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SMART GRID: SOLUTIONS FOR FUTURE DEVELOPMENT

OTHER STORIES:

- **SPECIAL FEATURE:** The Startup Revolution
- **SPECIAL REPORTS:** Tehri PSP – India's First Variable Speed PSP; Diu – India's First Fully Solar-Powered District
- **IEEMA Events:** North-East Power Conclave; 3rd MEP Consultants Meet; Electrical Fire Safety Conclave, Bengaluru



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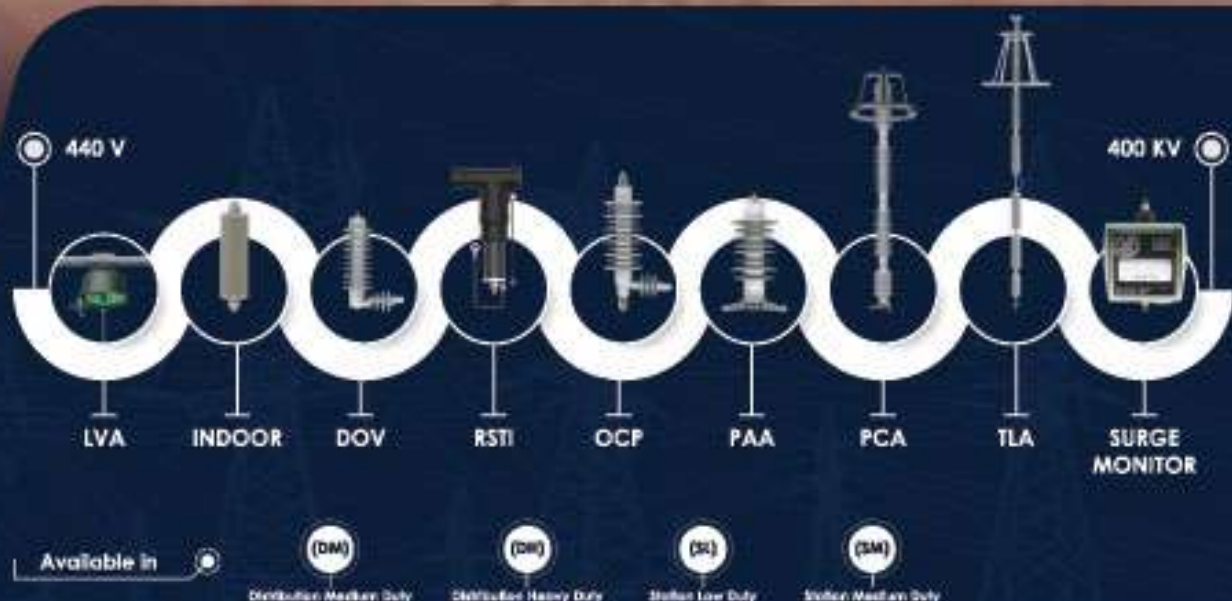
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COVER STORY

Smart Grid: Solutions for Future Development	16
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India's grid is one of the largest synchronous grids in the world. As India moves towards high renewable penetration and greater electrification, emerging smart grid technologies will play a crucial role in making the system reliable, resilient, and flexible. **IEEMA JOURNAL** explores these critical technological advancements that can help future grid development; India's journey in implementing smart grid solutions across the value chain; and how collaboration among stakeholders is key to achieving India's Smart Grid Vision.



THINK TANK

"India can lead the world in building a modern, resilient power grid."	34
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- Vibha Gupta, Chairperson, IEEMA Smart Grid Division

SPECIAL FEATURE

The Startup Revolution	42
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India's entrepreneurial landscape is redefining innovation and creating new opportunities across sectors, with start-ups seizing the opportunity to energise India's development story and become a cornerstone in the global energy transition.



FOCUS

Developing India's Interoperable Smart Grid	51
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By harnessing the power of data and technology, smart grids pave the way for a more interconnected, efficient, and sustainable energy future. **Swetha Ravi Kumar, Executive Director, FSR Global**, highlights key takeaways to enable India's interoperable digital grid while exploring the focus of the Smart Grid Observatory from 2025-2029.

INSIGHTS

Smart Meters: Enabling Grid Reliability Through Advanced Manufacturing, Responsive Field Operation, and Consumer Empowerment	58
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The technical convener of IEEMA Meter Technical Division, **Vipin Kumar Mishra, Vice President Technology, Capital Power Systems Ltd**, details the importance of the role of smart meters by touching upon aspects of automation, addresses cyber security in digital grids, enlists future trends to conclude with a vision about building smart meters for real-world use.

POLYCAB

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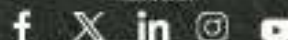


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Application & Role of Surge Protection Devices in Solar Smart Grid Stations 61

Dr K Janakiraman, Head-Market Development, OBO Bettermann India Pvt Ltd, presents a paper on the integration of surge protection devices in solar smart grid stations as critical for the protection of both DC and AC components, as well as sensitive monitoring and control systems.

SPECIAL REPORTS

Tehri PSP: India's First Variable Speed PSP 40

THDC India has commenced the COD process of Unit-I (250 MW) of the 1,000-MW Tehri PSP, marking a historic milestone in India's renewable energy journey as the country's first variable speed PSP.

Diu: India's First Fully Solar-Powered District 14

Diu is now the first district in India to meet its entire power demand with solar energy, with an 11.88 MW capacity.

New World Record: ABB Motor achieves 99.13% Energy Efficiency 65

A large synchronous electric motor is created for a steel plant in India, which is projected to have estimated electricity cost savings of ~US\$ 6 million through improved energy efficiency over the motor's 25-year lifespan.

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North-East Power Conclave 67

Driving Regional Energy Transformation in Eight NE States



IEEMA hosted the North-East Power Conclave 2025 in Guwahati as the first-ever event of its kind in the region, attracting over 500 delegates with the presence of senior government officials, utilities, and industry leaders from all eight North-Eastern states.

3rd MEP Consultants Meet 73

IEEMA's 3rd MEP Consultants Meet in Kochi brought together over 250 delegates, facilitating dynamic engagement among MEP professionals, developers, government officials, and industry experts.

Electrical Fire Safety Conclave, Bengaluru 77

IEEMA organised the Electrical Fire Safety Conclave in Bengaluru on June 6, 2025, with an aim to create mass awareness on preventing fires and mitigating their adverse effects while formulating a perspective that will serve as a guideline for all stakeholders, civic officials, and industry experts.

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- India successfully met peak power demand of 241 GW on June 9, 2025, with zero peak shortage: Shri Manohar Lal.
- MNRE participates in World Hydrogen Summit 2025, highlights India's vision and capabilities in renewable energy and green hydrogen.
- IREDA successfully raises Rs2,005.90 crore via QIP to boost green financing.
- Wind Energy is at the centre of India's strategy for the renewable energy sector; Union Minister Shri Pralhad Joshi.
- Union Minister Shri Manohar Lal reviews power and urban development sector for J&K.
- Government notifies guidelines for scheme to promote manufacturing of electric passenger cars in India.

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- Centre to float 4 GW offshore wind tenders in Tamil Nadu and Gujarat.
- CERC notifies draft CERC (Power Market) (First Amendment) Regulations, 2025.
- MoP issues draft amendments on ESS usage and ownership.
- MNRE issues revised norms for wind turbine prototypes.
- Centre approves Rs54 billion VGF for 30 GWh BESS.
- Powergrid acquires MPTL under TBCB route.
- Unit-I of Ghatampur thermal power project in Uttar Pradesh launched.
- MNRE revises guidelines for small hydro power projects.
- Foundation stone laid for NTPC's Rs299.48-billion thermal power project in Bihar.

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Date: 10th-12th December, 2025
Time : 10AM to 6PM
Venue: Yashabhoomi ICC, Dwarka
New Delhi, India



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- Gujarat to invest Rs290 billion to develop GEC-III.
- PFCCL incorporates two SPVs for transmission projects in AP and Maharashtra.
- Odisha approves Rs38.78 billion investments across 17 projects.
- UPSIDA launches solar energy initiative to power industrial zones in Uttar Pradesh.

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- Rayzon Solar to file draft papers for Rs15 billion IPO with SEBI.

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