60 Years of Trust

IEI News
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Adding Value to Sustainable Development Goals through Resilient Water Infrastructure Projects

60 Years of Trust

ION EXCHANGE
Refreshing the Planet

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Honouring the Past...Shaping the Future!

Mr. Indraneel Dutt stepped into the role of Managing Director of Ion Exchange (India) Ltd., on October 1, 2024, marking a significant milestone in the company's leadership journey. Having joined Ion Exchange as CEO, Mr. Dutt brings extensive international experience and a forward-looking strategic vision that aligns with the company's goal of advancing its global position in total water and environment management. Built on Ion Exchange's strong foundation of over 60 years, his leadership will drive technology, innovation and expansion across diverse markets.

Ion Exchange also celebrated Mr. Rajesh Sharma's invaluable contributions as he transitioned from the position of Chairman & Managing Director to Executive Chairman. His visionary leadership, unwavering dedication and relentless pursuit of excellence have been pivotal to Ion Exchange's continued progress. As he continues to guide and inspire us in his new role, his distinguished legacy will remain a cornerstone of our future growth and success in the water and environmental solutions sector.

From the MD's Desk :
A Legacy of Strength... A Future of Possibilities!

Indraneel Dutt, Managing Director, Ion Exchange (India) Ltd.

"It is an honour to lead Ion Exchange at this pivotal moment in its journey and I step into this role with immense gratitude and excitement. With a strong 60 year legacy of experience, expertise and customer trust, our company stands as a beacon of innovation and reliability in the Total Water and Environmental Management sector.

What makes Ion Exchange truly special is the incredible people who drive its success-our dedicated team, our valued customers and our strong leadership. Our depth of expertise, diverse portfolio of solutions and relentless commitment to excellence define who we are. Across 150,000 sites, from industrial giants to individual households, we have built lasting relationships based on trust, performance and quality. Our Zero B brand has further strengthened our commitment to health and wellness in the B2C drinking water solutions space.

Innovation has always been at the core of our success. We continuously push boundaries to develop best-in-class technologies that address the evolving needs of industries and communities. As we look ahead, we see immense potential-new opportunities in wastewater treatment and advanced desalination technologies, enabling industries and communities across the globe to achieve greater water security and sustainability. Additionally, the integration of digital and AI-driven solutions is set to revolutionize the way we monitor, optimize and enhance our water management offerings.

Ion Exchange is built on a legacy of trust, dedication and excellence and I am privileged to be part of its journey. As we step into the future, we will be presented with incredible opportunities for growth and transformation. The path forward is rich with possibilities-to pioneer new innovations, forge stronger collaborations and leave a meaningful, lasting impact. I look forward to working alongside our exceptional team and valued customers to shape an exciting future. The best days of Ion Exchange must surely be ahead of us!"

Celebrating 60 Years of Excellence !

On 6th March 2024, Ion Exchange (India) Ltd. proudly marked 60 years of pioneering excellence in Total Water & Environment Management. Established in 1964, Ion Exchange has since evolved into a global leader, providing comprehensive solutions for water treatment, wastewater treatment, solid waste management and waste-to-energy to industries, municipalities, institutions, homes and communities across the world. Over the past six decades, Ion Exchange has been at the forefront of innovation, introducing cutting-edge technologies and sustainable practices to preserve and protect water resources. With a strong commitment to quality, sustainability and customer-centricity, Ion Exchange has built a legacy of trust and reliability. Today, with operations, projects and partnerships spanning multiple continents, it stands as a benchmark in the global water treatment industry, continuously striving to develop advanced, cost-effective and environmentally responsible solutions for a better, water-secure future!

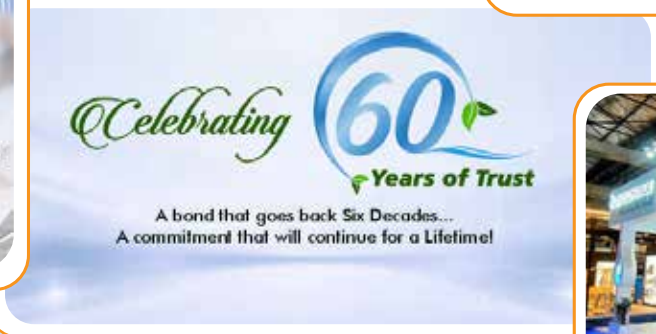
To mark this momentous occasion, Ion Exchange undertook several initiatives that reflected its rich legacy and future vision:

- 60 Years Logo Launch – A special anniversary logo was designed to symbolize six decades of innovation, commitment and leadership. This was integrated into all presentations and communication materials to reinforce the milestone.
- Coffee Table Book – A beautifully curated coffee table book was launched, capturing the company's journey, achievements and contributions to water management and sustainability over the years.
- 60 Years Video – A commemorative video showcased Ion Exchange's transformation, highlighting key innovations, projects and global impact.
- Social Media & Digital Engagement – The milestone was celebrated with banners and posts across social media platforms, engaging stakeholders and employees in the celebration.
- Emailer Announcement – On the anniversary day, a special emailer was shared with employees, partners and customers, reflecting on Ion Exchange's accomplishments and future aspirations.
- Industry Forums & Events – Throughout the year, Ion Exchange took the opportunity to highlight its legacy and ongoing contributions at various industry forums, conferences and public platforms.

Video

Coffee Table Book

Emailer



Digital Engagement

Events & Exhibitions

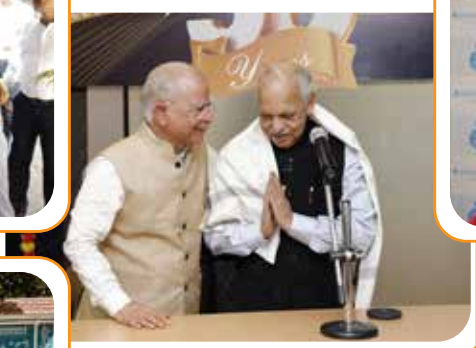
Ion Exchange Celebrates Mr. Rajesh Sharma: 50 Years of Vision, Leadership and Impact!

For over six decades, Ion Exchange (India) Ltd. has stood as a pioneer in water and environmental solutions, shaping a legacy of innovation and sustainability. At the heart of this remarkable journey has been our esteemed Executive Chairman (former CMD), Mr. Rajesh Sharma, whose visionary leadership has been instrumental in positioning Ion Exchange as a formidable global competitor. Marking an exceptional 50-year milestone with Ion Exchange, his contributions to the water industry have been profound, leaving an indelible impact on both the sector and the organization.

To celebrate Mr. Rajesh Sharma's golden jubilee with Ion Exchange, employees orchestrated a grand and heartfelt tribute, making it a truly memorable occasion. He was welcomed into the office with a traditional Maharashtrian ceremony, where a 'Tutari' - Trumpet was played, symbolizing grandeur and respect. A 'Feta' - Turban was placed on his head, marking his stature, honour and as a gesture of deep appreciation. The atmosphere was filled with admiration as employees across all levels expressed their gratitude, showering him with flowers and heartfelt messages. Senior leadership, along with his beloved family, gathered to commemorate his journey and his wife, Mrs. Aruna Sharma, spoke emotionally about his unwavering dedication to Ion Exchange, sharing how Ion Exchange has been his passion, his purpose and an inseparable part of his journey. Employees from across India tuned in to hear his heartfelt and inspiring address, a speech that resonated deeply with everyone, leaving a lasting impact on all who listened!

Video messages poured in from old colleagues, friends and industry peers, reminiscing about shared experiences and his invaluable mentorship. A heartfelt video capturing his remarkable 50-year journey was presented. A grand cake-cutting ceremony brought everyone together in celebration of this remarkable milestone. Social media was flooded with heartfelt messages from industry professionals and well-wishers, acknowledging his unparalleled contributions. The festivities extended throughout the year, garnering widespread recognition as prestigious publications like Forbes, Economic Times and Business World featured in-depth articles on his exceptional leadership, solidifying his profound influence on the industry.

Even today, Mr. Rajesh Sharma continues to remain at the forefront of the water industry. As Ion Exchange looks ahead, it draws inspiration from his leadership, embracing new challenges with the same pioneering spirit that has defined his illustrious career. Mr. Rajesh Sharma's journey is not just a celebration of the past but a guiding beacon for Ion Exchange's future, ensuring that the legacy of innovation, sustainability and excellence continues for generations to come!



SPOTLIGHT

Water Infrastructure Development: Driving Sustainable Growth

A nation's progress depends on strong infrastructure, with water management playing a vital role in industrial growth, public health and sustainability. Rapid urbanization has increased water consumption and wastewater generation, demanding resilient water infrastructure. The COVID-19 pandemic highlighted the need for reliable water systems, especially in developing nations.

India faces a severe water crisis, with demand expected to double supply by 2030. A 2020 WWF report identified 30 cities at high water risk by 2050, while the World Bank warns inadequate water management could limit GDP growth. To address this, the Indian government has launched initiatives like AMRUT, the National Mission for Clean Ganga and Jal Jeevan Mission. Long-term water security requires public-private collaboration, where Ion Exchange plays a crucial role in delivering sustainable water solutions.

With over six decades of expertise, Ion Exchange is a trusted leader in total water and environment management solutions, providing cutting-edge technology, project management expertise and sustainable solutions to address India's growing water infrastructure needs. Our strong technical competence and end-to-end capabilities enable us to support both government-led initiatives and private sector projects, ensuring access to clean water, efficient wastewater treatment and environmental conservation.

Key Areas of Expertise

Turnkey Design & Build Solutions: Ion Exchange offers concept-to-completion solutions, executing large-scale infrastructure projects that include water supply, sewage treatment, wastewater recycling, desalination and solid waste management. Our extensive project management expertise ensures timely execution and cost-effective solutions.

Water Supply & Distribution Systems: With the rising demand for clean water, we specialize in designing and constructing reliable transmission mains, distribution systems, pumping stations, storage networks and comprehensive O&M to provide uninterrupted water access.

Pipeline Infrastructure Projects: Our capabilities extend to the manufacturing, supply and installation of cross-country pipelines, including road, rail and river crossings. We work with various materials, such as iron, MS, PSC, AC, DI, PVC, HDPE and GRP, to meet diverse infrastructure needs.

Utility Buildings & Electrification: Beyond water management, Ion Exchange contributes to sustainable infrastructure development by providing essential electrification and utility building solutions for public and private projects.

Drinking Water Treatment & Purification: Ion Exchange provides advanced water purification and treatment solutions, including filtration, chlorination, chemical dosing and removal of contaminants such as iron, fluoride, arsenic, nitrate and uranium. Our state-of-the-art plants use PLC automation and modern control systems for efficient operation.

Seawater Desalination: For coastal regions facing freshwater scarcity, our desalination plants serve as a sustainable alternative. These facilities include seawater intake systems, treatment processes and underground storage solutions, designed for efficient and reliable water supply.

Sewage Treatment & Wastewater Recycling: Our expertise includes sewage collection, treatment and recycling, utilizing aerobic, anaerobic and membrane technologies to treat municipal and industrial wastewater. Wastewater recycling not only ensures a dependable decentralized water supply but also provides environmental benefits by reducing pollution and protecting ecosystems.

Solid Waste Management & Waste-to-Energy Solutions: Ion Exchange integrates advanced technologies to convert municipal solid waste and sludge into clean water, energy (heat & power) and organic fertilizers, promoting a circular economy.

With sustainability at our core, Ion Exchange actively advances the United Nations Sustainable Development Goals (SDGs) through innovative water and environmental solutions. We support SDG 6 (Clean Water & Sanitation) by ensuring safe water access and efficient wastewater treatment and SDG 7 (Affordable & Clean Energy) by optimizing energy use in water infrastructure. Our cutting-edge technologies drive SDG 9 (Industry, Innovation & Infrastructure), while our sustainable water management systems contribute to SDG 11 (Sustainable Cities & Communities). Through strategic collaborations, we also further SDG 17 (Partnerships for the Goals), working towards a water-secure future.

As India and the world tackle the pressing challenges of water scarcity, Ion Exchange remains at the forefront of developing innovative and sustainable water infrastructure solutions. Through strategic partnerships and cutting-edge technologies, we enable efficient water management while minimizing environmental impact thus helping industries, municipalities and governments achieve their water security goals through resilient, future-ready water infrastructure.

Some of our Major Water & Waste Infrastructure Projects

1. Empowering Communities through a Landmark Integrated Water Supply Project: Sri Lanka

The National Water Supply & Drainage Board (NWSDB) of Sri Lanka, the national authority responsible for ensuring safe drinking water and sanitation, awarded Ion Exchange a prestigious Integrated Water Supply Project. This comprehensive project, involved designing, engineering, execution and operation & maintenance (O&M) to enhance water to Divisional Secretariat areas of Kalutara, Dodangoda, Beruwala, Mathugama, Agalawatta and Urban Councils of Kalutara and Beruwala in the Kalutara District. This project is designed to meet the year 2030 demand and total population coverage is 573,000.

The project aimed to address the critical issue of salinity in drinking water supply caused by seawater ingress during summer while expanding the distribution network to serve a larger population.

Ion Exchange's scope of work included:

- Establishing a new water intake system.
- Constructing and rehabilitating water treatment plants.
- Refurbishing the old intake infrastructure.
- Building towers and reservoirs and laying transmission pipelines to connect them with the treatment plant.
- Installing distribution pipelines from the towers to the designated villages.

The entire scheme was fully automated and integrated with remote monitoring and SCADA systems. In addition to infrastructure development, Ion Exchange provided training, operations and maintenance support and set up offices, workshops and staff accommodations for the Water Board.

This project exemplified ion Exchange's unwavering commitment to Sustainable Development Goal 6 (SDG 6) – Clean Water and Sanitation, ensuring access to safe and sustainable water resources for communities in need.

Ultra High Rate Solids Contact Clarifier (UHRSCC)
Flow rate: 1500 m³/h

Clarifier
Capacity: 660 m³/h

Cascade Aerator for UHRSCC
Flow rate: 800 m³/h

Water Treatment Plant (WTP) pump house main MCC panel (APFC, VFD, AHF)

2. Ion Exchange's Desalination Project in North Africa: A Sustainable Water Solution

Water scarcity has become a pressing issue in North Africa due to climate change and declining rainfall patterns. To address this challenge, a large-scale water program has been launched to secure sustainable water supply for industries and communities. As a key partner in this initiative, Ion Exchange (India) Ltd., has successfully executed two major desalination projects of capacity 40 MLD and 240 MLD (SWRO Skid). The third desalination project of capacity 60 MLD is under execution.

Project Overview & Technology

The 40 MLD desalination plant, commissioned in October 2023, features a complete desalination system incorporating sand filtration as pre-treatment before reverse osmosis (RO). Notably, this marks the first instance where sand filtration was used as a pre-treatment for desalination in North Africa, deviating from the conventional approach of using ultrafiltration (UF).

The 240 MLD SWRO skid plant was initiated in January 2024, with supply completed as on date. 50% of the capacity (120 MLD) has been operational since December 2024. The plant utilizes reverse osmosis (RO) technology, with Ion Exchange supplying the RO package.

Both these plants operate in auto mode, ensuring efficiency, reliability and seamless operation through automation and remote monitoring. These facilities desalinate seawater to provide high-quality water for industrial operations and community uses.

Environmental & Economic Impact

The project plays a crucial role in addressing North Africa's water scarcity crisis, ensuring a sustainable and reliable water source for both industrial and municipal needs. By integrating advanced desalination technologies, Ion Exchange has contributed to:

- Reducing dependence on conventional freshwater sources, supporting the regions long-term water security strategy.
- Enhancing industrial productivity by supplying treated water for operations.
- Strengthening local economies by sourcing materials locally and supporting the region's employment and development goals.
- Ion Exchange's desalination project contributes to multiple United Nations Sustainable Development Goals (SDGs), especially SDG 6 — Clean Water and Sanitation — by addressing critical water and environmental challenges.

Project Timeline & Future Developments

Construction of the 40 MLD plant began in April 2022 and the plant was operational by October 2023. The 240 MLD plant, launched in January 2024, has 50% of its capacity operational as of December 2024, with the remaining portion expected to be completed soon.

By successfully delivering high-capacity, state-of-the-art desalination plants, Ion Exchange has reinforced its position as a global leader in sustainable water management solutions. These projects not only secure water resources for north Africa's future but also set a benchmark for innovation, efficiency and environmental responsibility in desalination technology.

Desalination Plant

3. Sustainable Wastewater Reuse through Sewage Treatment: Anjar, Gujarat

The Welspun Group, one of India's fastest growing conglomerates has set-up a unique source of freshwater for its textile plant in Anjar, Kutch. Ion Exchange partnered with Welspun to design, erect and commission a sewage treatment and recycle plant along with undertaking its operation & maintenance. The 30 MLD sewage treatment plant is treating sewage generated from two cities – Anjar and Adipur, supplied by their respective local municipalities. Post this, Ion Exchange added another 40 MLD plant for treating sewage from Gandhidham.

This project has reduced the burden on local municipal authorities to treat sewage generated by communities in the water-scarce Kutch region in Gujarat. The sewage generated from Anjar, Adipur and Gandhidham is wisely reused as an alternate source of water that would otherwise be discharged and pollute the Nakti Creek, Gulf of Kutch. It is also a unique public-private partnership model for treating and reusing municipal sewage by the industry.

This project which is consistent with Ion Exchange's commitment towards SDG 11 – Sustainable Cities & Communities, SDG 17 – Partnership for the Goals, has won the prestigious Government of India's National Water Award in the Industrial category.

Ion Exchange Effluent Treatment Plant

4. Ion Exchange's Contribution to Jal Jeevan Mission (Har Ghar Jal): Empowering Rural India with Clean Drinking Water

The Jal Jeevan Mission (JJM), launched by the Honourable Prime Minister of India in August 2019, is a transformative initiative aimed at providing functional tap water connections to every rural household by 2024. With the vision of delivering 55 litres of potable water per capita per day to approximately 19 crore rural households, the mission is a monumental step towards addressing water scarcity, improving rural public health and bridging the urban-rural divide in access to basic amenities.

Aligned with this vision, Ion Exchange (India) Ltd is proud to be a part of this ground-breaking initiative. Our scope under JJM encompasses the execution of a Rural Multiple Village Drinking Water Supply Scheme in 947 villages across Chandauli and Aligarh Mandal districts of Uttar Pradesh. This project is not just about infrastructure; it's about creating a lasting impact on rural communities, ensuring access to safe and reliable drinking water and promoting sustainability at every step.

Ion Exchange has been executing the project in accordance with SWSM – UP tender guidelines. The borewell-based drinking water supply scheme is planned and implemented as per a Village Action Plan (VAP), developed with active participation from the village community and subsequently approved by DWSM/SLSSC.

The project encompasses:

- Preparation of a Detailed Project Report (DPR) for designing and implementing the Har Ghar Nal (Drinking Water from Tap) supply projects for villages.
- Execution on an Engineering, Procurement and Construction (EPC) basis - Includes a comprehensive ten-year operation and maintenance (O&M) commitment. Major activities include:

- **Infrastructure Development:**

Construction of tube wells, intake wells, pump houses and overhead storage tanks (OHT) to ensure efficient water distribution.

Development of a robust water supply distribution network, including individual household connections and standposts, ensuring every household has access to tap water.

- **Advanced Technology Integration:**

Implementation of SCADA (Supervisory Control and Data Acquisition) systems for centralized monitoring and control of water supply across districts, ensuring operational efficiency and timely maintenance.

Preparation of GIS-based completion plans for accurate mapping and efficient management of water supply infrastructure.

- **Upgradation of Existing Drinking Water Supply Schemes:**

a) Retrofitting of existing drinking water supply schemes to enhance their capacity and efficiency.

b) Provision of potable drinking water in Quality - affected habitations.

- **Environmental and Social Responsibility:**

Adherence to the Environmental and Social Assessment Management Plan (ESAMP) to minimize the ecological impact and ensure community welfare throughout the project lifecycle.

- **Community Engagement and Certification:**

Empowering Gram Panchayats and Village Water and Sanitation Committees (VWSCs) to play an active role in water supply management. Once a village achieves full tap water connectivity, it is certified as a 'Har Ghar Jal' village, symbolizing the successful fulfilment of the mission's objectives.

The project is underpinned by a strong emphasis on sustainability. Source sustainability measures such as rainwater harvesting, greywater management and water conservation practices are being integrated into the project. These measures not only ensure a consistent water supply but also contribute to groundwater recharge, preserving natural water resources for future generations.

By using energy-efficient pumps and exploring renewable energy options like solar power, Ion Exchange aims to reduce the carbon footprint of the water supply infrastructure. The ten-year O&M period ensures long-term reliability and sustainability, providing the rural population with uninterrupted access to safe drinking water.

Ion Exchange's involvement in JJM is more than an infrastructure project; it is a mission to transform lives. Access to safe drinking water directly reduces the prevalence of water-borne diseases, significantly improving public health, especially among women and children. Women, traditionally burdened with fetching water over long distances, are now empowered to dedicate their time to education, work and family.

This collaboration with JJM showcases Ion Exchange's commitment to harnessing technology, innovation and sustainability to address one of India's most critical challenges—access to clean drinking water. By empowering rural communities with this essential resource, we are contributing to a healthier, more equitable and sustainable future for India.



Jal Jeevan Mission Project

5. Capacity Enhancement of Delhi Jal Board's Haiderpur Water Treatment Plant with Ion Exchange's UHRC Technology

With rapid urbanization and a growing population, the demand for safe drinking water continues to rise, placing immense pressure on Public Health Engineering Departments to meet supply needs. Expanding urban water infrastructure in densely populated Metro cities like Delhi is a challenge due to land scarcity, high costs and complex transmission and distribution networks. Given these constraints, enhancing the capacity of existing Water Treatment Plants (WTPs) presents a viable and cost-effective solution.

The Role of Ion Exchange in Haiderpur WTP Capacity Enhancement

The Haiderpur Water Treatment Plant, which sources raw water from the Bhakra Nangal Canal, currently operates in two phases, with a combined capacity of 200 MGD (900 MLD). Ion Exchange played a pivotal role in increasing this capacity by introducing its advanced Ultra High Rate Clarifier (UHRC) technology—a compact, efficient and cost-effective solution for water clarification.

The INDION UHRC unit integrates mixing, flocculation and sedimentation within a single treatment basin, ensuring high-rate clarification and maximum treated water production without requiring additional land. This technology leverages solids contact clarification, where previously formed precipitates accelerate chemical reactions, forming dense sludge particles that settle rapidly.

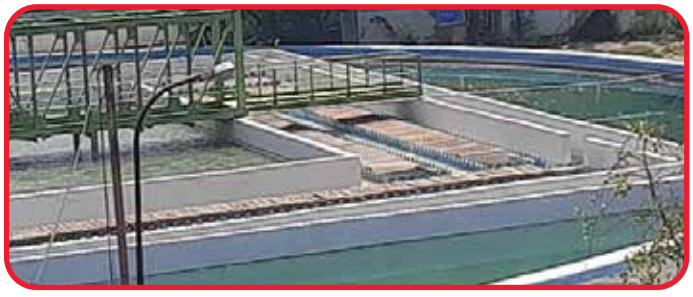
By implementing UHRC technology, Ion Exchange has successfully demonstrated its technical competence and enhanced the capacity of the Clari-flocculator by more than 75%. The Haiderpur Water Treatment Plant (WTP) comprises 16 Clari-flocculators, each with a diameter of 52 meters and an existing capacity of 12.5 MGD. The capacity enhancement was achieved solely through electro-mechanical modifications within the existing site, eliminating the need for land expansion. Following these modifications, the capacity of each Clari-flocculator has increased to over 22 MGD, representing a significant 75%–80% boost in the overall capacity of the WTP.

Additionally, after the upgrade, the plant can now handle:

- Inlet raw water turbidity up to 4000 ppm
- Treated water turbidity of less than 30 ppm

Conclusion

Ion Exchange's UHRC technology can enable Haiderpur WTP to significantly expand its capacity (more than 80%) while maintaining high treatment efficiency and water quality. This innovative approach demonstrates the potential of modern water treatment solutions to address urban water challenges sustainably, ensuring a reliable supply of safe drinking water for Delhi's growing population.



Water Treatment Plant

6. Optimizing Municipal Water Treatment with Advanced INDFLOC Polymer Dosing Systems: Uttar Pradesh & Chhattisgarh

Municipal water treatment plants often struggle with high turbidity, sludge generation and poor colour removal due to outdated infrastructure and inefficient chemical dosing. Traditional methods like alum and chlorination fail to meet modern water quality standards, especially during seasonal variations and high organic loads.

Ion Exchange India Limited (IEIL) has transformed water treatment through polymer dosing systems, optimizing coagulation and flocculation while reducing chemical consumption and sludge production in Lucknow, Varanasi and Bhilai, showcasing how IEIL's polymer dosing solutions have improved water clarity, ensured compliance and modernized municipal water treatment.

a) Enhancing Water Quality at Lucknow Water Treatment Plant

The Water Treatment Plant in Lucknow, Uttar Pradesh, with a capacity of 200 MLD, plays a crucial role in supplying drinking water to over 1 million residents. However, the plant faced significant challenges due to its British-era infrastructure, particularly conventional settling tanks (70m x 70m x 3.0m) that had minimal clarification zones, leading to frequent mud carryover and poor water quality. Additionally, issues such as mud ball formation in filters, high chemical consumption, excessive sludge generation and manual alum dosing created inefficiencies in the treatment process.

To address these challenges, Ion Exchange India Limited (IEIL) implemented an advanced polymer dosing system using Polyaluminium Chloride (PAC 2000 MT), INDFLOC 230 and INDFLOC 27. This optimized treatment approach improved coagulation and flocculation, significantly enhancing water clarity. As a result, the plant achieved turbidity levels of <1.0 NTU at the tap, eliminated excessive sludge generation and reduced material handling costs by saving approximately 8-12 tonnes per day of PAC. Additionally, on-site erection of a 200 MLD dosing facility ensured consistent treatment and long-term operational efficiency. The success of this intervention was evident as the treatment became non-toxic, with fishes observed in settling tanks, indicating improved water quality.

Floc formation and settling in reaction chamber

Fish swimming in Settling Tank

b) Water Quality Improvement at Varanasi Water Treatment Plant

The Varanasi Water Treatment Plant, with a capacity of 250 MLD, serves as a vital drinking water source for the city. However, the plant's outdated infrastructure, including conventional settling tanks, led to high sludge generation, poor treated water quality during rainy seasons and elevated colour levels that exceeded drinking water standards. Additionally, manual tank cleaning and frequent mud carryover further deteriorated water clarity, making it essential to modernize the treatment process.

To overcome these issues, Ion Exchange India Limited (IEIL) introduced a dual-polymer dosing system, optimizing the coagulation and flocculation processes. The treatment incorporated INDFLOC 238 as the primary coagulant in combination with PAC, while INDFLOC 27 was used as a flocculant to enhance particle removal. These improvements led to a significant reduction in colour and turbidity, ensuring year-round compliance with drinking water standards, even during the rainy season. Additionally, the dosing system was upgraded to handle 450 MLD, preparing the plant for future demand while reducing operational costs and chemical consumption. This transformation resulted in consistently safe and high-quality drinking water for the city.

Water Treatment Plant, Varanasi

c) Restoring Water Quality at Bhilai Water Treatment Plant

The Bhilai Water Treatment Plant, with a capacity of 144 MLD, faced persistent issues of high turbidity (5-7 NTU) and color (20-25 Pt-Co) in tap water, despite relatively moderate inlet turbidity levels of 10-20 NTU. The problem was further compounded by high organic content in raw water, including fulvic and fumaric acids, leading to odor issues and a greenish tint in treated water. The high pH of 9.4 also affected coagulation efficiency, making it difficult for the existing alum and chlorination-based treatment to deliver satisfactory results.

To address these challenges, Ion Exchange India Limited (IEIL) implemented a polymer-based dosing system using INDFLOC 100A, INDFLOC 238 and INDFLOC 27, starting treatment on August 13. This optimized approach significantly improved coagulation, effectively reducing turbidity to <1 NTU (limit: 3 NTU) and colour to <2 Pt-Co (limit: 5 Pt-Co). Further enhancements included the installation of baffles for improved chemical mixing and a dosing skid with a variable frequency drive and screw pump to manage flow and dose variations efficiently.

To ensure long-term reliability, a team of experienced professionals, including chemical engineers, chemists and technical support staff, was deployed to oversee operations. Regular maintenance, including quarterly health check-ups of the dosing system, was implemented to ensure optimal performance. Additionally, subject matter experts conducted continuous remote monitoring, analyzing real-time data to maintain consistent water quality. This comprehensive approach successfully restored the plant's ability to deliver high-quality, safe drinking water while also reducing operational costs and minimizing sludge generation. The project was executed with a well-planned investment, ensuring sustainability and efficiency in water treatment.

WTP Facility, Maroda, Bhilai

Settling Tanks

7. Integrated Waste-to-Energy Plant: Telangana

Ion Exchange (India) Ltd. launched India's first Integrated Waste to Energy plant in Hyderabad, Telangana at the Akshaya Patra Foundation. The design integrates state-of-the-art technologies like INDION® IPC MBR and INDION® Advanced Bio-methanation process. INDION® IPC MBR treats raw sewage and produces purified water that can be reused.

The sludge generated in the INDION IPC MBR process is combined with organic kitchen waste generated in homes and communities to recover purified water, renewable energy and organic fertilizer. The waste to energy plant, which is set up at Akshaya Patra, treats wastewater and organic waste from its fully automated kitchen. The Integrated Waste to Energy plant has a capacity to treat approximately 1000 kgs of organic kitchen waste and 2 - 6m3 of sewage sludge on a daily basis and will generate approximately 20 KW/H of electrical power along with 1.35 tonnes of rich organic fertilizer per day.

This is consistent with our commitment towards SDG 7 – Affordable & Clean Energy & SDG 11 – Sustainable Cities & Communities.

Ion Exchange's Integrated Waste to Energy Plant

8. Water Supply Project for Upgradation, Operation & Maintenance: Haldia, West Bengal

Haldia Development Authority, a statutory body under the West Bengal (Planning and Development) Act 1979, entrusted Ion Exchange (India) Ltd., in consortium with Shristi Infrastructure Development Corporation Ltd. and Swach Environment Pvt. Ltd., with the repair, upgradation, operation, maintenance and management of a 50 MGD water supply project in Haldia.

This project is designed to ensure a reliable and efficient water supply for industrial, commercial, municipal and domestic consumers in Haldia. The scope includes:

- Refurbishment and upgradation of existing water supply facilities up to customer meters.
- Operation and maintenance of water treatment plants and pumping stations.
- Transmission and distribution of treated water to consumers.
- Repair and upkeep of pumping stations, water treatment plants and electrical infrastructure.
- Billing and revenue collection for water supply services.
- Environmentally compliant disposal of Water Treatment Plant sludge.

Aligned with SDG 6 – Clean Water & Sanitation and SDG 11 – Sustainable Cities & Communities, this initiative reinforces Ion Exchange's commitment to sustainable water management, ensuring safe, continuous and efficient water supply for Haldia's growing needs.

Upgradation and O&M

9. Complete Water Solutions for Rural India

Ensuring safe and clean drinking water remains a major challenge in rural India, where groundwater contamination from arsenic, iron, fluoride, nitrate, uranium and other heavy metals poses serious health risks. Additionally, the lack of proper water treatment infrastructure leaves millions vulnerable to waterborne diseases. Ion Exchange (India) Ltd. is committed to addressing these challenges by providing affordable, sustainable and easy-to-maintain water treatment solutions tailored for rural communities.

For **groundwater treatment**, Ion Exchange has developed hand pump and power pump attachments, along with solar-operated purification systems, to remove contaminants such as arsenic, iron, fluoride, nitrate and uranium effectively. These resin-based filtration systems—including INDION ASM, ISR, RS-F, USR and NSSR-ensure treated water meets WHO drinking water standards. Designed for ease of use, these systems require minimal maintenance and no electricity, making them ideal for remote areas.

For **surface water treatment**, Ion Exchange provides compact and efficient purification solutions. The INDION Lamella Clarifier removes suspended solids in a space-saving design, while the INDION Lampak, a single-tank treatment unit, is engineered to handle highly contaminated water. The INDION Continuous Sand Filter operates without backwashing, ensuring continuous filtration with minimal maintenance. To enhance disinfection, the INDION Chlorine Dioxide Generator eliminates bacteria, viruses and harmful microorganisms, ensuring safe drinking water.

At the **community level**, Ion Exchange offers Packaged Reverse Osmosis (RO) Systems such as INDRO and INDROMATIC, along with ZERO B water purifiers, which produce high-quality drinking water free from dissolved solids, bacteria and viruses.

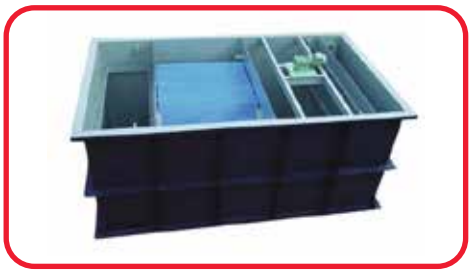
For **disaster management** and emergency water supply, Ion Exchange's mobile Disaster Management Units (DMUs) provide immediate access to safe drinking water in floods, cyclones, droughts and other crises. These units use ultrafiltration, reverse osmosis and ozonation to purify contaminated water, ensuring reliable access to potable water in affected areas.

To promote sustainable water management, Ion Exchange offers Decentralized Sewage Treatment Plants (STPs) for rural communities. Using Membrane Bio Reactor (MBR), Sequential Batch Reactor (SBR) and Moving Bed Bio Reactor (MBBR) technologies, these systems treat sewage and wastewater for reuse in irrigation and non-potable applications.

With a strong commitment to sustainability, Ion Exchange's rural water solutions align with SDG 6 – Clean Water & Sanitation, ensuring safe, reliable and sustainable access to clean water for rural India.

Indion Lamella

Indion Disaster Management Unit



Indion Lampak

10. Retrofitting Water Treatment Plant: MCGM, Mumbai, Maharashtra

The Municipal Corporation of Greater Mumbai (MCGM) installed a state-of-the-art water treatment plant to ensure a reliable drinking water supply for the city. However, the plant faced severe mechanical design issues due to the poor quality and premature warpage of inclined separation plates. This led to inefficient separation, sludge deposition and algal growth on lamella surfaces, ultimately affecting the quality of water supplied to Mumbai.

To address these challenges, Ion Exchange was commissioned to retrofit and upgrade the plant with a uniquely designed stainless steel cartridge, ensuring long-term durability and enhanced performance. The retrofit was completed in less than six months without adding any structural load to the existing civil infrastructure. The stainless steel lamella surfaces eliminated turbulence, prevented algal growth and sludge accumulation and restored water quality to its original design parameters. Additionally, the retrofit significantly extended the operational life of the system, backed by a 20-year guarantee.

This project aligns with SDG 6 – Clean Water & Sanitation and SDG 9 – Industry, Innovation & Infrastructure, reinforcing Ion Exchange's commitment to sustainable water solutions and infrastructure resilience.

Water Treatment Plant, Mumbai

ONWARD MARCH

Treating Water, Strengthening Carbon

A prominent manufacturer of high-quality carbon products has entrusted Ion Exchange to implement advanced water and wastewater treatment solutions. The project includes the installation of a 1900 m^3/d Water Treatment Plant (WTP), 600 m^3/d Effluent Treatment Plant (ETP) at their new facility in Bellary, Karnataka. Additionally, a 2000 m^3/d ETP, an 840 m^3/d WTP and a 55 m^3/d Multi-Effect Evaporator (MEE) have been installed at their unit in Toranagallu, Karnataka. This project aims to conserve freshwater resources, protect local water bodies, ensure compliance and reduce operational costs.

Audit-Approved Hydration

A leading audit firm specializing in audit, assurance and risk advisory has partnered with Ion Exchange to install the INDION Quencher system in Bengaluru, Karnataka with a capacity of 500 Bottles Per Hour (BPH). This fully-automated compact unit is designed for the purification and bottling of drinking water. It uses hygienically stored and disinfected recyclable glass bottles providing a sustainable and eco-friendly alternative to plastic. The installation ensures compliance with IS 10500:2012 drinking water standards while significantly reducing water waste through a high-recovery Reverse Osmosis (RO) system and rinse water recycling saving 70–80% more water than conventional methods. Additionally, a UV sanitizing system safeguards the bottled water against airborne diseases and fungi ensuring clean, safe and sustainable drinking water.

Better Water, Better Steel

A leading steel manufacturer, has partnered with Ion Exchange to supply a 2x600 m^3/h water treatment system that includes UF, RO membranes and a MB System. This system will help them to gain high-quality purified water, improve water reuse and sustainability and reduce dependency on freshwater. It meets stringent water quality standards and improves operational efficiency. Additionally, it offers cost savings through reduced chemical use and maintenance.

Water-Wise Textiles

A leading manufacturer of a wide range of yarns for cotton, polyester and technical textile yarns has entrusted Ion Exchange to contribute to their state-of-the-art greenfield project in Ludiana, Punjab with a comprehensive range of total water and environment solutions.

Our solutions include 3400 m^3/d WTP, 650 m^3/d Cooling Tower Blowdown (CTBD), 400 m^3/d Softener System, 135 m^3/d Electrodeionization (EDI), 700 m^3/d ETP, 150 m^3/d Sewage Treatment Plant (STP) and 26 m^3/d Zero Liquid Discharge (ZLD) systems with Mechanical Vapour Recompression (MVR) will help the customer reduce operational cost, maximize water reuse, minimize wastewater discharge. These systems conserve water, reduce freshwater dependency and promote sustainable textile manufacturing

Recycling Water, Sustaining Excellence

A leading diversified Indian conglomerate operating across multiple industries, including chemicals, consumer goods, agro-products and real estate has partnered with Ion Exchange for a 1000 m^3/d ETP Recycle and ZLD system, including High Rate Solid Contact Clarifier (HRSCC), Ultrafiltration (UF), RO and MEE at their Bharuch, Gujarat unit. The implementation of waste water treatment minimizes the environmental impact and promotes eco-friendly manufacturing. This solution reinforces the customer's commitment to sustainability, operational excellence and regulatory compliance.

Optimized Water, Maximized Energy

A leading private thermal power producer in India, part of a diversified conglomerate has partnered with Ion Exchange for effective water treatment solutions. We provided WTP and a Condensate Polishing Unit (CPU) package at Raigarh & Raipur and a CPU in Mirzapur. The supplied systems range from 50 m^3/h to 2 × 1900 m^3/h. These systems are designed to optimize water infrastructure for existing process operations and support sustainability goals by integrating advanced, environmentally conscious technologies.

Smart Water For Greener Growth

One of India's largest fertilizer company in Bareilly, Uttar Pradesh, has partnered with Ion Exchange to install an 85 m^3/d MEE and 2400 m^3/d ETP recycle system. These systems will enable water recovery, significantly reducing their reliance on fresh water, minimizing environmental impact and supporting their sustainability goals.

Molding the Future of Stainless Steel

One of India's largest stainless steel manufacturers and a key player in the global market has entrusted Ion Exchange with a major project at its flagship facility in Jajpur, Odisha. A 1.5 MLD Waste Water Treatment Plant was installed featuring a HRSCC, Multigrade Filter (MGF) and two stage RO followed by MEE. This advanced solution aligns with the company's vision for innovation, enhances operational efficiency and reinforces its commitment to sustainability.

COMMISSIONED

Lighting the Path to a Brighter Future

A leading American solar technology company, known for its innovative and eco-efficient solar modules, is committed to delivering affordable and sustainable solar energy solutions. To expand solar panel production in India, the company has established a state-of-the-art greenfield manufacturing facility in Sriperumbudur, Tamil Nadu.

To support this initiative, Ion Exchange supplied a 150 m^3/h Water Treatment Plant (WTP) and a 180.4 m^3/h advanced Effluent Treatment Plant (ETP). Utilizing cutting-edge technology, the WTP ensures a reliable supply of high-purity water, reduces costs, safeguards equipment, ensures regulatory compliance and enhances the overall system efficiency—optimizing both operations and environmental impact. Additionally, the ETP system efficiently treats complex effluent compositions and enables complete water recovery, reinforcing the company's commitment to sustainability.

Nurturing Growth, Protecting Nature

A leading fertilizer and chemical manufacturing company under the Ministry of Chemicals and Fertilizers. Headquartered in Mumbai, it operates a major manufacturing facility in Thal, Maharashtra, specialising in the production of urea, ammonia and a wide range of industrial chemicals.

Ion Exchange commissioned a 9 MLD ETP-Recycle plant at the Thal unit, designed to treat industrial effluent and ensure compliance with stringent environmental regulations. This advanced plant not only recycles treated water for reuse in manufacturing, significantly reducing the need for fresh water, but also incorporates an ammonia stripper to lower ammonia levels in the effluent. This crucial process helps mitigate the environmental impact of ammonia discharge thus protecting aquatic life.

Igniting Change, Illuminating Lives, Connecting Homes

Bharat Heavy Electricals Ltd. (BHEL), in collaboration with Bangladesh-India Friendship Power Company Pvt. Ltd. (BIFPCL) a joint venture between NTPC Ltd. (India) and the Bangladesh Power Development Board (BPDB) executed the Maitree project. The project focuses on developing a coal-based thermal power plant to generate electricity and meet the growing regional demand.

Ion Exchange played a crucial role in supporting the Maitree project by providing advanced water treatment solutions at the customer's facility in Bangladesh. Our key contribution includes the installation of 4 x 440 m^3/h Condensate Polishing Units (CPUs) apart from pre-treatment and demineralisation systems. These systems treat water to ensure high-quality water for power generation, ensuring efficient plant operations, promoting sustainability and guaranteeing environmental compliance — thereby enhancing the overall success of the power project.

Flavors of Success

A leading dairy cooperative in India, operating under the Gujarat Cooperative Milk Marketing Federation (GCMMF) and headquartered in Palanpur, Gujarat has evolved into one of Asia's largest and most successful milk producers. Ion Exchange provided a comprehensive water treatment solution, including a 70 m^3/h pre-treatment unit, 40 m^3/h softener and 30 m^3/h and 25 m^3/h UF membranes. This solution will condition the raw water, removes hardness for improved water quality and membranes will help to filter out fine particles and microorganisms, ensuring clean, safe water and improves the overall operational efficiency and reduces the maintenance cost. Through these initiatives, the cooperative continues to support rural farmers, strengthen India's dairy industry and promote economic sustainability.

Harnessing the Power of Solar Energy

One of the leading integrated solar companies partnered with Ion Exchange to implement an advanced water treatment solution. The installation includes a 222 m^3/h Multigrade Filter, 174 m^3/h Ultrafiltration (UF), 103 m^3/h RO-I, 122 m^3/h RO-II, 2 × 122 m^3/h Mixed Bed (MB) and 2 × 71 m^3/h Non-Regenerable Mixed Bed (NRMB). Our solutions ensure ultrapure water for manufacturing, enhancing product quality and operational efficiency. It also reflects the company's commitment to a greener, more sustainable future.

Enhancing Taste, Fueling Growth

One of India's leading FMCG companies, operates a significant manufacturing facility in Khordha, Odisha. This plant produces a range of beverages, including juices and sparkling drinks. Ion Exchange successfully installed 3 x 71 m^3/h pre-treatment, 35 m^3/h softener and 2 x 67.5 m^3/h UF system. This solution removes impurities and bacteria, ensuring clean and safe water. It also reduces maintenance costs, enhances efficiency and extends equipment lifespan of the customer.

GLOBAL ORDERS

Ion Exchange offers comprehensive Total Water and Environment Management Solutions with sales, production and service footprints globally. With a legacy spanning over 60 years, we serve our markets with a sustained focus on customer satisfaction, technological innovation and dedicated service. Our state-of-the-art manufacturing units and assembly centres are spread across the globe. We have seven manufacturing and assembly facilities across India, as well as one assembly facility each in the UAE, Indonesia, Bangladesh and Saudi Arabia. Our certifi ed manufacturing facilities and advanced assembly centres are strategically positioned near our markets globally enabling us to meet the industry's demand for high quality products and services.

We continue to strengthen our global presence by expanding our exports across Africa, the Middle East, Japan, Russia, Southeast Asia, Europe, UK, USA and Canada. At Ion Exchange, we are committed to accelerating our business growth globally by transforming every opportunity into a catalyst for innovation and expansion.

- 1350 m^3/d sewage treatment plant from Neom, Saudi Arabia.
- 970 m^3/h water treatment plant from Ma'aden Phosphate, Riyadh, Kingdom of Saudi Arabia.
- Multiple water treatment projects for ADNOC (Abu Dhabi National Oil Company) were supplied through international EPCs like Tecnimont, Saipem and Técnicas from the United Arab Emirates (UAE) and Europe.
- Design, engineering and supply of 1500 m^3/d of Moving Bed Biofilm Reactor (MBBR) based sewage treatment plant from a Free Zone Authority in UAE.
- Design, engineering and supply of 70 m^3/h water treatment plant from Ngon Coffee Co. Ltd., Vietnam.
- Engineering, Procurement, Construction & Commissioning (EPCC) for the design and installation of seawater treatment plant with capacities of 40 MLD (completed), 60 MLD (under execution) and 240 MLD (under commissioning) for one of the largest engineering Corporations in North Africa.
- 50 m^3/d demineralisation DM plant & 55 m^3/h softener from Tanveer Food Ltd., Dhaka, Bangladesh.
- 50 m^3/d demineralisation plant from Kibos Distillers Ltd., Kenya.
- 20 m^3/h water treatment plant from Coca Cola, Sierra Leone.

Ion Exchange has been awarded a significant landmark project that includes the supply of comprehensive Water and Wastewater Treatment solutions, along with a Condensate Polishing System with external regeneration system. This prestigious project is executed in collaboration with Hyundai Engineering and Construction Co., Ltd., for a thermal power plant in Vietnam.

Solutions Provided:

Water Treatment System:
2 x 100 m^3/h demineralisation plants and 2 x 340 m^3/h pre-treatment solutions

Waste Water Treatment System:
We provided 30 m^3/h oily wastewater treatment system for the efficient removal of oil, grease etc., 161 m^3/h chemical waste water treatment system for removal of the contaminants using the advanced chemical processes, 78 m^3/h sewage treatment system with an underground anoxic tank installation, ensuring effective treatment of industrial sewage and 1320 m^3/h coal contaminant treatment system consisting of Ultra High Rate Solid Contact Clarifier (UHRSCC) for the coal slurry treatment.

Condensate Polishing Unit:
1600 m^3/h condensate Polishing unit equipped with an external regeneration system integrated with Neutralisation & Ammonia Stripping System.

Our comprehensive solutions reaffirm Ion Exchange's commitment to delivering innovative and sustainable cutting-edge water and wastewater treatment solutions for large-scale industrial projects world over.

RURAL REACH

Safe Drinking Water For Every Community

Access to safe drinking water remains a critical challenge for a vast population in India. While urban areas have made significant progress, many rural communities still face persistent water shortages, resulting in severe water crisis and problems related to sanitation and health. The consequences of poor water quality are immense, significantly contributing to the spread of diseases. In line with this, Ion Exchange has developed innovative technologies and solutions tailored to the needs of rural communities, ensuring ease of use, affordability and adaptability for sustainable water access.

Ion Exchange provided a 10 MLD Chlorine Dioxide (ClO_2) Generator for Dissolved algae Removal to the Karnataka Water Supply and Drainage Board, Hosapete, Karnataka. ClO_{22} is a powerful oxidizing agent that effectively eliminates dissolved algae, biofilm and microbial contaminants. Approved for drinking water treatment, it boasts a long shelf life and serves as a highly efficient bio-dispersant and microbial control agent, ensuring safe and clean water. Additionally, its low corrosiveness helps protect pipelines and equipment, reducing maintenance costs and enhancing system longevity.

Ion Exchange provided a 2000 LPH Indromatic 802 to Gland Pharma Ltd., Hyderabad, Telangana. The Indromatic 802 will ensure up to 95% TDS removal while effectively managing TDS fluctuations, delivering consistently high water quality. The product features a user-friendly interface with automated fault condition notifications via SMS alerts enabling proactive maintenance. With a compact footprint, the system optimizes space while offering quick availability of spares and service within short delivery periods, making it a reliable and efficient solution for industrial water treatment needs.

Ion Exchange provided the Indromatic 405 with a 1000 LPH capacity to the International Academy of Environmental Health, Sanitation and Public Health, Bengaluru, Karnataka. The Indromatic 405 is a durable and efficient water treatment system, featuring auto/manual control and housed in a mild steel skid with epoxy coating and FRP molded panels. it is also available in capacities ranging from 400 to 1000 LPH. It offers GSM-based remote monitoring, on-screen simulation, high-level indication and auto flushing for ease of operation. Built-in safety features such as dry run, overload and single-phase protection ensure reliable performance. It has the capacity to handle TDS levels up to 2500 ppm.

Ion Exchange supplied a 3000 LPH Auto Softener to the Vidyadhiraj Charitable Trust, Panvel, Maharashtra, designed to treat and remove hardness from the feed water. The unit uses a sodium-form softener resin to produce soft water and when exhausted, it is regenerated using a 15% w/v sodium chloride solution. It effectively treats up to 50 m^3/h of feed water. This free-standing unit comes pre-assembled and tested for easy installation. It features a multiport valve with a hand-operated lever for simple operation and is built with corrosion-resistant plastic for durability. The system is equipped with regeneration equipment and an ejector for the efficient injection of regenerant.

PRODUCT LAUNCH

ZERO B UV Lite

Zero B introduced a UV water purifier that ensures purity and safety through a non-chemical, environment friendly ultraviolet disinfection process. The next-generation UV purifier is equipped with an 11W lamp and a sleek, wall-mounted design to save space. This purifier features an electronic circuit that detects the current drawn by the UV lamp, ensuring water flows only when the UV lamp is operational. If the lamp fails for any reason, the water flow is automatically stopped. Smart LED indicators provide effortless monitoring of water quality for added convenience. The system effectively paralyzes disease-causing bacteria and viruses by disrupting their genetic cell material. The bacteriostatic activated carbon filter eliminates organic impurities, carcinogenic chemicals, chlorine, color and odor from the water, making it completely clean and safe.

ZERO B Power Flow

A heavy-duty 50 LPH RO purifier with a 400 GPD membrane, seamlessly combining elegance with advanced technology. It achieves up to 45% water recovery, minimizing waste while maximizing efficiency. Designed for large households and small offices, it offers versatile hot, warm and normal water options with a 5L storage tank. Active Silver Ion Technology ensures ultra-pure water that stays fresh for 7 days. Automatic Membrane Flushing maintains the RO membrane, while built-in safety features like dry-run and overload protection ensure reliability. The sleek, wall-mounted design saves counter space and the intuitive digital display enhances both ease of use and aesthetics.

ZERO B Nano Soft

A new-generation advanced and automatic softenizers and water conditioner designed for superior performance and ease of use. Its sleek, easy-to-install wall-mounted design fits perfectly with appliances like washing machines and dishwashers. It helps reduce hair loss and skin ailments while preserving fabric color and feel, ensuring long-lasting freshness. The fully automatic, microprocessor-controlled system offers seamless operation, with a digital display providing real-time updates on time, water flow and remaining soft water capacity. An in-built alarm signals when to add salt, while the leakage protection indicator ensures safety. It also prevents damage to bathroom fittings and appliances, extending their lifespan.

ZERO B Auto Iron Remover

An advanced automatic filtration system that effectively removes dissolved iron from raw water. It removes iron particles, ensuring clear, high-quality water. It features INDION ISR resins and patented technology, certified with NSF 61 and Gold Seal for superior quality. It saves more water compared to conventional media, improving performance of softeners and larger ROs. Automatic backwashing maintains consistent water quality. Available in three capacities, including the newly launched AIR-1 and AIR-4 models for enhanced performance.

Semiconductor nanoparticle" by "catalyst"

It involves irradiating a suspension of semiconductor nanoparticles with UV light, exciting electrons from the valence band to the conduction band. This results in the formation of oxidizing sites in the valence band and reducing sites in the conduction band. As a result, organic compounds are efficiently oxidized, breaking down into harmless byproducts such as H2O and non-toxic simple compounds. It is easy to operate, highly efficient, energy-saving and minimizes sludge generation, offering a sustainable alternative to wet digestion of organic compounds. It efficiently treats complex effluent/ COD, ensuring sustainable wastewater management.

INDION® All Membrane Brine Concentration (AMBC) System

The system efficiently handles seawater RO reject, further concentrating brine for effective treatment and resource recovery. It achieves high concentrations (>20% NaCl) with minimal energy use (7 MPa), offering up to 70% energy savings compared to other brine concentration methods. Its chlorine-tolerant membrane material reduces biological fouling and energy recovery is optimized for larger capacities. The system utilizes electrical energy exclusively, with no dependence on heat or steam—typically 6-12 kWh/m^3—resulting in significant reductions in CAPEX and OPEX. Used in seawater desalination applications, it achieves higher recovery (>55%) and in Zero Liquid Discharge systems, it delivers the lowest lifecycle cost compared to existing processes.

INDION® PFAS (Per-and Polyfluoroalkyl Substances) Removal from Ground and Surface Water

A product designed to eliminate toxic PFAS compounds such as PFOA, PFOS, PFHxS and PFBS from groundwater. PFAS, also known as 'Forever Chemicals,' are man-made, highly soluble compounds used in various industries, making them difficult to break down. They can enter the human body through water or food, posing serious health risks.

The Existing Limits of PFAS in Drinking Water:

- Canada – 30 parts per trillion (ppt).
- The U.S. Environmental Protection Agency (EPA) has established individual Maximum Contaminant Levels (MCLs) of 4 ng/L for PFOS and PFOA,10 ppt for PFHxS or a total PFAS concentration of less than 20 ppt.

The media ensures excellent selective adsorption of PFAS, ranging from 600 to 2200 ppt, with <600 ppm TDS, without altering the feed water quality and with the outlet guarantee of <10 ppt up to 100,000 BV throughout its operation. Ensuring compliance with stringent safety standards, it offers a once-through process, serving as a superior alternative to activated carbon. The resin provides an extended operating life and can be incinerated after use. INDION PFAR is an NSF-61/IAPMO certified resin.

INDION® Uranium Selective Resin (USR):

A compact and efficient technology for uranium removal, this innovative adsorption-based synthetic resin selectively removes uranium from groundwater without altering other water characteristics, meeting high demand in both domestic and international markets.

The system ensures selective uranium removal without altering feed water quality and requires no intermediate chemical regeneration. A simple uranium-free water backwash makes it an economical, hassle-free solution that can be designed for solar operation. It reduces uranium levels to <30 ppb, complying with WHO and EPA drinking water standards.

Additionally, the system supports uranium recovery from exhausted resin, handles high TDS levels of up to <1000 ppm and offers a lifespan of 3–5 years for uranium levels up to 200 ppb, making it a cost-effective and sustainable solution. Its unique features include excellent hydraulics, fast kinetics, no pre-treatment requirement, high physical and mechanical strength and a high affinity for dissolved uranium with no common ion effect from Cl or SO_4. It is also adaptable for use in cartridges, POE and conventional systems.

INDION® High Recovery RO:

The system delivers higher recovery, making it ideal for low flow rate applications. Its single-stage operation simplifies the process while ensuring a manageable minimum reject flow for RO membranes. Additionally, its compact design and smaller footprint enhance efficiency and save space

Safety Health Environment (SHE)

Safety, Health and Environment (SHE) at Ion Exchange

Safety, Health and Environment (SHE) are integral to our operations at Ion Exchange. We are committed to conducting business safely and responsibly. To foster a "Zero Harm" culture, we have established 12 SHE standards that ensure the protection of our employees, customers, contractors, communities and the environment. Our innovative products and technologies create a positive external impact while ensuring full compliance with environmental laws. We implement robust Process Safety Management (PSM) frameworks to ensure the safe handling of chemicals, conduct thorough risk assessments and continuously enhance safety practices across all our manufacturing and site locations worldwide.

At Ion Exchange, we prioritize workplace safety through our Safety Management System, which includes safe operating procedures, work permits, personal safety using PPEs, training, risk management, safety audits, employee Involvement in the safety culture, incident analysis and emergency response. Our 'Behavior-Based Safety' (BBS) initiative promotes a proactive approach, encouraging interventions that engage, motivate and reinforce safe behaviors. We conduct frequent emergency drills to keep our workforce informed about the latest protocols.

We use technology-driven solutions like digital reporting and real-time monitoring through our EHS app and safety portal to prevent risks and ensure quick resolution of the identified problems. The HSE Kaizen system enables employees to report HSE- related improvements, helping us assess and improve safety across locations. We have adopted sustainable Zero Liquid Discharge (ZLD) systems and wastewater recycling as part of our eco-friendly manufacturing practices to minimize the ecological footprint at our Patancheru unit. We implemented safety rating initiatives across our manufacturing, project and O&M sites to assess and enhance safety performance, encouraging a culture of continuous improvement.

We introduced a unique an innovative Safety Park initiative at our CSD O&M sites. It is constructed using site waste materials and serves as a dynamic training and education hub, emphasizing about safety awareness and best practices among employees and contractors. Our commitment to workplace safety was honored with the 2024 OSH Award from OSH India, recognizing our dedication to safety excellence and best practices.

Safety Anthem: Our Commitment to the Culture of Safety

Our Safety Anthem emphasizes the importance of safety in daily operations, reinforcing our collective responsibility for a secure workplace and inspiring a proactive safe culture. It reflects our strong dedication to care, accountability and excellence, making safety an integral part of our identity and culture.

We comply with the Plastic Waste Management Rules and Extended Producer Responsibility (EPR) regulations by partnering with authorized recyclers to support a circular economy initiative, focusing on sustainable packaging solutions to minimize plastic waste. We track plastic usage, submit compliance reports and run awareness programs to promote responsible disposal practice among our stakeholders.

We actively address scope 3 emissions across our value chain to achieve carbon reduction goals. Our innovative solutions align with multiple Sustainable Development Goals (SDGs), with a strong emphasis on water, responsible resource management and ecosystem protection, nurturing a healthier planet for future generations.

MEDIA OUTREACH

World Water Day 2024: Ion Exchange Drives Awareness on the role of Water in Peace & Sustainability

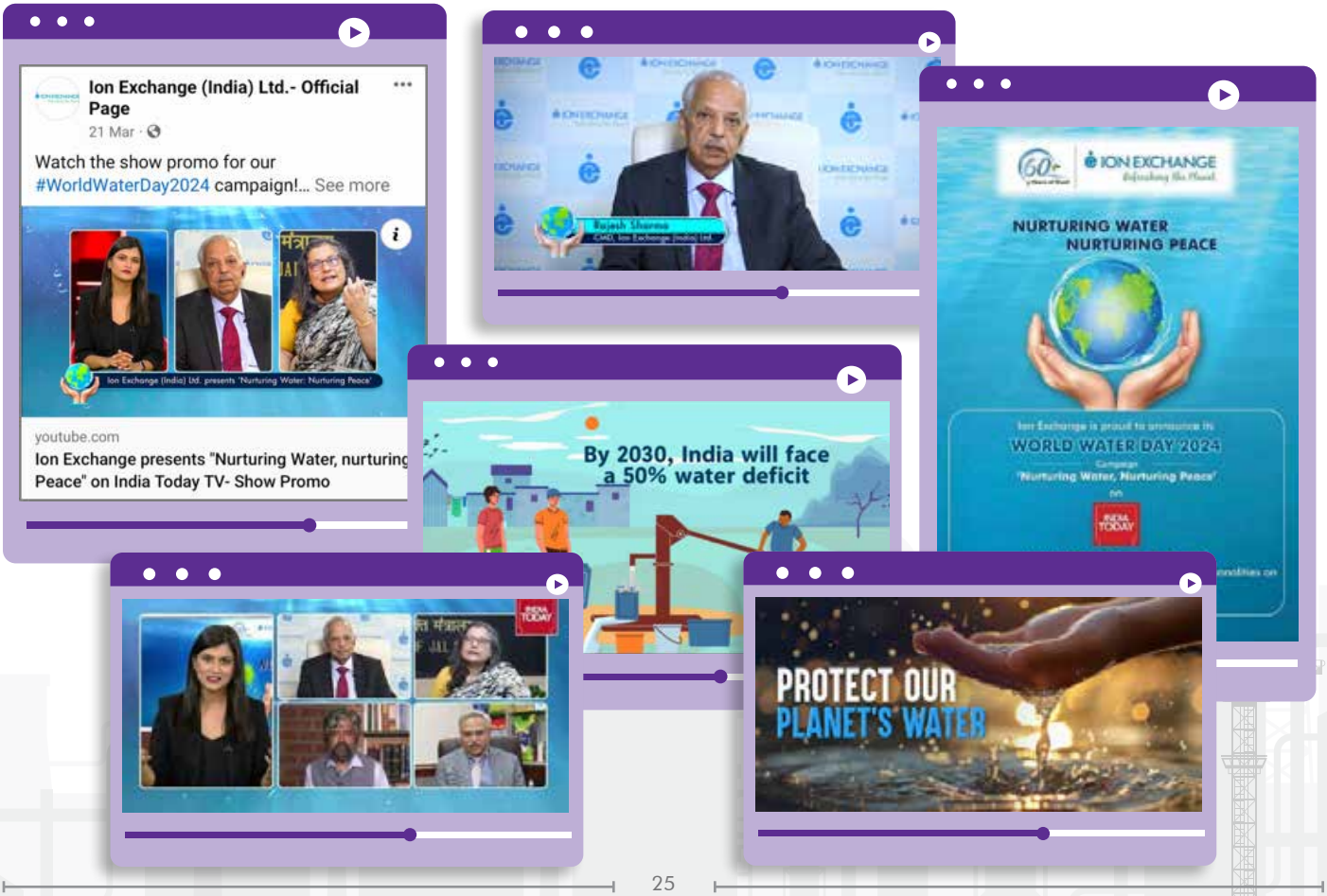
On the occasion of World Water Day 2024, Ion Exchange (India) Ltd. partnered with TV Today Network to launch an exciting campaign, "Nurturing Water, Nurturing Peace," which aired across India Today TV – in English and Aaj Tak – in Hindi. This multilingual, high-impact campaign was designed to raise awareness about the critical importance of water conservation, its role in sustainable development and the power of water as a unifying and stabilizing force across communities and nations. The campaign aligned with the United Nations' World Water Day theme, "Leveraging Water for Peace," highlighting the need for collective action towards ensuring the availability and equitable management of water resources.

The two-week campaign effectively utilized multiple channels, including email outreach, boosted ads, factoids, WhatsApp promotions and dynamic social media posts across LinkedIn, Facebook, Twitter and YouTube, thereby reaching a broad and diverse audience.

The key feature of the campaign was a panel discussion featuring prominent personalities from the political, social and industrial sectors and Mr. Rajesh Sharma, Executive Chairman (formerly CMD) of Ion Exchange (India) Ltd. The panel delved into collaborative efforts among all stakeholders to implement effective water conservation practices and address the global water crisis. It underscored the importance of integrating water conservation techniques into policy, business and everyday life to secure sustainable water resources for future generations.

The campaign's reach and influence were further amplified by its visibility on TV and digital platforms, ensuring that the message of water conservation resonated with viewers and online followers. By leveraging these powerful mediums, Ion Exchange was able to effectively engage both internal and external stakeholders, mobilizing action towards the responsible management of water.

The "Nurturing Water, Nurturing Peace" campaign reinforced Ion Exchange's commitment to United Nations Sustainable Development Goal 6 (SDG 6), highlighting water's vital role in daily life and its power as a catalyst for peace, development and global harmony.



CSR INITIATIVES

ION FOUNDATION
Initiate • Organise • Nurture

Empowering Communities for a Sustainable Future

Ion Exchange's CSR and sustainability strategy is based on the purpose and belief of our business, "Refreshing the Planet." We firmly believe that the communities in which businesses operate are crucial to their success. Our CSR programs are designed to have a long-term, significant impact on the upliftment of marginalised communities, accelerating change and improving their quality of life while also contributing to global sustainable development goals.

For Ion Exchange, local communities are our most important stakeholders and we aim to create stable and sustainable futures for them. In collaboration with our CSR arm, Ion Foundation, we focused on key areas such as Education, Health and Hygiene, Women Empowerment, Skill Development, Rural Development and Environmental Conservation. The foundation has been established to conduct community impact interventions directly through employee volunteers or NGO partners, local authorities and village panchayats. These foundations serve as a bridge between companies and communities, ensuring that CSR activities are meaningful, impactful and aligned with the needs of the people they aim to benefit.

Our initiatives are aimed at community development and empowerment, impacting multiple states positively.

Glimpse of our CSR interventions:

Yoga Camp
The Timbaktu Collective for the Nature School, Andhra Pradesh

Hemo Dialysis Unit
Shanmukhapriya Charitable Healthcare Centre, Maharashtra

Zero B Eco Chill RO Water Filter Unit Akhil Bhartiya Netrahin Sangh, Delhi

Curriculum Development and Support
Apni Shala Foundation, Maharashtra

Supporting Educational Initiatives
Utkarsh Mandal, Maharashtra

Supporting Sports Activities
Keshav Srushti, Maharashtra

Construction of School Sanitation Unit
Habitat for Humanity, Maharashtra

Construction of Toilets
The Timbaktu Collective for the Nature School,
Andhra Pradesh

Tree Plantation Drive
Chitkul Primary School, Telangana

Construction of Multiple Farm Ponds for water conservation
Keshav Srushti, Maharashtra

Skill Development Driving Course for Women
Association for Non-Traditional Employment for Women
(ANEW), Tamil Nadu

Workshops for Differently Abled Kids and Adults
Anchorage, Maharashtra

Ion Exchange, through "Ion Foundation," participated in the Tata Mumbai Marathon 2024, supporting the "Light of Life Trust" NGO for 'Project Anando,' which helps underprivileged rural children complete secondary education and nurture their holistic development.

EMPLOYEE ENGAGEMENT

Engaging Minds, Excelling Performance

Jaltarang is our annual corporate event, thoughtfully designed to bring together Ion Exchange employees from across India, along with their families, for a vibrant celebration. It offers a chance for employees and their families to connect, showcase their talents and create lasting memories together.

The event was filled with heartfelt moments, beginning with our Managing Director, Mr. Indraneel Dutt, who kicked off the celebration by sharing his views on ion exchange. This was followed by captivating dance, singing performances, engaging skits and an impressive mimicry performance by Mr. Sandeep Lokhande, marking his second consecutive year at Jaltarang.

As we celebrated our 60th anniversary, we were honored by the presence of Mrs. Ahalya Ranganathan, the wife of our late Chairman and Founder, Mr. Gopal Shankar Ranganathan, along with her daughter, Ms. Uma Ranganathan, and her son, Mr. Vishnu Ranganathan. Adding to the significance of the occasion, Mrs. Ahalya Ranganathan felicitated Mr. Rajesh Sharma on completing an exceptional 50 years of dedicated service with Ion Exchange, celebrating his pivotal role in the company's growth. The family also unveiled and launched our 60th-anniversary coffee table book, marking a memorable tribute to our milestones and remarkable journey. Their presence elevated the event, bringing immense joy to the entire Ion Exchange family. Our President, Mr. Ajay Popat, shared his insights on the coffee table book, highlighting the legacy and lifelong commitment it represents. He also distributed copies of the book to the entire management team, making the occasion even more memorable.

We continued our long-standing tradition of recognizing long-serving employees for their outstanding dedication and commitment to the organization. The evening wrapped up with a delightful dinner, celebrating everyone's contribution in making the event a success. Jaltarang truly reflected the spirit of togetherness, unity and teamwork. Looking ahead, we remain committed to enhancing this tradition and fostering an environment where both employees and the organization can flourish.
















Ion Exchange Cricket Premier League (IECPL)

Unleash your inner champion... from Desk to Pitch

"Unleashing the teamwork and sportsmanship at its best, Ion Exchange India Ltd. once again proudly organized the thrilling Ion Exchange Cricket Premier League (IECPL). The tournament was thrilling and action-packed, featuring a series of intense matches amongst 15 teams from various locations. We were honoured by the presence of our MD, Mr. Indraneel Dutt, who not only attended but also consistently encouraged the players' sportsmanship from the opening match to the grand finale. His motivational words and best wishes inspired everyone, making the event truly unforgettable."

At Ion Exchange, we firmly believe that no challenge is too great to overcome. In the men's tournament, 13 teams locked horns, including the management team. The men's tournament finale saw Aquanomics Yodha from Sanpada defeat Wada Heroes, claiming the 'Ion Exchange Men's Cricket Trophy,' with Wada Heroes as runners-up. In the women's tournament, Rabale Rockers won the renowned 'Ion Exchange Women's Cricket Trophy.' The outstanding cricket commentary, combined with the live screening of the matches, elevated the entire event to the next level.

The enthusiasm and energy shown by everyone greatly contributed to the event's success. It was a pleasure to witness the knockout matches, highlighting the exceptional performances and physical fitness of our teams. It was a memorable experience and we eagerly anticipate many more such events in the future!

ON DISPLAY

Ion Exchange's Global Engagement: Showcasing Solutions at Key Industry Exhibitions

In 2024, Ion Exchange participated in several prominent domestic and global exhibitions, spanning key areas such as semiconductors, pharmaceuticals, chemicals, sugar, paper, F&B, refinery, infrastructure, institutional and healthcare to name a few. These events not only allowed Ion Exchange to showcase its innovative solutions in sustainable water management, desalination, sewage treatment, recycling and advanced filtration technologies but also served as a platform to connect with industry leaders and stakeholders across the globe. The company's participation reinforced its global commitment to environmental sustainability and addressing pressing water challenges.

The exhibitions also offered a valuable opportunity to highlight the benefits of Ion Exchange's tailored, cutting-edge solutions across diverse industries and regions. Ion Exchange's stalls were designed to impress, featuring dynamic video displays, LED fascias and well-organized product displays that captured the audience's attention. The company's innovative stall designs earned recognition, with Ion Exchange winning awards for its creative and impactful presentations. These visual enhancements not only showcased the company's expertise but also provided an engaging experience for visitors. Through these interactions, Ion Exchange strengthened its presence both domestically and internationally, reaffirming its position as a leader in delivering eco-friendly, sustainable water management solutions.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AWARDS

India's Top 500 Value Creator's 2024

Ion Exchange was featured in Dun & Bradstreet's prestigious "India's top 500 Value Creators 2024." This recognition underscores our unwavering commitment to business excellence, innovation and leadership, highlighting the tangible impact we have made across industries. In addition, we were also honoured to be featured in the Dun & Bradstreet publication released in Dec 2024 which celebrated trailblazing companies that set new benchmarks in their respective fields.

In this special feature, our Managing Director, Mr. Indraneel Dutt, provided insights on how sustainable innovation drives strategic growth and delivers measurable business impact. He lay emphasis on the importance of key performance metrics such as customer satisfaction, resource optimization, environmental impact reduction and operational cost efficiency.

A crucial tool in assessing our long-term impact is Life Cycle Cost (LCC) analysis, which helps quantify client savings over time. This reinforces the role of sustainable innovation not just as a business differentiator but as a fundamental driver of both financial success and environmental stewardship.

As we continue our journey of value creation, this recognition has further fuelled our commitment to excellence, ensuring that we drive meaningful change while delivering cutting-edge solutions for a sustainable future.

Chemical Hero's Of The Century

Ion Exchange was honored with the prestigious "Rasayan Udyog Shri" award at the Century of Chemistry event, hosted by The Indian Chemical Society (ICS), in recognition for our exceptional contributions to the chemical industry.

Our President, Mr. Ajay Popat, VP, R&D, Dr. K.M.S. Rao (Dr. Madhusudhana Rao) and VP, Corporate Marketing, Mr. Nitin Umbralkar, proudly accepted the "Rasayan Udyog Shri" award on behalf of Ion Exchange from distinguished figures including Prof. G.D. Yadav, President of the Indian Chemical Society and Former VC of the Institute of Chemical Technology, Mumbai; Padma Vibhushan Dr. R.A. Mashelkar, Former Chancellor of ICT Mumbai, Former Director General of CSIR and Secretary of DSIR, GoI; Prof. Lakshmi Kantam, Dr. B.P. Godrej Distinguished Professor at ICT, Mumbai and Padma Vibhushan Prof. M.M. Sharma, Former Director of ICT Mumbai.

This recognition highlights Ion Exchange's unwavering commitment to innovation and excellence in industrial chemistry. Through continuous R&D and a focus on providing sustainable solutions, including world-class ion exchange resins, polymeric adsorbents, polyelectrolytes, specialty water treatment chemicals and polymeric membranes, we have successfully addressed global challenges. As we continue to advance, we remain committed to conserving the planet's most precious resources through Total Water and Environment Management Solutions.

Celebrating Achievements, Inspiring Growth...

Awards serve as a testament to our organisation's unwavering dedication, hard work and passion. It symbolises our collective efforts in pushing boundaries and exceeding expectations in every aspect of our operations. As we celebrate these achievements, we reaffirm our commitment to delivering quality, innovation and value to our stakeholders. We are deeply honoured to receive the following accolades and recognitions that enable us to challenge our limits, set new standards and leave a lasting impact.

Brand Honchos - Indian CSR Awards

Awarded to Mr. Rajesh Sharma, Executive Chairman (formerly CMD) for the most Impactful CSR Head of the Year

Mahatma Award

Presented to Mr. Rajesh Sharma, Executive Chairman (formerly CMD) for the Lifetime Achievement in Social Responsibility and Social Impact

India Water Week

Best-designed stall in the Industry Category

UBS Forums-Net Zero Summit & Awards

Recognition for the significant contribution to Sustainability Initiatives

iNFHRA Corporate Excellence Awards

Excellence in Carbon Footprint Reduction

OSH India Award

Excellence in Safety Training and Education Manufacturing

India Sustainability Conclave & Awards

- Great Indian Leader in Decarbonization Energy Management
- Great Indian leader in Water Stewardship Excellence

Acetech Bengaluru Design Wall

Special Jury Recognition for showcasing the Innovative Products & Technologies

Great Indian Plant Leaders' Summit & Awards

- Best Water Management Practices & Energy Conservation - Resins Manufacturing Unit, Ankleshwar, Gujarat
- Chemical Manufacturing Excellence and Leader in Green Initiatives - Industrial Chemicals Manufacturing Unit, Patancheru, Telangana
- Energy Conservation Champion - Hydramem Membrane Manufacturing Unit, Verna, Goa
- Leader in Green Initiatives - Membrane Fabrication and Assembly Unit, Verna, Goa




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