



solis

Bankable. Reliable. Local.



High Power Solis-(215-255)K-EHV-5G to a New Era of Low LCOE



Efficient

- 12/14 MPPTs, max. efficiency 99%
- 200% DC/AC ratio
- High power tracking density 60MPPT/MW
- Compatible with 500W+ bifacial modules



Smart

- Night SVG function
- Intelligent string monitoring. Smart I-V curve scan
- Remote firmware upgrade with simple operation



Safe

- IP66
- Built-in PID recovery for better module performance
- Fuse free design, safe and maintenance free
- Globally recognised branded componentry for longer life



Economy

- Power line communication (PLC) [optional]
- DC side supports two sinks and one access
- Supports aluminium wire access to reduce cost
- Reserve DC energy storage access



SUBHASH SETHI,
Chairman, SPML Infra Limited

Solar Power for a Cleaner World

The project engineering and management landscape in the world is rapidly changing with evolving technologies, tools, and the latest trends. This change which was envisaged earlier at the beginning of this century is maturing now and there seems to be no slow down. Technology is impacting every part of our life and the construction industry is not left behind and experiencing it like never before. From cloud-based collaboration and the development of digital twins to robots, super-materials, wearable tech, artificial intelligence (AI), data analytics, advanced project management tools & solutions, remote controlling, to pollution-eating buildings etc., there are an incredible array of developments helping to improve the construction engineering sector.

This sector was considered least digitized till last year but the scenario has entirely changed with the COVID-19 outbreak and widespread disruptions that followed by lockdowns and loss of lives and economy. The assessment suggests that the next three to five years will be perfect for the integration of digital technologies including the Internet of Things (IoT), Cloud Computing, BIM, Machine Learning, 3D Printing and Robotics in its workflows. In today's highly competitive world, companies are expected to deliver high quality engineering projects on time and provide world class solutions for the requirement.

The majority of companies in the engineering and construction field have now recognized the importance and evaluation of how non-digitization of systems and processes are affecting every part of their businesses.

India, the second most populous country on the globe with 1380 million habitants, is seeing the escalation of energy demands exponentially. The growth of India's energy consumption will be the fastest among all major economies by 2040, with traditionally coal generated energy meeting most of this demand followed by renewable energy. Renewables have become the second most significant source of domestic power production, overtaking gas and oil. The current energy generation from all sources as of March 2021 in the country is 379.13 GW, out of which

thermal sources command around 61.5% whereas renewable energy generation has reached 24.5% with a healthy growth of 17.33% CAGR between the years 2016-2020.

India's energy demand is expected to reach 15,820 TW by 2040, renewable energy, especially solar, is set to play an important role. The government is aiming to achieve 227 GW of renewable energy capacity (including 114 GW of

solar capacity addition and 67 GW of wind power capacity) by 2022, more than its 175 GW target as per the Paris Agreement. The ambitious plan is to scale up the renewable energy capacity to 500 GW by 2030. It is also expected that by 2040, around 49% of the total energy will be generated by renewable sources as more efficient batteries will be used to store electricity, which will further cut the solar energy cost by almost 66% as compared to the current cost. The use of renewables in place of coal will save India an estimated Rs. 54,000 crore (US\$ 8.43 billion) annually. As per the Central Electricity Authority estimate, by 2029-30, the share of renewable energy generation would increase from 24% to 44%, while that of thermal and others is expected to reduce from 78% to 52%.

With about 300 clear and sunny days, India gets more than 3,000 hours of sunshine equivalent to 5,000 trillion kilowatt-hours (kWh) per year of solar energy. It is India's trump card to achieve its developmental goals having good economic value as the generation of solar energy coincides with the normal peak demand during daylight hours in most places, thus mitigating peak energy costs, reducing energy bills, and averts the need to build as much additional generation and transmission capacity as would be the case without PV.

India has a number of large solar energy generation plants. Bhadla Solar Park in Rajasthan is claimed to be the largest in the world spread over 14,000 acres with an installed capacity of nearly 2,250 MW. Some of the country's biggest solar power plants are located in Rajasthan, Karnataka, Andhra Pradesh, Madhya Pradesh and Tamil Nadu.

India has established a number of solar plants over the country's canals thus saving on land spaces and water evaporation turning the country's canals into glittering trails of solar panels. A number of such projects have been commissioned including a 100 MW solar power project atop the branch canals off the Narmada River stretching to the distance of 40 kilometers. While the water get benefit from the solar panels above and so the panels from the water below it. The running water helps the panels to remain cool, which increases their efficiency by at least 2.5-5%

The government is taking very active steps to increase the solar capacity by providing incentives to farmers to install solar irrigation pumps on their land so that they can save the cost of buying fuel while they can sell excess energy directly to the government. Apart from it, smaller rooftop solar plants help housing societies, institutions, commercial buildings and even individual houses to save on electricity consumption and subsequent bills.

The Indian government is committed to clean energy sources and is already undertaking various large-scale sustainable power projects and promoting green energy. With a focused approach and dedicated budget allocations, India's renewable energy sector is expected to attract foreign investment worth USD 80 billion in the next three-four years.