

Strengthening India's Power Grid: Stable Power Supply up to the Last Mile

In the world's second most populous country, millions of people were left stranded without power for almost two days in July 2012. The power failure caused miners getting trapped underground, public train system shutting down, and plunged hospitals into darkness. The lack of power literally put the cities in chaos. This event reminded the people in India of the urgent need to expand power generation capacity, and that it is equally crucial to upgrade and expand transmission and distribution (T&D) networks. The thrust on the renewable sector by the Government, especially in solar and wind, will significantly fill the gaps between the power demand and supply, but integration of renewable in the national grid will also raise a few challenges as well.

The Government of India is targeting to bring down T&D power losses in the power sector to 15% by 2019. Severe electricity losses during the T&D process affect the country's economic growth adversely, which is why India requires large amount of capital and modern technology into the T&D sector. Building a resilient power grid can reduce the frequency and duration of power outages, and reduced power losses means that more electricity can be accessible to more people.

Strengthening the service base in India

Power saved is power generated. In the T&D industry, improving the efficiency of grid is the key to an efficient and reliable delivery of electricity. Toshiba constantly undertakes the role in reducing power losses, through high-efficiency products such as the amorphous core distribution transformers in which Toshiba has significant market share in India and globally. Toshiba is positioning to address such needs in India by offering complete T&D products and solutions which are energy efficient and highly reliable. Toshiba leverages its experience of over 100 years in the T&D industry to support India in fulfilling the dream of delivering 24x7 Power to All.



In 2013, Toshiba entered into the T&D manufacturing business in India after acquiring the T&D business from Vijai Electricals Ltd., and established Toshiba Transmission and Distribution Systems (India) Pvt. Ltd (TTDI) in Telangana.

In line with the **"Make in India"** commitment, Toshiba made a 3 billion yen investment (approx. US\$30 million) in 2016. Toshiba enhanced the production capacity for transformers by 50% by setting up a new manufacturing line for Ultra High Voltage transformers up to 1200 kV and improving manufacturing and operational efficiency of distribution transformers. Toshiba also established a production line for new technology switchgears like Gas Insulated Switchgears (GIS) and Solid Insulated Switchgears (SIS). Such technologies can contribute in improving the resilience of India's power grid. TTDI is also contributing to the renewable sector by supply of inverter duty transformers to the solar sector and offering skid mount solutions for wind sector to the growing renewable sector demand.



Not only has Toshiba made large capital investments, Toshiba has shared its manufacturing technologies and its unique quality control methods with the endeavor to improve quality and productivity. TTDI now employs a workforce of around 6,000 people. Chairman and Managing Director of TTDI, Katsutoshi Toda says, "Our employees understand our approach of quality and the Japanese spirit of Kaizen (never-ending efforts for improvement), and every employee is making an effort based on this idea. I believe that the growth of our company comes from day-to-day contributions of the employees."



Exporting from India: Japanese-quality Products from India to the World

Production expansion and technology transfer has allowed TTDI to meet the growing demand in India and also meet the global standards to cater the world. Quality, reliability and sustainability of products remain the cornerstones of competing in a global landscape. Toshiba's endeavor to manufacture and supply superior quality products that are made in India has resulted in securing many overseas orders. Recently, TTDI delivered transformers to Kenya Power to help curb T&D losses in Kenya's national grid. From product assembly, to fabrication, oil processing and conductor, most of the parts and materials are manufactured in-house at TTDI's factory that makes the products cost effective with greater quality control and also ensure quick delivery.

TTDI has emerged as the global manufacturing hub of Toshiba's T&D business to cater to product and component requirements across the world. By manufacturing and supplying eco-friendly, world class and innovative products, Toshiba will export to global markets and contribute to growth of the industry **FOR THE NEXT INDIA.**

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