

TATA POWER-DDL SMART GRID LAB



TATA POWER-DDL

Smart, self-shaping, fully adaptable networks that connect energy providers with their consumers on a real-time basis represent the essence of smart grids.



Empowering communities with
Next-Gen Utility

Peak load of
1967 MW*



Distributes
electricity in
**North &
North-West
Delhi**



Distribution
area of
510 sq. km.

TATA Power-DDL Accomplishments

Towards
a resilient future

Serving
a populace of
7 Million



A customer
base of
1.69 Million



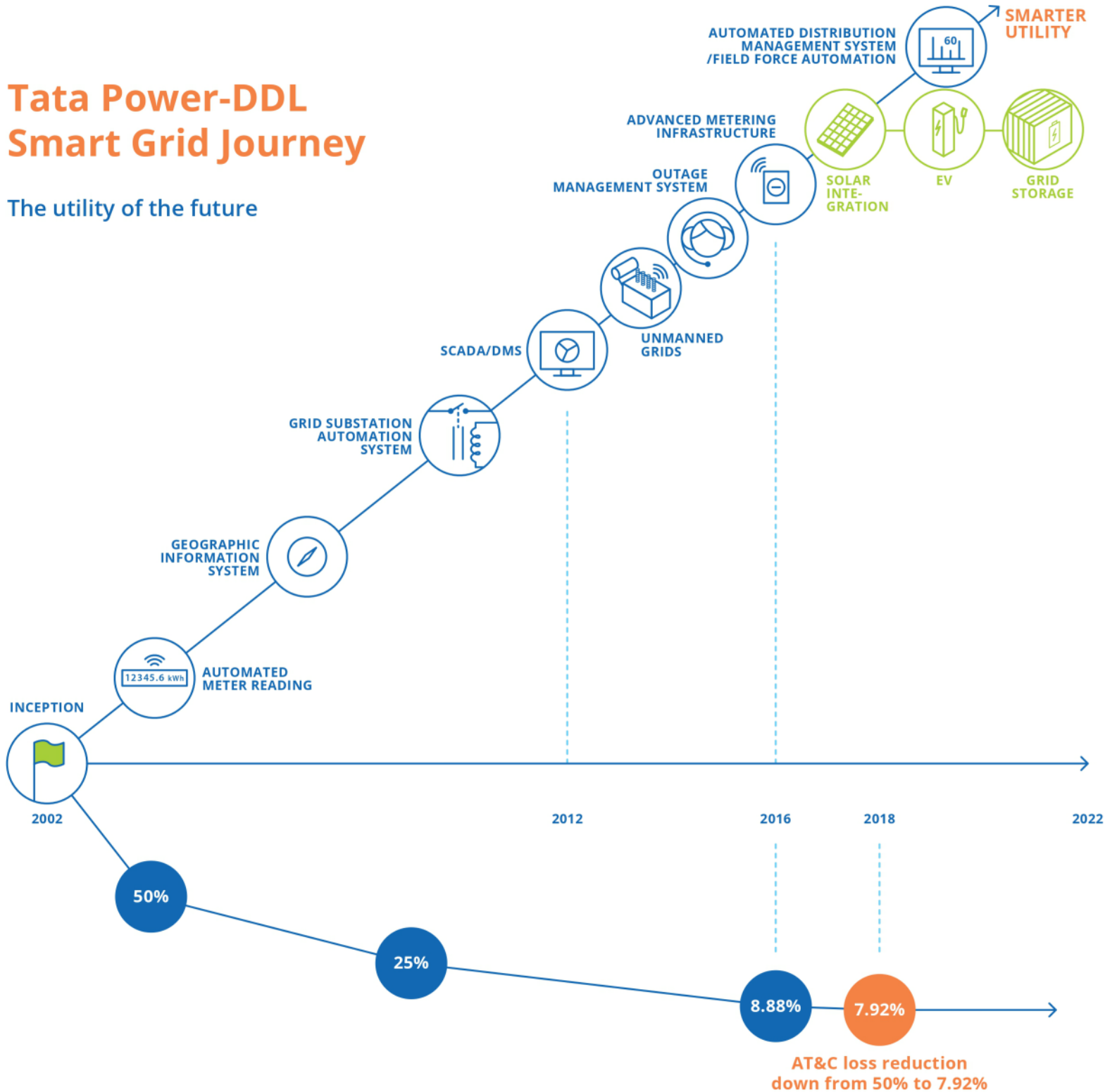
Tata Power-DDL is the **first Indian utility to be a member of Global Intelligent Utility Network Coalition (GIUNC)** which is a coalition of 14 power utilities worldwide and is working towards accelerating the development of common standards, technology solutions and processes for intelligent networks.

The World Bank in its 'Doing Business' Report has **acknowledged Tata Power-DDL's contribution towards** improving the ease of getting electricity connection through process simplification. This has helped India improve its **ranking in ease of doing business to 24 in 2018** from 138 in 2015.

Edison Award by Edison Electric Institute of the United States was **conferred on Tata Power-DDL** for its operational excellence in the power industry and for utilising and integrating its Geographical Information System (GIS) with other applications for network planning, operations, commercial and asset management.

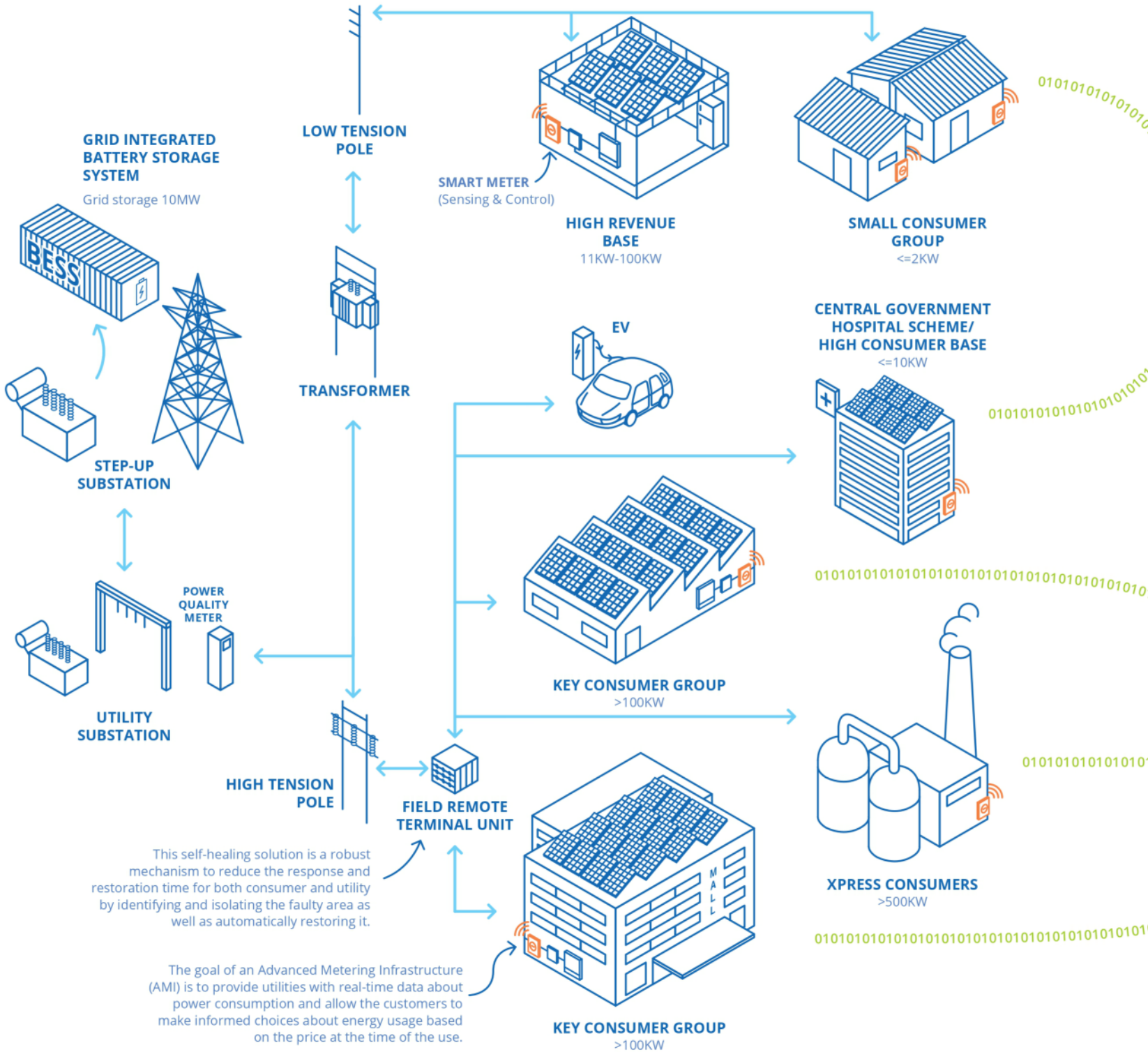
Tata Power-DDL Smart Grid Journey

The utility of the future



Transmission

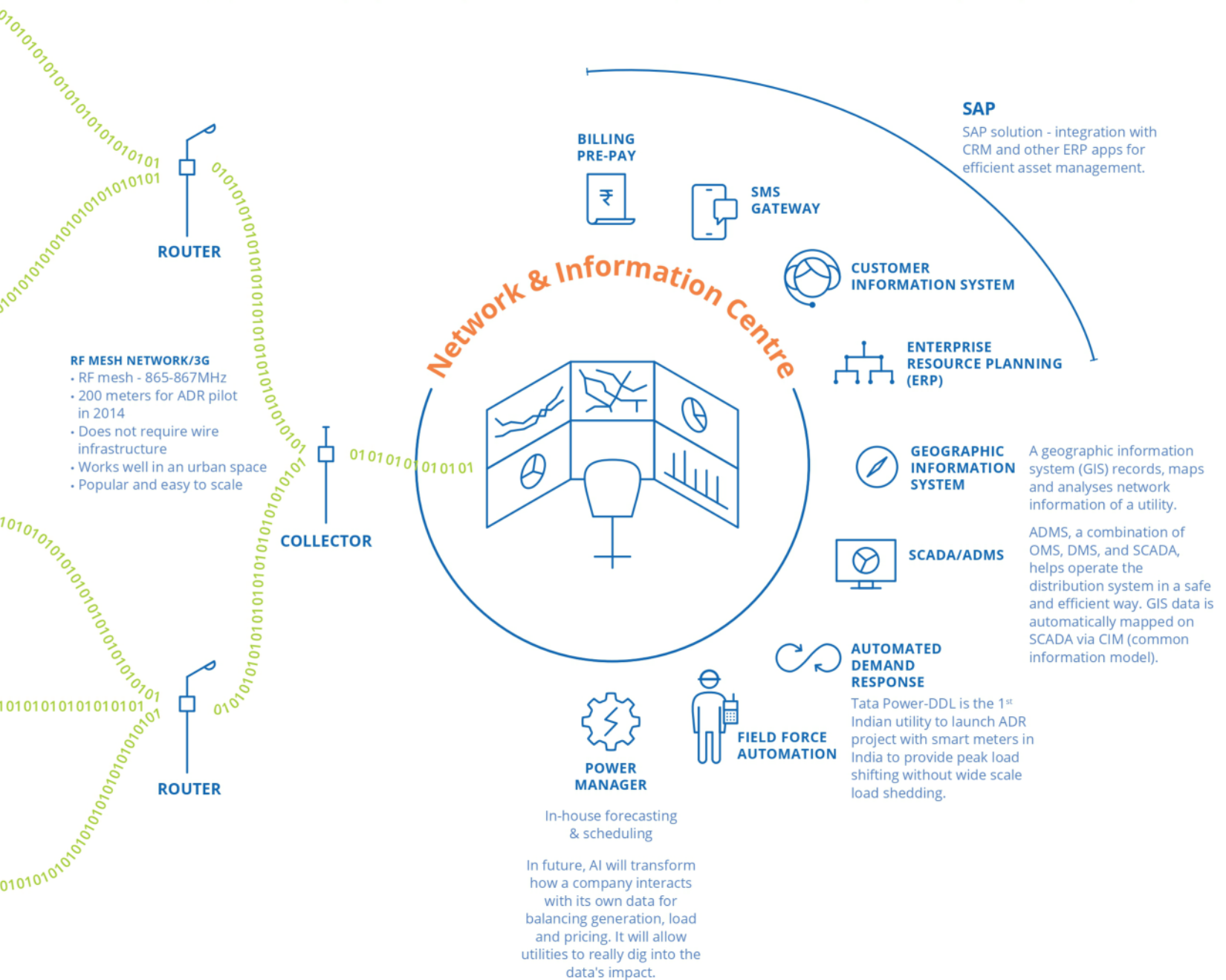
Distribution



Tata Power-DDL Smart Grid Lab

Tata Power Delhi Distribution Limited is the frontrunner in implementing power distribution reforms in the capital city of India. The company continues to be acknowledged globally for the deployment of cutting-edge technologies and its consumer-friendly

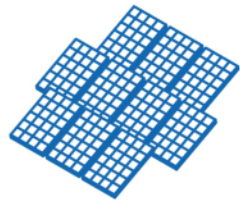
practices. Tata Power-DDL has created a groundbreaking centre of excellence - the Smart Grid Lab, inaugurated in 2016, which is a perfect example of how the application of information and operational technologies can bring a change to the society.



2008

Solar PV

*To date



- Cumulative capacity - 24 MWp
- Total generation capacity in Tata Power-DDL premises - 1.76 MW
- Rooftop solar plants under net metering - 567
- "First Utility Channel Partner" with Ministry of New & Renewable Energy, Govt. of India
- Rating of SP-1A as a "System Integration Grading for Solar PV projects"

2014

Waste to Energy, Solar Power and Battery Storage Test Site



- India's first biomass-to-energy testing facility, showcasing the ability to produce electricity
- A microgrid solution run using solar systems, battery storage and biomass generation to promote renewable energy
- After successful run, it will be scaled up to 50,000 villages in India

2019

Grid Storage

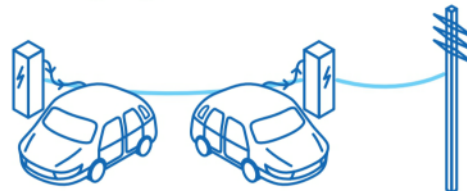


- Grid storage, a 10 MW facility
- India's first utility-scale energy storage system by AES and Mitsubishi Corp
- Better peak load management, system flexibility, enhanced reliability for more than 7 million customers in the TPDDL service area

New and Renewable Energy Sources

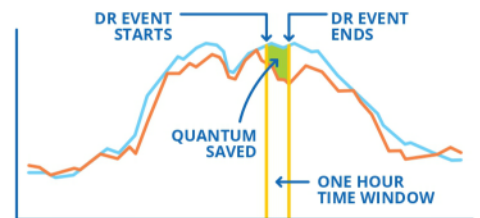
Today's resources for a brighter tomorrow

Electric Vehicle Charging Station

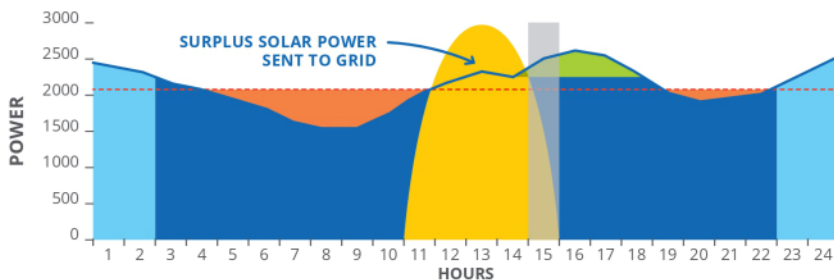


- Electric Vehicle charging centers at five locations spread across its area of distribution
- 1,000 electric vehicle charging stations in next four to five years in Delhi
- The company could also offer cheaper rates for charging during off-peak hours, which could translate into the cost per kilometre for electric vehicles falling to as little as 0.30 rupees, versus 5 rupees for fossil-fuel driven cars

Demand Response



- Demand Response - 1st Indian utility to launch ADR pilot with 162 customers and smart meters in India
- One of the first projects in the world where ADR and AMI were conceptualised together
- Automated demand response is a program that responds to critical grid stress situation by shifting consumer load from periods of high peak to off peak periods



Tata Power-DDL System Load Profile

- AVAILABLE POWER FROM CONVENTIONAL SOURCE
- EV CHARGING
- SYSTEM LOAD PROFILE
- SOLAR
- STORAGE CHARGING
- STORAGE DISCHARGING
- DEMAND RESPONSE

Clean Energy International Incubation Centre



**CLEAN ENERGY
INTERNATIONAL
INCUBATION CENTRE**

Powered by **SOCIAL alpha**



Tata Power DDL and Tata Power have collaborated with Tata Trusts and Social Alpha to set up the Clean Energy International Incubation Centre (CEIIC) in Delhi. CEIIC has been established with an objective to improve energy access, create efficient solutions, and promote the use of renewable energy resources by focussing on incubating and accelerating innovators who have developed technologically and socially impactful solutions to India's energy problems. The facilities and services at CEIIC cover a range of incubation support such as state-of-the-art lab facilities and world-class infrastructure, strong strategy and go-to-market (GTM) support, mentorship by a curated set of qualified experts, specialists and sector leaders, access to test beds on the ground for trials and field testing, and an opportunity to access a diverse and large investor network.

Social Alpha

Social Alpha promotes innovations and entrepreneurship with a mission to create large scale sustainable social, economic and environmental impact. Social Alpha nurtures start-ups through their lab to market journey, helping them create high quality, commercially viable, accessible and affordable solutions. Social Alpha is focused on catalysing entrepreneurship for impact and provides critical technology and business incubation support to the mission driven start-ups.

The Clean Energy International Incubation Centre aims to bring innovation, domain and business expertise across the entire energy value chain to support scalable and sustainable solutions that help to create new opportunities and nurture societal values. CEIIC will facilitate the vision to support and provide an ecosystem for the start-up enterprises working to provide cost-effective solutions. I believe the CEIIC will go a long way for the development of innovative and cost-effective technologies in India.



Mr. Praveer Sinha

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Tata Power-DDL Smart Grid Lab

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