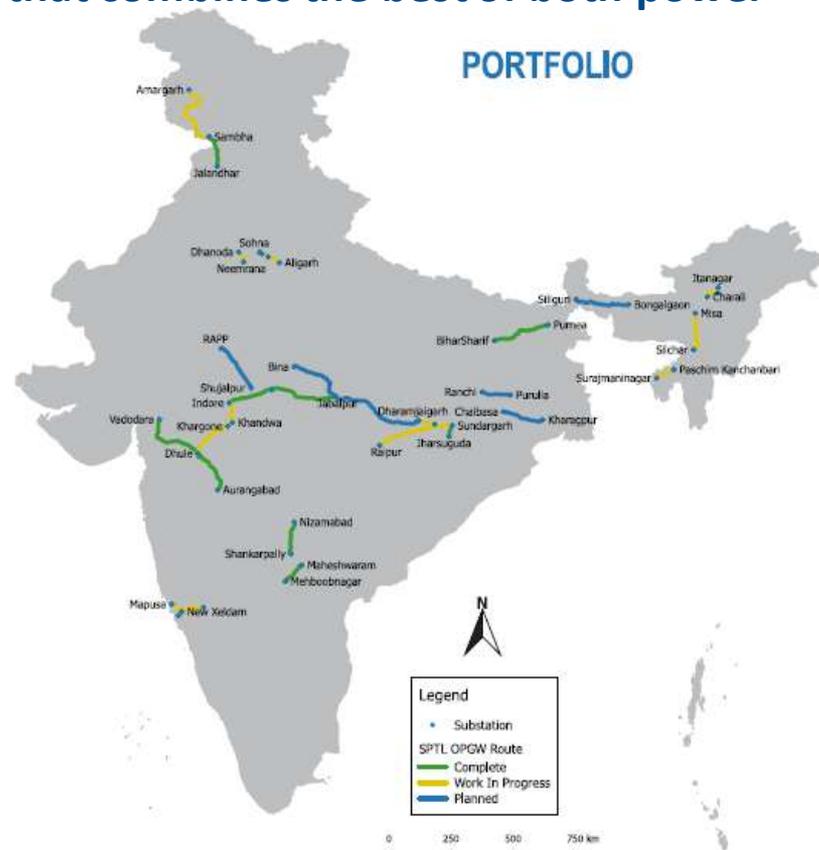
## Services Offered

### Dark fibre capacity lease:

A unlit fiber pair or strand which holds unlimited potential to transmit bandwidth/ data is provided on IRU (Indefeasible Rights of Use) or ARC (Annual Rate Contract) basis along various available routes to Communication Service providers (CSP).

### Colocation space lease:

A rental rack space to host telecom support infrastructure in a highly secured location inside a power substation, with uninterrupted power supply and multiple back-up power sources, enhanced through remote monitoring and surveillance facilities.



# These businesses combine technology, talent, innovation and partnerships to provide what we call “The Sterlite Advantage”

## Technology and Talent

We leverage new technology in both planning and execution to deliver on our commitments ahead of schedule

We pride ourselves on our team of talented professionals from across sectors and expertise, leading our operations across geographies.



## Strategic Partnerships

We are excited to be working with the best and most innovative partners in the industry, forging long term symbiotic relationships

We value all partners equally, be it the smallest vendors or our execution contractors



## Innovation as a Mindset

We are committed to solving the toughest challenges through an innovative approach to all aspects of our operations

We are pioneers in deploying cutting edge planning, surveying, executing and financing techniques



# “The Sterlite Advantage” offers game-changing solutions while maintaining sound execution practices through safety and superior project management



## Project Management Expertise

Our expertise working across multiple geographies and government stakeholders is reflected in our ‘first time right approach’

Our in depth understanding of contract frameworks and Infrastructure Business models enables robust monitoring and effective delivery

## Safety

Safety comes before all else. We have instituted world class processes and practices to ensure safety for all our workers, contractors, employees and community at large

We regularly engage, educate, train and track our people across the organisation to keep them up to date and in compliance with our processes

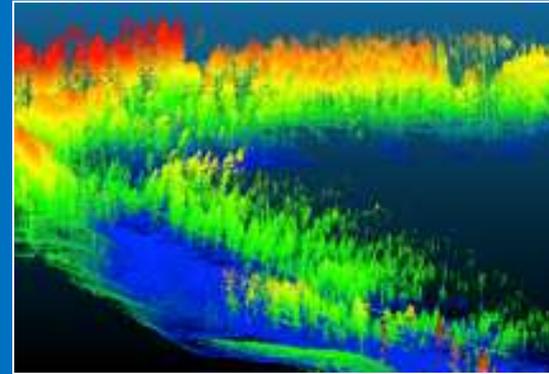


# Innovation at Sterlite Power symbolizes “A New Way Today”...



## Air Crane

First company in India to use air crane to set up a power transmission line in the mountainous terrains of J&K



## LIDAR (Light Detection and Ranging) Survey

First transmission company to undertake LIDAR survey for topographic mapping



## Heli Stringing

First company in India to use helicopters for stringing cables reducing execution time and minimizing ground disturbance



## River Crossing

1,000 metric tonne capacity barges anchored in the middle of the Ganges to erect a 100 meter high tower when the monsoon was at its peak



## ... in everything we do; from project execution to capital financing



### Cable stringing using Drone

Filed for a patent for use of drones for cable stringing. 100-300 man hour project to string a cable between two transmission lines crunched to 20 man hours



### First FDI in Power Transmission

First Indian company to attract FDI in power transmission; Standard Chartered PE Fund investment of INR 500 crore



### InvIT

First Indian company to list power transmission assets through an InvIT, thereby putting highly rated assets in public hands and providing access to future growth capital at a competitive rate



### Smart line

First in India to set up a 'Smart line' (in Goa); ~45 km line upgraded using HPC and existing earth wire replaced with OPGW for effective communication



# While positive Social Impact is a way of life, in every project we execute

## Kerala

Innovative technology solution deployed through the use of monopoles versus traditional lattice towers to significantly reduce land footprint and minimize impact on neighborhood and community



## North-East

Community engagement practices carried out at and around site to understand local beliefs of social acceptance across elements of biodiversity, conservation, community and culture. Plan for the next financial year to further invest and engage in enhancing community well-being



## North Region (J&K)

Charged the prestigious NRSS XXIX line through one of the most challenging mountainous terrains to provide power to millions in the valley despite challenging work conditions. Usage of helicranes enabled the completion of project ahead of schedule.



# Combined with a Quality first safety must mindset, our superior execution and planning skills set us apart in the power transmission sector

## Robust & Reliable Design

- Stage-wise Design Review Process
- Technical Site Survey Expertise
- FMEA based Requirement Analysis & Risk Assessments



## Drive Best Practices across org.

- Global Quality Policy & Framework : Commitment to Stakeholders
- Detailed Quality Assurance Plan
- Simplified & Visual CTQ/SOP
- Standard Quality Process for Global Operation & Multilayer Audits

## Supplier Excellence

- Supplier Assessment & Score Card
- EPC/Contractor Engagement
- APL & AML (Approved Partners & Material List) Control

## Best-in-Class Material

- Supplier's Process Control & Audit
- Pre-dispatch Inspections
- Factory Qualifications Control
- Prototype and Type Tests

## Built-in-Quality Construction

- Highest Safety Standards
- Standard Quality Control Pack & Contracts with EPC
- Education Kits, Videos & Skill Training Modules
- Multilayer Audit Framework
- Quality Guarantee through CTQs (Critical to Quality)
- Commissioning & HOTO



## And our Awards and Accolades are a testament to this claim



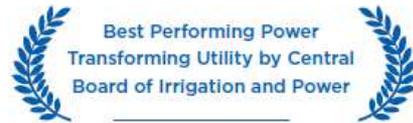
**Award for Innovative Initiatives  
in the Power Sector by Council  
of Power Utilities**

At 9<sup>th</sup> India Power Awards



**Process Innovation Award by  
Frost & Sullivan**

For Process Innovation at Silvassa Plant  
In Project Evaluation and Recognition  
Program



**Best Performing Power  
Transforming Utility by Central  
Board of Irrigation and Power**

For setting new benchmarks &  
technologies to speed up energy  
delivery



**Indian Manufacturing Excellence  
Award by Frost & Sullivan**

For Operational Excellence at  
Haridwar plant



**Award for Remarkable Projects  
by Council of Power Utilities**

At 9<sup>th</sup> India Power Awards



**New Technology Award by  
Power Grid**

For High-Temperature Low Sag  
Solution-STACIR & Composite Core  
Conductor Technology



**Order of Merit by SKOCH  
BSE Award**

For demonstrating excellence and  
innovations in Goa Project.



**ICONIC - Insights Awards by  
International Data Corporation**

For displaying innovation and creativity  
in IT - Business Projects



# Under the aegis of Mr. Pravin Agarwal, the leadership team strives to achieve the ultimate goal of providing reliable power to the last 1 billion people on the planet



**Pravin Agarwal**  
Chairman,  
Sterlite Power



**Pratik Agarwal**  
Group Chief Executive Officer  
Sterlite Power



**Ved Mani Tiwari**  
Chief Executive Officer  
Global Infrastructure



**Manish Agarwal**  
Chief Executive Officer  
Solutions



**Harsh Shah**  
Chief Executive Officer  
IndiGrid



**Anuraag Srivastava**  
Chief Financial Officer



**Vithal Acharya**  
Chief People Officer



**Manya Ranjan**  
Head Strategy  
Management



**N.K. Panda**  
Business Head  
Convergence



**Ernest Louis**  
Director  
Human Resources



# Sterlite Power has a vision to revolutionize the transmission industry by addressing its top constraints through alternate solutions

## VISION 2021

*To become one of the leading global players in the power transmission industry*



### TIME

With generation timelines slashed to 1/10<sup>th</sup>, transmission infrastructure needs to catch up to ensure timely evacuation of power

#### **Early commissioning:**

Using revolutionary technologies such as air cranes and heli-stringing, Sterlite Power has proven its capability to deliver projects ahead of time at the highest quality



### SPACE

The current aging transmission infrastructure is not sufficient to sustain the growing power demands of industry and community. In addition, availability of space to build new lines is a fundamental challenge.

**Uprate/ upgrade:** Leveraging state-of-the-art technology, our solutions offer easy decongestion and improved performance of existing lines without disrupting the neighboring ecosystem



### CAPITAL

World over, government balance sheets are stressed with welfare programs and infrastructure NPAs. Private players provide capital relief and quality of delivery that is required to expedite transmission infrastructure

**Asset flip:** Our Infrastructure Investment Trust (InvIT) allows us to flip capital faster and invest quickly into new projects through public involvement in fund raising



Access to power has the potential to change the lives of millions, by bringing about a transformation in the local economy, and with it, the country as a whole. With Power comes education, a better standard of living, better lifestyle leading to growth as a nation. Nothing has left or will leave a more lasting impact on humanity than 'Power'.

