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Upkeeping the "Make in India" initiative, Delta has structured a manufacturing unit at Hosur, Tamil Nadu for utility scale inverters with a current production capacity of 50MW per month. This production capacity will be ascended up to 200MW in January 2018.

**ENERGETICA INDIA: Please introduce the readers to Delta's Solar Inverter**

**NIRANJANA NAYAK:** Delta Group established in 1971, the global leader in power and thermal management solutions. Our mission is to provide innovative, clean and energy-efficient solutions for a better tomorrow. Delta, as an organization, emphasizes in addressing key environmental issues such as global climatic changes. As an energy-saving solutions provider, Delta's businesses

encompass power electronics, energy management, and smart green life. Delta worldwide offices and manufacturing units are situated at Taiwan, China, USA, Europe, Thailand, Japan, India, Mexico, and Brazil.

We are the market leaders in Residential, Commercial and Utility Scale (Indoor and Outdoor) PV inverters. Delta solar inverter major installations includes key metro stations, airports, government offices, educational institutions,

industrial establishments, residential properties, large solar plants etc. And a total of 0.75+ GW installations pan India and 7+ GW globally.

Further upkeeping the "Make in India" initiative launched by the Government of India to enhance the multi-national industries to manufacture their products in India, Delta has structured a manufacturing unit at Hosur, Tamil Nadu. Currently Delta's utility scale inverters are being

manufactured at this factory with a current production capacity of 50MW per month, however, by January 2018; this production capacity will be ascended up to 200MW.

**ENERGETICA INDIA: How do you see the solar energy progressing in India over the next few years?**

**NIRANJAN NAYAK:** India is expected to become the third biggest solar market worldwide in 2017 with estimated utility scale and rooftop solar capacity addition of 8.4 GW and 1.1 GW respectively.

India's total installed solar power capacity has crossed 15GW. The year 2017 would be a bumper year especially for rooftop solar as the industry is eagerly looking forward to cross 1GW mark. 2017 would be considered as benchmark year for the years to come.

1,500 VDC systems market is picking up in India and we expect a near-complete transition to 1,500VDC systems in India within two year. We are coming out with 1500VDC string as well as utility scale inverters during the RE expo to meet the current market requirements.

**Energetica India: What market share does Delta enjoy in rooftop and MW scale solar projects in India?**

**NIRANJAN NAYAK:** Elated to share that we hold 36.5% of rooftop market share with over 500+MW installations across India. According to Bridge to India, Delta is at the 1st position in Rooftop inverters during 2016-17 and leading the rooftop segment since 4 consecutive years with major market share.

We have major clients in terms of airports, key metro and railway stations, government offices, public sectors and many more, with over 750+MW of string and central grid-tied solar inverters already installed in India.

**ENERGETICA INDIA: How do you see the costs of a solar inverter progressing in a MW project in India?**

**NIRANJAN NAYAK:** Inverter prices have fallen

considerable in last two years. With the entry of new players, the competition is squeezing-in the investor and suppliers returns. The sector is facing considerable headwinds from module price rises, tender cancellations, GST and anti-dumping duty related uncertainties.

**ENERGETICA INDIA: How will GST impact costs of Delta products?**

**NIRANJAN NAYAK:** We believe that the long-term scenarios of this industry would not be compressed by GST move as a surge in tax rates will be rapidly balanced by decreasing costs. A commercially feasible, non-subsidy reliant on sector is naturally more justifiable in longer run.

**ENERGETICA INDIA: How is the efficiency of solar inverters improving?**

**NIRANJAN NAYAK:** There are various efficiencies that go into modeling the overall production success of a solar PV system. One of the most important to understand is the inverter's efficiency that makes DC-to-AC like a miracle happen.

Having the inverter efficiency as close as possible to 100% is obviously ideal because then all generated solar power is usable and profitable, but practically, is not the case since some losses involved during conversion.

The efficiencies moved upwards from the low- to mid-90s, and now most are in the high-90s. Through different topologies, the industry has done a good job of increasing inverter efficiency over time."

At Delta, we continually invest in R&D by improving internal component efficiency, enhancing converter topologies, improving product reliabilities and lower heat generation and efficient temperature management and control to enhance the efficiencies.

**ENERGETICA INDIA: With products across renewable energy, building automation, energy saving, energy storage; what is Delta's strategy in the cleantech space?**

**NIRANJAN NAYAK:** Delta offers some of the most energy efficient power products in the industry, including switching power supplies, telecom power, building/industrial automation, EV charging, Energy Storage Solutions, wind power converters and PV inverters. We have also developed the world's first server power supply certified as 80 Plus Titanium with over 96% efficiency. We regularly invest 6% to 7% of our annual sales revenues in R&D and have worldwide R&D facilities in Taiwan, China, Europe, India, Japan, Singapore, Thailand, and the U.S.

In the cleantech space, Delta will remain committed to the research and development of innovative, energy-saving products, solutions and services that contributing substantially to the sustainable development of mankind.

**ENERGETICA INDIA: How important is the Indian market for solar inverter companies?**

**NIRANJAN NAYAK:** 2017 is poised to be a difficult year for the global solar industry, with an oversupply of panels and policy headwinds in major markets.

Ministry of New and Renewable Energy (MNRE) is projecting installations of 15 GW and 16 GW over the next two years, beginning from Q2, 2017. This would translate to roughly 22% of global demand for 2017. The government of India aims to install a cumulative 100 GW of solar capacity by 2022, driven partially by subsidies, incentives and streamlining of policy. According to the government, this would require investments to the tune of about \$90 billion, which could make India a huge growth market for global solar equipment manufacturers.