Organisers:

POWERLINE RenewableWatch











3rd Edition

DIGITALISATION OF POWER PLANTS

Transformative Role and Emerging Opportunities

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MISSION

- Digital power plants hold strong promise for India's evolving power sector. Digital tools are making plants more connected, smarter, reliable and efficient. Their adoption is increasing as operators respond to changing market needs, including flexible operations and improved performance optimisation.
- The role of coal-based power is also evolving from a primary source of baseload power to a more flexible, supportive role in the grid. Digital solutions enable greater operational flexibility, helping plants respond to variable demand and the growing share of renewable energy. By leveraging data analytics, these tools help optimise fuel use, improve efficiency and reduce downtime.
- Digital solutions are equally important for hydro and renewable energy plants, which operate under variable conditions such as changing water flows, solar irradiation and wind patterns. In this context, data-driven insights and predictive analytics are essential for optimising generation. These tools also improve forecasting accuracy, support grid integration and enable better scheduling.
- Artificial intelligence- (AI) and machine learning (ML)-based solutions are further transforming asset management and operations and maintenance (O&M) practices. Developers are increasingly adopting predictive and condition-based maintenance, supported by internet of things (IoT)-enabled analytics. These systems monitor equipment health, analyse performance and use historical data to predict future outcome thereby reducing outages, optimising costs and improving reliability.
- Remote operations and centralised fleet monitoring are also gaining traction. Integrated control centres enable continuous oversight of performance across multiple plants, while dashboards provide alerts and diagnostic support for critical equipment.
- However, digitalisation in the power sector is still at a relatively early stage, with progress constrained by ageing infrastructure, limited investment and a shortage of skilled workforce. In addition, greater connectivity increases exposure to cybersecurity risks, making it essential for operators to adopt robust cybersecurity frameworks and strong risk management practices.
- **The mission of this conference is to understand the role of digital tools and solutions to meet the evolving market requirements, identify new and emerging requirements of gencos and power plant operators, discuss the experience and plans of generation companies for digital transformation, and understand the key issues and concerns. It will also provide a platform to showcase the most promising and relevant digital technologies, and industry best practices.**

Target Audience

The event is expected to draw participation from executives, managers and decision-makers from:

- Thermal, Hydro and Renewable Power Generation Companies (Gencos)
- Digital Transformation Solution Providers
- EPC firms
- OEMs
- IT/OT Integrators
- Technology Providers (AI/ML, Digital Twin, Automation, SCADA, Command Control Centres, Predictive Maintenance, Asset Management, etc)
- Engineering consultants
- Grid Operators
- Cybersecurity firms
- R&D Organisations
- Financial Institutions
- Energy Management companies
- Analysts, Etc

AGENDA

DIGITALISATION NEEDS AND REQUIREMENTS

- What are the needs and requirements of digital tools and solutions in the power generation segment?
- What will be the key future technologies and trends? What is the outlook?
- What are the key issues and challenges?

INDUSTRY PERSPECTIVE: EXPERIENCE AND PLANS OF LEADING GENCOS

- What has been the genco experience in the digitalisation of plant operations?
- What are the new and emerging requirements of power gencos?
- What are the digital strategies and plans? What are the key issues and concerns?

FOCUS ON COAL-BASED POWER PLANTS

- What are the potential benefits of digitalisation for coal-based power plants?
- What are the new and promising digital solutions? What are the use cases of AI- and ML-based solutions?
- What has been the trend in the uptake so far? What are the concerns?

DIGITAL SOLUTIONS FOR FLEXIBILISATION

- What are the emerging requirements of power plants with the influx of renewables?
- What are the most promising digital tools and solutions to enable the flexible operations of plants?
- What are the performance gains from these solutions? What are the limitations?

ROLE OF AI

- What is the potential of AI and ML-based solutions in power plants?
- What are the areas where these technologies can be applied?
- What are the challenges and limitations in deploying them?

FOCUS ON HYDROPOWER PLANTS

- What has been the experience so far?
- What are the most promising digital tools and solutions for hydropower plants? What are the use cases of AI- and ML-based solutions?
- What are the issues and concerns? What is the outlook?

FOCUS ON RENEWABLE ENERGY PLANTS

- What has been the experience so far?
- What are the most promising digital tools and solutions for renewable energy plants? What are the use cases of AI- and ML-based solutions?
- What are the issues and concerns? What is the outlook?

TECHNOLOGIES FOR ASSET MANAGEMENT

- How can digital technologies help in optimising asset management?
- What are the new and emerging digital solutions for asset management? What are the use cases of AI- and ML-based solutions?
- What are the remote monitoring/diagnostics solutions for power plants?
- What are the benefits and cost savings?

CYBER RISK MITIGATION

- What are the cybersecurity-related risks with the digitalisation of power plants?
- What are the best practices and solutions?
- What has been the uptake of such solutions by gencos so far? What are the issues and concerns?

PREVIOUS PARTICIPANTS

AECOM, Andritz Hydro, AVEVA Information Technology, Axcend Automation and Software Solutions, Bentley, Bharat Heavy Electricals, Bokaro Power Supply Company, CESC, Chhattisgarh State Power Generation Company, CLP India, Coastal Gujarat Power, Damodar Valley Corporation, DB Power, Emerson, GE Power India, GE South Asia, GMR, GMR Bajoli Holi Hydro Power, GSECL, GSECL-UTPS, Haryana Power Generation Corporation, Honeywell, India Uniper Power Services, Jaiprakash Power Ventures, Jaypee Bina Thermal Power Plant, Jindal Power, Kepco Plant Service & Engineering, Korea Plant Service & Engineering, L&T Power, Lanco Power, Lanco Anpara Power, Larsen & Toubro, Maharashtra State Power Generation Company, Maithon Power, Nabha Power, NHPC, NLC India, NTPC, Odisha Hydro Power Corporation, Odisha Power Generation Corporation, Prayagraj Power Generation Company, RattanIndia Power, Sarawak Energy, Sembcorp Green Infra, Siemens, STEAG Energy Services (India), Suzlon Energy, TANGEDCO, Tata Consulting Engineers, Tata Power, Tata Power Renewable Smart Grids, Tata Power Solar Systems, Teesta Urja, Thermax, TMEIC Industrial Systems, Torrent Power, Toshiba, U.P. Rajya Vidyut Utpadan Nigam, UptimeAI, UJVN, UPRUVNL, Veda Next-Gen Energy, Voith Digital Solutions India, Voith Hydro, West Bengal Power Development Corporation.

DELEGATE FEE

	Fee			
Delegates	**INR**	**GST@18%**	**Total INR**	**Total USD**
One delegate	17,500	3,150	20,650	252
Two delegates	29,500	5,310	34,810	425
Three delegates	41,500	7,470	48,970	597
Four delegates	53,500	9,630	63,130	770

- Registration will be confirmed on receipt of the payment.
- To register online, please log on to http://indiainfrastructure.com/conf.html

SPECIAL LOW FEE

There is a special low fee of **INR 5,000** plus 18 percent GST per participant for state owned gencos, regulatory authorities, academic institutions and government agencies (not public sector corporate).

ORGANISERS

The conference is being organised by **India Infrastructure Publishing**, the leading provider of information on the infrastructure and power sectors. It publishes **PowerLine, Renewable Watch, Smart Utilities** and **tele.net** magazines. It also publishes a series of reports on the energy sector including **Power Distribution in India, Coal Based Power Generation, Power Transmission in India, Hydro Power in India, Solar Power in India, Power Market In Asia, Captive Power in India, Cost of Power for Discoms and Industrial Users.** The company also publishes **Power News** (a weekly newsletter) and the **Power Line Directory and Yearbook.**

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