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2nd Annual Conference on

# Digital Technologies for Water Network Management

Experience and Challenges, New-Age Technologies and Best Practices

June 28-29, 2022 | Le Meridien, New Delhi

*Organisers:*



**Smart Utilities**

*Co-sponsors so far:*



*Solutions Partner:*



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# Digital Technologies for Water Network Management

## Mission

- Over the past few years, technology solutions have penetrated water network management. There has been an increased deployment of solutions such as smart metering, mobile applications, supervisory control and data acquisition (SCADA), digital twins and remote monitoring. There has also been an increased emphasis on building the smart water supply infrastructure with centralised and automated operations and control. These efforts are aimed at improving the quality of water supply and reducing non-revenue water (NRW), thereby reducing overall losses.
- The Covid-19 pandemic has placed a substantial pressure on utilities to make their supply chains more resilient to future shocks by employing digital solutions to optimise and automating their water management operations. New and innovative digital solutions such as artificial intelligence (AI) and machine learning (ML) technologies are being explored to process data from multiple sources into actionable operational insights on a real-time basis.
- The government is making efforts to resolve the water problems in the country with the help of technology. The Karnataka government, for instance, launched an innovative initiative called AQVERIUM in March 2022 for better water management. It is India's first digital water data bank, which provides reliable insights and evidence from research and analytics for tackling water pollution.
- In order to ensure 100 per cent water metering across the city, the municipal corporations in India are replacing mechanical water meters with automatic meter reading (AMR) ultrasound meters. The Hyderabad Metropolitan Water Supply and Sewerage Board has decided to install AMR ultrasonic meters for all high consumption and non-domestic consumers. The Brihanmumbai Municipal Corporation has also tabled an updated policy on water meters for approval from the statutory standing committee.
- The government has launched an initiative called "India Water Pitch-Pilot-Scale Start-up Challenge" under AMRUT 2.0. The initiative will help start-ups bring innovative ideas, technology and novel delivery mechanisms to ensure water security in the country.
- However, there are many challenges that can inhibit the large-scale adoption of technologies in the water sector. These challenges include the cost of implementation, lack of experts and skilled human resources, lack of flexibility to adopt new technologies, limited network reach, difficulty in interconnecting diverse systems due to incompatibility, etc.
- **The mission of this conference is to discuss the experience and challenges in the adoption of digital technologies as well as highlight the opportunities in digital water network management. It will also showcase the upcoming new-age technologies and best practices adopted by utilities.**

## Target Audience

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

- Water utilities
- Bulk water suppliers
- Water network operators
- Urban planning and development agencies
- Policymakers
- EPC contractors
- Technology providers
- Measurement, control and testing equipment manufacturers
- Instrumentation and monitoring solution providers
- Water meter manufacturers
- Pipeline construction firms
- O&M service providers
- Leak detection agencies
- Consulting firms
- Financial Institutions
- Multilateral agencies, etc.

## AGENDA/STRUCTURE

### CURRENT SCENARIO, NEW ADVANCEMENTS AND FUTURE ROADMAP

- ❖ What are the new and advanced technologies being adopted for efficient water network management?
- ❖ What are the solutions and technologies available for the automation of operations and asset management? What has been the experience of water utilities?
- ❖ What are the digital solutions being promoted under key government programmes?
- ❖ What are the new and emerging opportunities and future outlook?

### ULB PERSPECTIVE : DIGITAL INITIATIVES FOR WATER NETWORK MANAGEMENT

- ❖ What are the specific technological initiatives being taken by your ULB for water network management?
- ❖ What are the operational constraints faced? How are they being addressed?
- ❖ What are the future plans and strategies for improving water network management? What are the issues and challenges being faced?

### DIGITAL TECHNOLOGIES IN THE WATER TREATMENT INFRASTRUCTURE

- ❖ What are the specific application areas for the deployment of digital technologies in the water treatment infrastructure?
- ❖ What has been the experience so far? What are the implementation roadblocks?
- ❖ What are the future plans and opportunities in this area?

### PANEL DISCUSSION : VIEWPOINT OF PRIVATE OPERATORS

- ❖ What has been the private sector experience in water network management?
- ❖ What are the upcoming digital technologies? What are the issues and challenges faced by private players?
- ❖ What is the outlook for private players in the sector?

### FOCUS ON IOT-BASED SOLUTIONS FOR SMART WATER NETWORK MANAGEMENT

- ❖ What are the new and emerging requirements for IoT-based solutions?
- ❖ What has been the trend in the uptake of such solutions across the water treatment, storage and distribution segments?
- ❖ What is the future roadmap for the adoption of such technologies?

### REDUCING NON-REVENUE WATER IN WATER DISTRIBUTION

- ❖ What are the new and emerging technologies for NRW reduction?
- ❖ What has been the utility experience so far? What are the key strategies and measures for adoption?
- ❖ What are the future plans for reducing NRW?

### ROLE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING FOR AUTOMATION IN WATER NETWORKS

- ❖ What are the specific applications of next-generation technologies such as robotics, AI, big data and ML for automation of water treatment, storage and distribution processes and operations?
- ❖ What has been the trend in the uptake of such technologies?
- ❖ What are the next steps for the complete automation of operations?

### REAL-TIME MANAGEMENT OF WATER NETWORKS CLOUD-BASED SOLUTIONS AND DATA ANALYTICS

- ❖ What are the new and emerging requirements for real time water management?
- ❖ What has been the trend in the uptake of such solutions?
- ❖ What are the required strategies and roadmap for the adoption of this technology?

### USE OF BIM AND DIGITAL TWINS FOR SMART WATER MANAGEMENT

- ❖ What is the future of digital twin technology in smart water management?
- ❖ What are the possible issues and challenges that could arise?
- ❖ How will the adoption of digital twin technologies help in the development of smart cities?

### ASSET MONITORING AND MANAGEMENT – PIPELINE INFRASTRUCTURE

- ❖ What are the new and emerging asset management-related requirements (GIS mapping, SCADA, ERP, etc.)?
- ❖ What are the specific issues and challenges?
- ❖ What are the future plans and requirements?

### SMART WATER METERING AND REMOTE SENSING TECHNOLOGIES

- ❖ How are the utilities leveraging smart meters for contactless water consumption measurement and billing?
- ❖ What are the benefits of smart metering and remote sensing for utilities?
- ❖ What has been the experience so far? What are the key issues and challenges?
- ❖ What is the future outlook for deployment?

### DIGITAL TECHNOLOGIES FOR WATER STORAGE SYSTEMS

- ❖ What are the specific digital technologies available for water storage systems?
- ❖ What has been the experience so far? What are the key issues and challenges?
- ❖ What are the future plans and opportunities in this area?

# Digital Technologies for Water Network Management

## Confirmed Speakers so far: (in alphabetical order):



**Sreerama Babu**  
Senior Vice President (Tech.),  
NCC Limited



**Jitendra Rathore**  
Project Engineer- IT ICT Strategy and  
Design, Bhopal Smart City  
Development Corporation Limited



**V. Srinivasa Chary**  
Director, Centre for Urban Governance,  
Environment, Energy and Infrastructure  
Development-ASCI



**Dr RN Sankhua**  
Chief Engineer (South),  
National Water Development Agency



**Bodhisattwa Dasgupta**  
Chief Technology Officer and Head of  
Proposals, JWIL INFRA LIMITED



**Pradeep Singh**  
Director Jal Jeevan Mission,  
Ministry of Jal Shakti



**Dr Dharmendra Gill**  
Engineer in Chief,  
Jal Shakti Vibhag Himachal Pradesh



**Dr. Ajay Kumar Singhal**  
Cluster Head & DGM-Urban Water  
and Water Management Projects,  
Larsen & Toubro Constructions Ltd



**Indranil Guha**  
Business Head- International Professional  
Services EPLAN Software and Services Pvt. Ltd



**Chamkaur Singh**  
Water Supply & Waste Water Expert,  
PMC, Faridabad Smart City



**Jethi Janki**  
Vice President (Civil - Water  
Infrastructure - Engineering), Gujarat  
International Finance Tec-City



**Venkataramamoorthy Sreeramagiri**  
Director,  
Ernst & Young Global Limited



**Narendra Modi**  
City Engineer, (Water Resources  
Management), OSD, Ahmedabad Urban  
Development Authority



**O. Vishvewaraiha**  
Vice President (Projects),  
SPML Infra Limited

## Previous Participants

Afcons, Agra MC, Ahmedabad MC, AIUT Technologies, Antony Waste, Aparna, Aquatech, Ashbee, Auma, Avery, Bangalore International Airport, Bangalore Water SSB, Bank of America, BASF, Bentley Systems, Bhagalpur Smart City, BHEL, Black & Veatch, Borouge, Bosch, Breivoll-Inspection Technologies, Bioxgreen, Care RATINGS, CDD, Central Ground Water Board, CESC, Chanderpur Works, Chandigarh MC, Citec Engineering, Contract Management Project Management, Creative Entrepreneurs LLP CRI Pumps, CRIS, CRISIL, CWC, Delhi Jal Board, Dhariwal Infrastructure, DHI, DSIIDC, DTK Hydronet Solutions, Durgapur MC, East Delhi MC, Ecogreen Energy, Electrosteel Casting, Encito Advisors, Energy & Financial Management Consultant, Environmental Technologies, EPTISA, ESRI, E-PLAN, Essar Power, Essel Infra, EVIO, Fair Flow, Finance Tec-City, Forbes Marshall, Gannon Dunkerley, GE Water, Ghaziabad MC, GKW Consult GmbH, Greater Chennai Corporation, Grundfos Pumps, Gujarat International, GSECL, Gurugram Metropolitan Development Authority, Haryana PWD (B&R), HEG, Heuristech Labs, Hitachi, HPD Consultants, iDeck, IL&FS, Indian Hume Pipe, IFC, Itron, Jackson, Jain Irrigation, Jash Engineering, JCB, JFE Engineering, JK Cement, JSPL, JUSCO, JWIL Infra, Kabadiwalla Connect, Kalpataru Power, Kamstrup, Kanpur MC, Keelakarai Town Development Trust, Kishor Pumps, Kohler, KSB Pumps, L&T Construction, L&T Valves, Loni Nagar Palika, Lucknow Nagar Nigam, MagikMinds, Maruti Suzuki, Maski, Mather & Platt Pumps, MC Dharamshala, MC Karnal, MC Moradabad, MC Yamunanagar, McElroy Sales & Service, Ministry of New and Renewable Energy, Ministry of Water Resources, Mitsubishi Hitachi Power, Mukand Poly Products, NabaDiganta Water Management, Nagar Nigam Ghaziabad, Nagar Nigam Varanasi, Nagar Palika Nigam Ujjain, Nagar Palika Parishad Mathura, Nagar Palika Parishad Modinagar, Nagpur Environmental Services, Nagpur Smart City, Nangloi Water Services, National Institute of Urban Affairs, National Mission for Clean Ganga, NCC, NDMC, NITI EMumbai, NJS, NPCC, NTPC, ONGC, Organica Water, Paharpur Cooling Towers, Pimpri-Chinchwad MC, Praj, PricewaterhouseCoopers, Public Health Engineering Department, Public Works Department, Pune MC, Punjab Pollution Control Board, Punjab Water SSB, PWD, Rajkot MC, Ramboll, Reliance Industries, Retas Enviro Solutions, Rex Polyextrusion, Ridings Consulting Engineers, Royal Danish Embassy, Royal Haskoning DHV, Sagar MC, Schneider electric, Schwing Stetter, Secure Meters, Sensus, SFC, Shah Technical Consultants, Shubham Acqualink, Siemens, Smart Energy Water, SMS Envocare, SPML Infra, Sterling & Wilson, STUP Consultants, Swach Environment, Tata Communications, Tata Consulting Engineers, Tata Institute of Social Sciences, Tata Metaliks, Tata Power, Tata Projects, Technofab, Technofab Engineering, Temflo Systems, TERI, Terpl, Thane MC, Thermax, Tirupati MC, Town and Country Planning Organisation, Town Municipal Council, UK Trade & Investment, Unicon ZSK, Uniper Technologies, UP Jal Nigam, URS, VA Tech Wabag, VAG-Valves, VEGA, Venkraft Paper Mills, Vishvaraj Infrastructure, Voltas, Water Health, Wegot Utility Solutions, Weir Minerals, WILO, Wipro Water, World Bank, Xylem Analytics South Asia, Xylem Water Solutions, ZENNER Aquamet, etc.