



Conference on

# DIGITALISATION OF POWER PLANTS

June 11-12, 2018, The Grand, Vasant Kunj, New Delhi

Organisers:

**POWERLINE**

**Indian Infrastructure**

**RenewableWatch**

# Digitalisation of Power Plants

## Mission

- The power generation industry is at the crossroads. Decreasing renewable energy costs, decline in power demand, stricter emission regulations and ageing infrastructure are some of the biggest complexities that the industry is facing today.
- Digitalisation holds great promise for gencos to thrive despite these challenges. With digital technologies, the power generation industry could fundamentally transform itself by improving power plant efficiency, reducing O&M costs, lowering unplanned outages and extending the operational life of assets.
- Digital technologies are not new for generation utilities, which have been using control and monitoring systems, networked communication, etc. for the past few years. That said, utilities can now look at leveraging new state-of-the-art digital technologies, such as IoT, cloud-based platforms, advanced analytics, predictive data analytics, asset performance management softwares, smart sensors, intelligent forecasting solutions, etc., for deriving actionable insights to fulfil their critical needs.
- Further, digitalisation can be leveraged for supporting flexibilisation. Thermal power plants would be increasingly required to offset the fluctuations in the grid caused by renewable projects. By equipping existing plants with advanced analytics, generation units could be taken out of and put back into service more quickly.
- Digitalisation can also improve efficiencies of the main plant equipment, as well as the emission control systems, fuel management systems and balance of plant (BoP) systems on a real-time basis. With digital solutions, plant operators can benefit from asset optimisation, enhanced equipment life, and improved data visibility across the fleet or in individual plants. In addition, they can help achieve compliance with emission norms.
- For renewable energy projects that need to maintain their cost-competitiveness with other forms of electricity, digital technologies and solutions such as sensors and data storage can play a key role in areas such as project execution, site selection for new projects, plant availability and performance improvements.
- While the opportunities and benefits of digitalisation are many, it also makes utilities more vulnerable to cybersecurity attacks. Utilities will therefore need to proactively manage risks that data and physical assets face and maintain best practices to keep systems secure and up to date.
- Going forward, as utilities decide the digital platforms to plan for and invest in, they will also need to review their organisational and technical capabilities and identify right technology partners to work with.
- **The mission of this conference is to highlight the digitalisation needs and requirements of gencos, examine its role in the power generation industry and discuss the issues and concerns that need to be addressed for the successful uptake of digital technologies and solutions. It will also showcase the latest innovations and the most promising and relevant technologies.**

## Target Audience

The conference is targeted at:

- Power plant operators (coal, gas, hydro, thermal)
- Equipment manufacturers (steam boilers, turbines, generators, etc.)
- Technology providers
- Solar and wind power developers
- Independent power producers
- Providers of basic power technology, equipment, products and services
- Other power sector professionals
- Research and development organisations
- Engineering consultants
- Consultancy organisations engaged by utilities
- Cybersecurity firms
- Energy managers and auditors
- Certification and inspection companies

The conference will be useful for:

- IT officials/managers in generation
- Top and middle-level operations managers involved in digital plants, IoT, cloud computing, or big data
- Managers of power plants (public/private/captive)
- Cybersecurity professionals

## AGENDA/STRUCTURE

### DIGITALISATION NEEDS AND REQUIREMENTS

- ❖ What does digitalisation imply for generation utilities?
- ❖ What are the digitalisation needs and requirements of power gencos?
- ❖ What are the benefits that they can derive from this?
- ❖ What are the investments needed?

### GENCO PERSPECTIVE

- ❖ What has been the uptake of digital solutions and platforms by gencos?
- ❖ What are the new and emerging challenges that they are facing?
- ❖ What are the future digitalisation plans of gencos? What are the steps that they need to take to build digital expertise?

### FOCUS ON TECHNOLOGY

- ❖ What are the most promising digital technologies for power plants?
- ❖ What are the various options to consider while employing a digital business model?
- ❖ What are the barriers to the uptake of these technologies? What is the way forward?

### IMPROVING FLEXIBILISATION

- ❖ What are the flexibilisation requirements of conventional power plants?
- ❖ What are the digital solutions that can facilitate flexibilisation of traditional plants?
- ❖ What has been the trend in their uptake?

### DIGITALISATION FOR BTG EQUIPMENT

- ❖ What are the key issues and challenges that impact steam boilers, turbines and generators (BTGs)?
- ❖ What are the digital solutions available for addressing these?
- ❖ What has been the experience so far?

### FOCUS ON RENEWABLE ENERGY PLANTS

- ❖ What are the key priorities and challenges for renewable energy projects in a digitally enabled environment?
- ❖ What is the role of digital solutions in maximising output, plant reliability, etc.?
- ❖ What are their applications in renewable energy projects?

### SOLUTIONS FOR BoP AND BoS

- ❖ What are the digital technologies and solutions for BoP systems?
- ❖ What are the new and emerging digital solutions for balance of system (BoS)?
- ❖ What has been the experience so far?
- ❖ What are the outcomes achievable?

### ROLE OF DIGITALISATION IN O&M

- ❖ What are some of the key operational performance issues in power plants?
- ❖ What role can digital technologies play in the O&M of power plants?
- ❖ What are the new and emerging digital solutions for O&M?

### CYBERSECURITY REQUIREMENTS

- ❖ What are the vulnerabilities that power plants are exposed to with digitalisation?
- ❖ What are the strategies and solutions available to detect and manage cybersecurity risks and challenges?
- ❖ What are the best practices in this regard?

### ASSET MANAGEMENT AND OPTIMISATION

- ❖ What are the various parameters that power producers can monitor and analyse using digital solutions?
- ❖ What are some of the key digital technologies for improving asset management and optimisation?
- ❖ What has been the experience of power producers?

### BIG DATA, IoT AND CLOUD COMPUTING

- ❖ What are some of the potential benefits of IoT, cloud-based platforms and data analytics for power plants?
- ❖ What are the cost savings and efficiency gains associated with such solutions?
- ❖ What has been the utility experience so far?

### EMISSION CONTROL

- ❖ What are the technologies and solutions that can help power producers meet their emission control mandates?
- ❖ What are the outcomes that can be achieved with these solutions?
- ❖ What has been the trend in the uptake of such solutions by utilities?

### DIGITALISATION OF HYDRO PLANTS

- ❖ What are some of the specific requirements and challenges for hydropower plants?
- ❖ What are the various digital solutions and technologies available for hydro plants?
- ❖ What are the costs and benefits of such solutions?

### DIGITALISATION OF GAS-BASED PLANTS

- ❖ What are some of the requirements and challenges for gas-based power plants?
- ❖ What are the various digital solutions and technologies available for gas-based plants?
- ❖ What are the costs and benefits of such solutions?

## Previous Participants

The participants at our previous power conferences include: ABB, Adani Ports, Adani Power, Aditya Birla Finance, AECOM, Afcons, Alchemist ARC, ALMT Legal, ARCIL, ATC Telecom, Axis Bank, Axis Capital, BMR Advisors, BP India, BPCL, Brescon, BRNL, Brookfield Financial, Calm, CARE, CBRE, CRDC, CIDCO, CLP, CLSA, CPPIB, CRISIL, DBS Bank, Deesha Power, Deloitte, Dhir & Dhir, Dhruva Advisors, Dillip Bulldcon, Dolat Capital, Doshlon Water Solutions, DSK Legal, DSP Merrill Lynch, Duff & Phelps, E&Y, ELP, Edelweiss ARC, ELP, Equirus Securities, Essar Power, Essel Infraprojects, Feedback Brisa, Feedback Infra, Gammon, GMR, GSECL, HCC, IBBI, ICICI Bank, ICRA, IDAC, IDBI Trusteeship, IDeck, IDFC Alternatives, IFCL, IIFCL, IL&FS Engg, IL&FS Financial Services, IL&FS Investment Managers, IL&FS Maritime, ITNL, IMFA, India Power, India Ratings, Indus Law, Indus Towers, Infrastructure Advisors, ILFS, ILFS, ICC Singapore, IPE Global, IRB, Iridis Advisory, IVRCL, J Sagar, J&K SPDC, J.M. Baxi, Jaypee Infratech, Jindal Steel & Power, JM Financial, JMC Projects, JNPT, Juris Corp, Kalpataru Power, Khaitan & Co, Kochhar & Co, Kotak Mahindra, KPMG, KRDC, L&T Construction, L&T Financial Services, L&T IDPL, L&T Infrastructure Finance, Beekay, Madhu Developers, MSEDCCL, Marsh India, Masin Projects, Mazagon Dock, MEP Infra, Morgan Stanley, NHAI, NIC, NSAIL, NCC, NHPC, Orbit Law, Paramount Limited, Patel Engg, PNC Infratech, Power Grid, Power Transmission, Pranav Construction Systems, PTC India, PwC, Rall Vikas Nigam, Reliance Infra, Reliance Nippon Life Insurance, RITES, RMG Alloy Steel, S&P Global, Sadbhav Engg, SBI, SBI Caps, Shapoorji Pallonji, Shriram EPC, Simplex Infrastructure, Societe Generale, Statkraft Markets, Sterlite Power, Tata Capital, Tata Cleantech Capital, TRIL Roads, Trust Group, Visira ITCL, Voltamp Transformers, Wadla Ghandy, Welspun Enterprises, etc.

# DIGITALISATION OF POWER PLANTS

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## Registration Form

I would like to register for the conference. I am enclosing Rs \_\_\_\_\_ vide cheque/demand draft no. \_\_\_\_\_ drawn on \_\_\_\_\_ dated \_\_\_\_\_ Company GST No. \_\_\_\_\_ in favour of **India Infrastructure Publishing Pvt. Ltd.** payable at New Delhi.

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## Registration Fee

Delegates	Fee			
	INR	GST @ 18%	Total INR	Total USD
One delegate	22,500	4,050	26,550	443
Two delegates	37,500	6,750	44,250	738
Three delegates	52,500	9,450	61,950	1,033
Four delegates	67,500	12,150	79,650	1,328

- GST @18 per cent is applicable on the registration fee.
- There is a special low fee of Rs 7,000 per participant for delegates from state-owned power generation companies.
- Registration will be confirmed on receipt of the payment.
- To register online, please log on to <http://indiainfrastructure.com/conf.html>

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Contact: Tania Agarwal, Conference Cell, India Infrastructure Publishing Pvt. Ltd.

B-17, Qutab Institutional Area, New Delhi 110016.

Tel: +91-11-43520055, 41034615, 9711588987

E-mail: [conferencecell@indiainfrastructure.com](mailto:conferencecell@indiainfrastructure.com)

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