



29th International Exhibition and Conferences
20-23, February 2019

Venue: Bombay Exhibition Centre, Goregaon (East), Mumbai, India

IMPRESSION

A Pictorial Journey

Supported by



CHEMTECH
FOUNDATION
1975-2020

Inspiring Intelligence...
..Igniting Innovation



Concurrent Events



PARTICIPANT AND CO OPERATION PARTNERS

Supported by



Ministry of Chemicals & Fertilizers,
Department of Chemicals and
Petrochemicals, Government of India

Ministry of Water Resources,
River Development & Ganga Rejuvenation
IEC Section, Government of India



Society for Chemical Engineering and Biotechnology e.V.



Process Plant
and Equipment

State Partners



Government of Odisha



Andhra Pradesh

Co Operation Partners

Bronze Partner

 GAIL (India) Limited	 ADITYA BIRLA GRASIM	 AARTI INDUSTRIES LTD	 CLARIANT	 BASF We create chemistry	 GHARDA CHEMICALS LIMITED	 RSPL EVOLUTION IS CONSTANT	
 MOL	 covestro	 Kelvion	 INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY	 Bharat Petroleum	 ANTICO	 GEA engineering for a better world	 EVEREST WORLDWIDE PLANT & VALVE SYSTEMS
 outokumpu high performance stainless steel	 GMM Pfaunder Defining the standard	 Dec Group	 Aaditya Stainless Pvt. Ltd.	 SULZER	 SIMON India	 EPP Composites Pvt. Ltd. Since 1986	
 L&T Hydrocarbon Engineering	 GI	 TUBACEX GROUP	 EMERSON	 Schneider Electric	 TechnipFMC	 SAMSUNG SAMSUNG C&T	
 L&T Valves	 KENT Mineral RO Water Purifiers HOUSE of PURITY	 NASH by Gardner Denver	 swam Technology • Innovation • Excellence	 praj Innovate • Integrate • Deliver	 Chemtrols	 DuFlon Engineering Excellence	
 Dipesh Engineering Works A member of J. B. Patel Group of Companies	 Petrofac	 FENIX AN ISO 9001:2008 COMPANY	 ALFA LAVAL www.alfalaval.com	 PUMPS	 ador WELDING PASSION FOR WELDING SINCE 1981 (Formerly Advani-Oertlikon Ltd.)	 ipco	
 HI-TECH APPLICATOR	 ADVANCED ROBOTICS TECHNOLOGY PVT. LTD.	 Gardner Denver	 Roto pumps ... moving fluids positively	 STALWART INTERNATIONAL	 ADVANCE VALVES	 AkerSolutions	
 Jasubhai ENGINEERING	 ARO	 HRS process systems	 samson	 DIPFLON ENGINEERING & CO. ISO 9001 : 2008 CERTIFIED COMPANY	 ecophos	 Tinita ENGINEERING PRIVATE LIMITED	
 GIDC Gujarat Industrial Development Corporation	 FABEX ENGINEERING PARTNERS FOR EFFICIENT PROCESSES	 KAY PRECISION PERFECTION PRIDE	 एन एस आई सी NSIC	 PSG a DOVER company	 PSG a DOVER company		

Inauguration: ChemTECH + EPC World Expo 2019

Digital Transformation across Functional Value Chain in EPC Industry

The project owners expect the EPC contractors to deliver the projects that can be enabled with IoT to sweat the assets to maximum capacity during its life cycle and achieve higher efficiencies in manufacturing. The conference had discussions on how the EPC contractors are adopting digital technologies in project management across individual functions of Engineering, Procurement, and Construction. The content very aptly highlighted the emerging trends of integrated project management, gradual shift from CAPEX & OPEX based models to TOTEX and had thought provoking discussions on how digitalization across the entire value chain of project management can make profound difference to how the future plants will be operated.



Inaugural Session (L-R): Mr Rakesh Verma, Chief Executive Officer, Simon India Limited; Mr Jason Urso, Vice President – Technology, Honeywell Process Solutions; Mr B Narayan, Group President (Procurement & Projects) Reliance Industries Ltd & Chairman, ChemTECH - EPC World Expo 2019, Central Advisory Board.; Mr Sanjeev Chopra (IAS), Principal Secretary, Industries Department, Government of, & Chairman, Industrial Promotion & Investment Corporation of Odisha Ltd (IPICOL); Mr Maulik Jasubhai, Chairman & Chief Executive - Jasubhai Group & Chemtech Foundation; Mr Mohamed Takhim, CEO, ECOPHOS; & Mr Manish Chandra, Managing Director - Accenture Strategy, India



Lighting of Lamp: Mr Mohamed Takhim, CEO, ECOPHOS



Guest and delegates attending the Inaugural Session of ChemTECH + EPC World Expo 2019 and conference



"After all, the objective of digitization would be to achieve higher productivity, higher efficiency, lower plant downtime, effective maintenance and at the end of it - to make more profit for the company. Fortunately this is possible by implementation of digitalization in the manufacturing sector. For us to be able to derive the benefits naturally the infrastructure has to be built-in, the plants have to be designed, engineered and built with this in mind."

Mr B Narayan

Group President (Procurement & Projects) Reliance Industries Ltd & Chairman, ChemTECH-EPC World Expo 2019

"Over the last 45 years, we have been fortunate enough to have been able to create an ecosystem that comprises of upstream, midstream, downstream and specialty chemicals. With great pleasure I can tell you that even in our 45th year there are 3 firsts. First, we have a conference and a seminar for women in manufacturing sector. Second, we are doing student outreach program focused on biotechnology and third, we are presenting a Digital Pavilion."

Mr Maulik Jasubhai

Chairman & Chief Executive,
Jasubhai Group & CHEMTECH Foundation

"Digitalization has been underway in our industry for last 30-50 year. Over the time it has made profound difference in how we operate our plants, how we have better situational awareness, how we respond faster to any incidents in our facilities, and how we operate closer to the process limits driving much better performance over longer periods of time."

Mr Jason Urso

Vice President - Technology, Honeywell Process Solutions

"After a very long lean phase, the EPC industry has picked up and there are lot of projects that are happening or are at different phases of planning & execution. If one looks at the data, most of the projects run in cost and time overruns. Further, risk for the EPC players increases with the scale and complexity of the project. Though the industry is using digital tools in the stage of engineering design, by adopting these in procurement & construction to improve efficiencies, the industry can reduce the risks to a great extent."

Mr Rakesh Verma

Chief Executive Officer, Simon India Limited

"We believe that with our process technology we can create very interesting synergy for phosphates in fertilizer industry and HCl in Chloralkali industry."

Mr Mohamed Takhim

CEO, ECOPHOS

"EPC in construction contributes about 13 percent of global GDP. However in the last 20 years, productivity in construction has increased only by 1 percent annually which can be improved significantly by digitalization. According to one of the surveys, 93 percent of companies believe that digitization can impact every process across the entire EPC value chain, but the survey also indicates that less than 6 percent of companies have really leveraged digital to improve productivity."

Mr Manish Chandra

Managing Director, Accenture Strategy, India

"In 2015, the State Government of Odisha announced vision for 2025 and identified chemicals & petrochemicals as one of the key areas that will drive the growth of the state in next 10 years and beyond. While many of states are facing pressure on infrastructure & logistics, things are different in Odisha as we are ramping up our facilities in the state. With most modern refinery of IOCL, 15 MMTPA capacity as the anchor tenant in Paradip the state has declared the area of 150 sq km around the refinery as the PCPIR region and firmed up the detailed master plan for development of downstream chemical industry in the area."

Mr Sanjeev Chopra (IAS)

Principal Secretary, Industries Department, Govt. of Odisha & Chairman, IPICOL

Session: Engineering & Integrated Project Management



(L-R) Mr Navtej Garewal, Head of India, Aveva Information Technology Pvt Ltd; Mr A. Srinagesh, Senior Vice President, Project Procurement, Reliance Industries Ltd; and Mr Are Follesdal Tjonn, Senior Vice President – Software, Aker Solutions

“In my view as a manufacturer, integrated project management should essentially cover not only engineering, procurement, construction & commissioning, but factor the operations and maintenance so that we can sweat our assets and manage them across their lifecycle.”

Mr A. Srinagesh

Senior Vice President, Project Procurement,
Reliance Industries Ltd

“Digitalization is data driven which further drives value in engineering & operations. My sincere belief is that we need to get control on all our data sources to be successful in our journey of digitalization. As an industry and as the EPC contractor we look at digitalization as an enabler to unlock and reuse the knowledge and experience of previous projects instead of starting from square one for our clients.”

Mr Are Follesdal Tjonn

Senior Vice President – Software, Aker Solutions

“Looking from owner’s perspective that they need manageable product for manufacturing which helps them improve productivity & efficiency and is supported by digital twin, we have to develop our EPC systems and tool sets to enable that to happen. However, in order to provide to the owner the digital transformation that they need, it really depends on with their contracting strategy with the providers of technology solutions & tools. The owners have to be very clear, as well as upfront on what they want and how they want.”

Mr Navtej Garewal

Head of India, Aveva Information Technology Pvt Ltd



Conference in progress

Session: Procurement



(L-R) Mr Bertrand Langlois, Digital Transformation Director, EMIA Onshore - Offshore GBU, Technip FMC; Mr Amit Verma, Senior VP & Head of P & C Digital Transformation, Reliance Industries Limited; Mr Yatindra Borkar, Vice President-Project Support, Asia Pacific, and Engineering & Technical Expertise Hub India, A-FTA/S, BASF Chemicals India Pvt Ltd; Ms Inge Wild, Program Manager Digitalisation - Linde Engineering; and Mr Y. V. Apte, Chief General Manager Engineering & Projects, (Marketing) , BPCL

"In last 20 years of my career, I have come across the projects that became cost driven, then became schedule driven, then they became reliability driven, and operations driven. So how do you manage these complexities is an important task and can be related to digitalization."

Mr Yatindra Borkar

Vice President-Project Support, Asia Pacific, and Engineering & Technical Expertise Hub India, A-FTA/S, BASF Chemicals India Pvt Ltd

"Since the time the plant is built, the P&ID of the plant has under gone many changes. During our interactions with customers, we found that identification of right spare parts as one of the problem areas that our customers have been facing. They were not only approaching us for identifying the spare parts but also to send the new offer. So we innovated our business model by building a portal where the plant operators could access the P&ID of their plants easily to identify the spare part as well as to get the information of the suppliers to directly connect for procuring the spare part."

Ms Inge Wild

Program Manager Digitalisation, Linde Engineering

"As an EPC contractor, we are focused on CAPEX and our goal is to move from the project ASAP from site after delivering the project to our customers who have to then operate the plant for around next 20 years. We are convinced that if we are involved in TOTEX that includes CAPEX & OPEX, we will deliver more value and this is now a part of our strategy that we are an EPC contractor but we are also helping our customers in operations and maintenance."

Mr Bertrand Langlois

Digital Transformation Director
EMIA Onshore - Offshore GBU, Technip FMC

"For PSUs, the government has come up with central procurement portal where all the tenders are available at a click with complete transparency for anyone from across the globe to fill the application form without paying any fee for submission of tenders. Government policies like SME preference for purchasing and Make in India are built in the e-tendering and being seamlessly driven in public sectors. I feel this is a big leap that has happened in the last few years."

Mr Y V Apte

Chief General Manager Engineering & Projects,
(Marketing), BPCL

"Digital transformation is not about using technologies in business, it is about optimizing the same business matrix that haven't changed over the last four transformations. The time you are trying to make sure that the project on construction side is completed on time, on commissioning side, you are hoping that every commissioning happens as you want it to be, once it is commissioned all the assets to be completely and reliably available, hence you are sweating them to get maximum output and then ensuring that output is at the maximum value that you can get in terms of revenue and profit."

Mr Amit Verma

Senior VP & Head of P & C Digital Transformation,
Reliance Industries Limited

Session: Construction



(L-R) Mr Ahmad Abdelrazaq, Executive Vice President, Samsung C & T India Pvt Ltd; Mr U. V. Phani Kumar, Chief Executive Officer, Howe Engineering Projects (India) Pvt Ltd; Mr Rakesh Verma, Chief Executive Officer, Simon India Limited; Mr Suneet Prakash, Head – Group Projects, Aditya Birla Management Corporation Pvt Ltd, and Mr S Anantha Sayana, Chief Digital Officer, Larsen & Toubro

“We as project owners are very keen to engage with the companies that can enhance quality levels at site and complete the project with no incidents at the construction sites. But let me confess that we have had particle success in this. As an owner I can share that the biggest hitch that we come across is not the E, not the P, but the C and that is where most of the projects go into the ditch.”

Mr Suneet Prakash

Head, Group Projects,
Aditya Birla Management Corporation Pvt Ltd

“If one goes to the construction site, we see that practically for the last 100 years nothing much has changed. The question, how do we transform the entire process of design to engineering to construction to planning to get everything in the hands of contractor ultimately to project delivery has not simplified. Today, the question is that with IIoT etc how are we able to collect the data and correlate with what we have designed to what we have built to complete the cycle of exchange of information.”

Mr Ahmad Abdelrazaq

Executive Vice President
Samsung C & T India Pvt Ltd

“We do not need to be carried away by how fancy the technology is, but how best it can be utilized by the contractors to meet the desired objectives of delivering the projects of required quality without any time and cost overruns and with zero incidents to the project owners.”

Mr Rakesh Verma

Chief Executive Officer, Simon India Limited

“When we started with digital transformation, we decided that this was not going to be one of the experiments, but it had to be pervasive, had to touch all the businesses, and had to touch every construction site of ours, and that’s what we set out to do. In thirty four months we created our digital department in construction headquartered in Chennai and decided to do this with speed, with scale, and to have a scope that would cover all aspects of construction and not confined to just one area.”

Mr S Anantha Sayana

Chief Digital Officer, Larsen & Toubro

“The boundaries between design & built, planning & execution, and construction & operations are now vanishing as project implementation is becoming more collaborative. Implementing digitalization in construction requires right leadership with very clear cut understanding of digitalization, up-skilling of human resources, trained to take calculative risks, mentored to adopt collaborative approach, and adapt to the cultural behavioural changes.”

Mr U V Phani Kumar

Chief Executive Officer,
Howe Engineering Projects (India) Pvt Ltd

Panel Discussion: Blue Print for Digital Success of all Value Chain Partners



(L-R) Mr Vinayak Pai, President – Energy, Chemicals and Resources, Jacobs; Mr B Narayan, Group President (Procurement & Projects), Reliance Industries Limited; Mr Sunder Kalyanam, Group Managing Director, Engineering & Construction Growth and Chairman - Petrofac India; & Mr Akilur Rahman, Chief Technology Officer, ABB India

“As a user, I would be looking for a process plant which would be built and will stand as an asset, and I would like to have a Digital Twin sitting may be 10,000 km away from the asset which should enable me to actually operate that plant, rather not operate, know from the digital unit how the plant is operating from there with the highest levels of accuracy. Since entire digitization is based on data which is generated from the sensors, the integrity of the sensor and the sensor technology are extremely important to have accurate data output to take further action.”

Mr B Narayan

Group President (Procurement & Projects)
Reliance Industries Limited



Audience interaction with the speakers during the session

“Sensors by itself cannot be the answer; it is about the data, which is something the EPC companies cannot do individually. This has to be done in partnership with the operating companies who have the data. Most of the time when we design our solutions, lack of data rather than the lack of sensors, or lack of historical data, is a challenge. Predictive maintenance, works on algorithms which need data from the operating plants of similar equipment if not the same. It is extremely essential for a service provider to know and to work with the teams of project owners to incorporate it in new asset. To have access to the data of similar system from the operating plant is very helpful in developing the system to collect the data over a period of time for predictive maintenance.”

Mr Vinayak Pai

President – Energy, Chemicals and Resources, Jacobs

“My answer to very pertinent question of project owners to the EPC players about how they are going to improve the plant or product that is delivered, would be that EPC industry or EPC performers are integrators or service providers and not product manufacturers. It is the ultimate asset owner who must have a very clear cut definition of what he wants. Once that is known, for example if you want a Digital Twin, which should be sitting miles away and be able to pick up all the information from the hard asset sitting elsewhere with ability of machine learning, these would basically require data acquisition, data analytics, and feedback; and this process has to continue.”

Mr Sunder Kalyanam

Group Managing Director, Engineering & Construction Growth and Chairman - Petrofac India

“There is a difference between delivering a digitalized project & digitalized plant. As far as EPC is concerned, digitalized project is for internal improvement but delivering a digitalized plant, where you have all these assets connected with sensors, you can do the predictive analysis, you can also improve the uptime of the system and equipment, reduce the energy consumption, and also extend the life of the asset. It is already proven that sensors can give you clear data in terms of percentage of benefits you can get. For example, motor sensors can reduce the downtime by 70 percent and extend the life by 30 percent.”

Mr Akilur Rahman

Chief Technology Officer, ABB India

Specialty ChemiCAL World Expo 2019

Ease Of Doing Business: Leveraging Sustainability, Digitalization & Innovation

India's ability to manufacture complex agro-chemicals and pharmaceuticals, cost-effectively, has already established it as a serious contender in specialty chemicals space. To become the next major manufacturing hub for specialty chemicals, India needs to leverage the power of Industry 4.0 via digitalization and embrace sustainable manufacturing practices. The industry also needs to focus on research and innovation as a differentiator. A marriage of world class Indian academic talent with abundant entrepreneurial spirit can prove to be a potent combination. Specialty chemicals conference focused on how the Indian manufacturers can leverage sustainability, digitalization, & innovation as the key drivers to build the world class industry with most promising potential.



Lighting of Lamp: Mr Sanjeev Chopra, IAS - Principal Secretary, Department of Industries, Government of Odisha, and Chairman & Managing Director - Industrial, Promotion & Investment Corporation of Odisha



Conference in progress



(L-R) Mr Ashish Dwivedi, President, Specialty Chemicals & Business Strategy, Aditya Birla Group – Chemicals Business; Mr Maulik Jasubhai, Chairman & Chief Executive, Jasubhai Group & CHEMTECH Foundation; Mr Gurpreet Kohli, Global Program Director (R&D), Hindustan Unilever Ltd; Dr Raman Ramachandran, Head South Asia, & CMD, BASF India Pvt Ltd, & Chairman CAB Specialty Chemicals World Expo 2019; Mr Sanjeev Chopra, IAS - Principal Secretary, Department of Industries, Government of Odisha, and Chairman & Managing Director – Industrial Promotion & Investment Corporation of Odisha; Mr Omer Dormen, Vice President – India and South Asia, Castrol India Ltd; and Dr Sanjay Mishra, Chief Technology Officer, SABIC

“The Vision of Odisha is to attract Rs. 2.5 lakh crore of new investments in 6 identified focus sectors and create 30 lakh job opportunities by Yr. 2025, as per Odisha Industrial Development Plan: Vision 2025. Chemicals & Petrochemicals is classified as a focus sector of the state and is eligible for special incentives as per the Odisha Industrial Policy Resolution, 2015. There is also a prominent expansion plan of Paradip Port in place with a current capacity of 277 MMTPA to 325 MMT by Yr. 2020.”

Mr Sanjeev Chopra (IAS)

Principal Secretary, Industries Department, Govt. of Odisha, & Chairman, IPICOL



“We have worked towards building up Industry Platform for innovation, idea, technology, and bringing the world leaders to the entire value chain of Upstream, Midstream, Downstream, and Technological Equipment through our pioneering trade shows since last four decades with the abled guidance of eminent industry leaders, who are part of our Central Advisory Board.”

Mr Maulik Jasubhai

Chairman & Chief Executive,
Jasubhai Group & CHEMTECH Foundation

“We are one of the fastest growing economies of about 2.5 trillion USD; and foreseeing to double it to 5 trillion USD in next 5 – 10 years, thus will become one of the biggest economies in the World. And most important part of this is, we intend 20 percent to 25 percent of this to come from manufacturing, to reach this very ambitious objective. Chemical Industry is the enabler of most of the other manufacturing industries. So, we are a very vital industry in terms of opportunities exist for all of us. But the question is, if this is going to be catered by the local manufacturers or would it be imported through other countries? We advocate to the Government for creating an enabling environment to do business better in terms of infrastructure, energy cost, stifling regulating rules, and various other factors.”

Dr Raman Ramachandran

Chairman & Managing Director, BASF India Ltd, and Head - BASF, South Asia, and Chairman CAB, Specialty Chemicals World Expo 2019

“As an end-user’s perspective, Innovation is the life-line for HUL, without which survival is not possible in this FMCG industry. Innovation for us is to understand the emerging consumer needs and finding the right product for them. Here the Specialty Chemical Industry plays a very pertinent role, to identify the chemistry, create the chemistry, and supply it at scale. Sustainability is a license to operate. Because, the world around us is changing so rapidly due to climate change, effects of pollution and consumption of materials like water, energy, etc., which is stressing the environment.”

Mr Gurpreet Kohli

Global Program Director (R&D), Hindustan Unilever Ltd

“The definition of innovation in our view is changing. It’s no longer limited to only introducing a new chemistry, a new product, or a new process. Innovation often comes in the form of Service, Business Model, Digitalization; and more importantly it’s not EITHER – OR, it’s AND. It’s a little bit of all of these that are going to get us to the next level, as we think about the next 5 years or 10 years or 15 years’ time-frame. Successful innovations will depend upon creating co-innovations. Co-innovation is the mantra or the theme that will get us into the future. Digitalization is here in full swing. We got to run with it with all arms surrounded; but it does need us to move from ‘Functional Optimization’ to ‘System Transformation’ for it to really show the effects.”

Dr Sanjay Mishra

Head of Innovation, Specialty Chemicals, SABIC

“The world is going to need energy by 30 percent more in next 20 years. At the same time, we need to significantly reduce the emissions in order to meet the climate goal. On the face of challenges, we can evolve by three levels-Product Innovation, Process Innovation, and Catering to Customers. While we are looking at Product Innovation, we also need to be sustainable in terms of how we produce our products.”

Mr Omer Dorman

Vice President, India and South Asia, Castrol India Limited



Conference in progress

Session: Sustainability & Circular Economy



(L-R) Mr Allwyn Crasto - Head-Transportation and Distribution Safety, Emergency response and Fire prevention, South Asia, BASF India Ltd; Mr Satish Cheeti - CEO Recycling, Ramky Enviro Engineers Ltd; Mr Ajay Durrani - Managing Director, Indian SubContinent, Covetsro India Pvt Ltd; Mr Karol Kerrane - Business Development Director, EPC Engineering & Technologies GmbH; Mr D. Radhakrishnan - Principle Technologist-I, Chemical Technology Group, SRF Ltd; and Mr Ravi Kapoor - Chairman and Managing Director, Heubach India

“Circular Economy emphasizes the shift from ‘Take-Make-Dispose’ approach to ‘Reduce-Reuse-and Recycle’ approach. And this topic has global importance. However from the Indian perspective of circular economy, a big question is: how do we make an Economic Sense out of this Whole Concept. India being the entrepreneur based economy, it is important to check that the business is really creating value not only for us, but for the whole ecosystem; and the entire supply chain is also really making something out of it.”

Mr Ajay Durrani

Managing Director, Indian SubContinent, Covetsro India Pvt Ltd

“Since inception, we have generated 8.3 billion metric ton of plastics; we have been to dispose of only 2 billion metric tons of 6.3 billion metric ton which still remains in the system and is just 12 times of the weight of all human beings combined in the world. It is the time to come up with strategies to circumvent and to surpass this problem. For that, we use the concept of ‘UpCycling’ – not the ‘Recycling’. Because, in recycling, at some point of time, we need to dispose-off the waste. Recycling does not eliminate the issue, instead it’s just going to defer. However, in UpCycling, the waste is brought back as a product into the main stream.”

Mr Satish Cheeti

CEO Recycling, Ramky Enviro Engineers Ltd

“When we talk about the safety & sustainability going together – there are about 5 lakh accidents happen on the road each year causing approximate 1.5 lakh fatalities, as reported by the government in 2017. Out of this, 72 percent of fatalities impact the people within the age group of 18 to 45 that results in loss of productive work force. As a preventive measure, leading chemical companies have collaborated to create ‘NicerGlobe’ platform to give the chemical industry a platform for safe and secured transportation. The USP of this platform is 24X7 ‘Emergency Response’, as it is easy to track-n-trace. Another very important aspect we introduced to promote and enhance sustainability is the Digital Check-tool, which can be accessed through the android based device and uses cloud-based database and reduces the paper consumption significantly.”

Mr Allwyn Crasto

Head, Transportation and Distribution Safety, Emergency Response and Fire Prevention, South Asia, BASF India Ltd

“Ideally, in the chemical industry, there should be only products and no wastes. But in reality, that is not the case. So more the industry uses the wastes in real scenario, more closer they will be to the ideal industry and larger will be their production. One of our plant in Bhiwadi, Rajasthan is working on Zero Discharge Concept. It does not discharge any effluent (either solid, or liquid, or gaseous) to the environment. In other areas, we either convert all the discharges into sellable products, or recycle back to the original products.”

Mr D Radhakrishnan

Principle Technologist – I,
Chemical Technology Group, SRF Ltd

“In the previous century, there was a concern for ‘Energy Resources’. Now the concern has been shifted to ‘Resource Crisis’. This is going to be the future. And that becomes the challenge for a country like India, because we have to grow; but, we have to grow in a responsible manner. Basically, Circularity has no limit. First, it is a thinking process. It’s first the innovation in your head; It’s first having the approach for the right time to plan for the project. If waste management cannot be done in the most effective way, the project should not see the daylight.”

Mr Ravi Kapoor

Chairman & Managing Director, Heubach India

“Sustainability and Circular Economy have been integral since industrial revolution or far back as you want to go. When we look at the design of a plant, it’s just not an environmental issue, it is the needed balance of technology, economy, and environment. We could have the technological solutions ready with us for all of our environmental issues, but it may not be economically feasible. Circular economy goes all the way from designing of something, to production, to use by consumers, to post-consumer recycling, and back-in-use.”

Mr Karol Kerrane

Business Development Director, EPC Engineering & Technologies GmbH

Session: Building Innovation Ecosystem through Successful Industry Academia Partnerships



(L-R) Dr Amita Joshi, Senior Manager - Technical (Discovery and Product Development), Biotechnology Industry Research Assistance Council (BIRAC); Dr Dietmar Hueglin - Director Innovation Campus Mumbai (RA/OM), Vice President Advanced Materials & Systems Research, BASF Chemicals India Pvt Ltd; Mr Samir Somaiya - Chairman & Managing Director, Godavari Biorefineries Ltd; and Dr Diels Ludo - Research Manager Sustainable Chemistry, VITO – Flemish Institute for Technology

“We need to create bridge amongst Industry, Academia, and the Market so that we can create really innovative products which India and the rest of the World can be proud of.”

Mr Samir Somaiya

Chairman & Managing Director, Godavari Biorefineries Ltd

“While industry research is always directed towards better processes and better products, academia and their professors who can fundamentally look at the topics such as prototypes, but not the products. Academia can play an active role to bring translational research to the market. In the ecosystem of government, industry and the academia, it is critical to see the role that each of these entities can play.”

Dr Dietmar Hueglin

Director Innovation Campus Mumbai (RA / OM), Vice President Advanced Materials & Systems Research, BASF Chemicals India Pvt Ltd

“BIRAC is the brain-child of Department of Biotechnology, under the Ministry of Science and Technology which has evolved with time. It was started with the idea to offer schemes to spur the research with the industry under various forms of partnerships. BIRAC attempts to bridge the gaps through appropriate schemes. SIBRI & BIPP are the initiatives to spur innovation and research in big industries, there are schemes for SMEs to put their best foot forward. BIRAC has initiated certain schemes to bring academic research forward through academia-industry partnership. BIRAC funds the projects of academic partners to develop the pilot scale or take it up to pre-commercialization stage. With partner organizations like ‘Shrishti’ we fund innovative ideas coming out directly from University Students at the Undergraduate, Postgraduate, and PhD level.”

Dr Amita Joshi

Sr. Manager, Technical – Biotechnology Research Assistance Council, Department of Biotechnology, Ministry of Science & Technology

“To practice innovation through sustainability, we need to look at the alternatives for limited resources in chemical industry. Firstly, we have to intensify our conversion and downstream processes to make them more efficient and effective. Secondly, reuse side-streams to reduce the cost for land-filling and for treatment. Thirdly, replace regular feedstock with renewable feedstock and energy with renewable energy. Lastly, we will also have to reuse the auxiliaries like solvents, water, catalysts, and so on.”

Dr Diels Ludo

Research Manager Sustainable Chemistry
VITO – Flemish Institute for Technology



Audience interaction with the speakers during the session

Session: Leveraging IIoT & Digitalization for Sustainable Growth



(L-R) Mr Punit Krishna – Co-founder and CEO, Chemarc; Mr Ketan Karkhanis, Head - IT, Clariant Chemicals, India; Dr Raman Ramachandran - Head South Asia & CMD, BASF India Pvt Ltd & Chairman CAB Specialty Chemicals World Expo 2019; Mr Sharad Joshi, 4.0 Roll out leader South Asia, South East Asia, East Asia and Australia & NZ, BASF; Mr Sandeep Sreekumar, Global Head - Adhesive Digital Operations (AOT), Henkel Supply Chain Singapore; and Mr Subramanyam Kasibhat - Founder CEO, Vegam Solutions

“Digitalization is playing a great part in changing all of our lives on day to day basis. If we consider the hotel industry, AirBNB is the second largest market capital holder. The only chain that is marginally ahead of AirBNB is J.W. Marriot. The credit for this remarkable progress of AirBNB goes to its implementation of digitalization. Another apt example is Kodak, which had faced a near-abolishment devastated result due to not embracing digitalization. Thus digitalization can change the destiny of a company; and assets are no longer critical for success.”

Dr Raman Ramachandran

Head South Asia & CMD, BASF India Ltd

“Digitalization, in our perspective, has been adopted by the giants first, due to their drivers. However from economy and disruption point of view, small companies can afford it too and can compete with the giants without making any hefty investment. Because, today the entire technological platform is accessible. Digitization has a disruptive capability at the bottom-most layer. But we have seen its adoption at the highest level.”

Mr Subramanyam Kasibhat

Founder & CEO, Vegam Solutions

“This is the Era of Customization, which means the product needs to be the perfect fit for the customer-demand and not a matching demand. When you do a perfect fit, you need to create thousands of variants of the master product to fit to the individual needs of the customers. This is where digitalization plays the critical role to bring in its uniqueness. One of the main ingredient of digitalization in the context of specialty chemical process industry is to look at end-to-end process. From the value-chain point of view, we need to have the data collection for end-to-end process. Because finally the quality and value-proposition of a product is not only about delivering it on time, but it is about when the product behaves in the best way in customers’ environment.”

Mr Sandeep Srikumar

Global Head - Adhesive Digital Operation (AOT), Henkel Supply chain Singapore.

“When we talk about digitalization enablement of health and safety, we name it as EHS 4.0 or Digital EHS. It is nothing but the collaborative framework of Industry 4.0 and EHS being empowered with various applications viz. Industry IoT, Big Data Analysis, Mobility, Cloud, etc. And this Digital EHS or EHS 4.0 is garnered by wearables such as smart glasses, devices for health, emission & environment monitoring, beacons & sensors, cloud mobility, and Augmented & Virtual Reality.”

Mr Ketan Karkhanis

Head-IT, Clariant Chemicals, India

“In today’s world, we deal with businesses through Pipeline Business Model. In this model, we have a seller or provider; we also have a buyer or receiver; and partners we share things with such as information, expertise, documents, and ideas. Then the decisions are followed by flow of Goods, Services & Cash which happens in the pipelines. There is a producer at one end and the other end is occupied by the buyers and this pipeline is controlled by both the parties. A particular business can have as many pipelines as they wish and the growth of business is proportional to the increase in number of pipelines.”

Mr Punit Krishna

Co-Founder and CEO, Chemarc

“Digital transformation is expanding in waves across industries and value chains, which is a challenging route ahead. This transformation wave starts with ‘Digitalization of Media & Marketing’, and proceeds through ‘Digitalization of Distribution’, ‘Digitalization of Services’, and ‘Digitalization of Production’. Data help us creating extra value along the entire value chain. Agility, iterative movements, and early customer involvement allow us to leverage the power of digital technology through interdisciplinary team, fast decision making, end-to-end ownership, entrepreneurial spirit, and relentless innovation.”

Mr Sharad Joshi, 4.0 Roll-out Leader South Asia, South East Asia, East Asia, and Australia & Nz, BASF

Session: CEO Roundtable : Ease of Doing Business



(L-R) Mr Rajendra Gogri, CMD, Aarti Industries; Mr Adnan Ahmad, VC & MD, Clariant Chemicals (India) Ltd; Mr Meghav Mehta, General Manager Strategy, Deepak Phenolics Limited and Mr Suyog Kotecha, Partner, McKinsey & Company

“The Ease of Doing Business is a very contentious issue. Is it easy to do business in India? Or, is it a pain? Are we competitive as a country or as a territory to do business? We can keep asking these questions; however, let’s not forget that there are many of us who are doing business in India and enjoying the benefits derived from it. But that doesn’t mean – it is easier, and we have achieved what we wanted to. When you want to set up any manufacturing business, what kind of things would you want to be drawn to that territory? The first thing would be the input cost. In our business, 50 percent - 60 percent cost is incurred by the raw material. Therefore, we need to get the raw material at a competitive price.”

Mr Adnan Ahmad

VC & MD, Clariant Chemicals (India) Ltd

“Digitization was able to take over the industry to drive progress faster; however, our education system could not keep up with that. We are going to end up with the population that will go through job training which will not add any value to the organization. There are definite issues both from industry perspective and the education perspective; but we need to keep pace with one another. More collaborative approach will help to understand each other. First we have to understand why there is a problem & why the sense of urgency is high. Once we have that empathy, we have to understand how we phase out the old and phase in the new. Once we have that clarity, then we need to act fast without wasting time and without going back-and-forth.”

Mr Meghav Mehta

General Manager Strategy, Deepak Phenolics Limited

“This is the golden period for Indian specialty chemical industry. Before the start of easternization in 1990, everything was produced in US, Europe & Japan. Due to the peculiar nature of chemical industry, chemical industry has moved to China and India largely due to availability of chemistry and chemical industry landscape. Though China has the larger share, but in the last six years the dynamics have started to change. According to World Bank, labour cost in India is 50 percent in terms of dollars as compared to China. However, due to environmental disruption in China the industry has lost its cost advantage thus making India the lower cost destination.”

Mr Rajendra Gogri

Chairman & Managing Director, Aarti Industries Limited

“If you plot all the public listed companies in last 16 years versus the returns that their shareholders got, chemical sector comes right at the top in terms of total return to the shareholders. And this is true for last 15 years. This is a clear indication that this industry gives better return compared to their feedstock suppliers or in terms of their consumer industries. China is going through its own problems with environment norms and with the Government’s push to move from industrial to more consumer facing industries. Going from manufacturing to services, there is a bit concern for chemical industry. Japan and Korea are the case of block structuring. Even though we don’t know much from outside, it’s much protected; and in the overall global scheme of things, India has come out as a very bright spot for a sector in the world, which has given very high returns historically.”

Mr Suyog Kotecha

Partner, McKinsey & Company



Audience interaction with the speakers during the session

WaterEX World Expo 2019

Urban Sustainability through Smart Water Management

Ever growing population, climate change, aging of infrastructure, etc are some of the bulging challenges that India continues to face. While the aggregate water availability remains almost the same, the per-capita-water-availability is getting reduced which is an alarming situation. Amidst rapid urbanization industrialization, and increasing water demand, the conference attempted to highlight some of the international best practices & smart management for optimum utilisation of this critical resource through case studies on projects and new technology interventions.



Lighting of Lamp: H.E. Dr Rashid Alleem, Chairman - Sharjah Electricity & Water Authority; and Mr S Masood Husain, Chairman - Central Water Commission, Ministry of Water Resources, RD & GR, GoI & Chairman – Central Advisory Board, WaterEX World Expo 2019



Mr Yatinder Pal Singh Suri presenting memento to H.E. Dr. Rashid Alleem



Audience interaction with the speakers during the session

"The primitive step of managing water crisis starts with awareness and how we can educate ourselves about the sustainability of water maintenance. UN has come up with good aid-goals to change the face of the world and to take into the path of prosperity in a way that profits. If we want a better tomorrow and want to be sustainable, let us give ourselves an objective and bring business on the table."

H.E. Dr Rashid Alleem,
Chairman – Sharjah Electricity & Water Authority



"Water is a national resource; and there is no alternative to water. Being a highly populous country, India has a large need for water. To put out some statistics, India contains about 18 percent of the World Population, with only 4 percent of water resources. Irrigation is the largest consumer of water and with increasing population, growing agriculture, rapid industrialization & urbanization, it is critical for India to handle the challenge."

Mr S. Masood Husain
Chairman, Central Water Commission, Ministry of Water Resources, RD & GR, Govt. of India; & Chairman, Central Advisory Board, WaterEX World Expo 2019

"The world population will reach 10 billion by 2050 with more than 80 per cent of population residing in urban areas. The demand of water will continue to increase from all sectors and the effects of climate change on water cycle would be more obvious every year with increasing risks of floods and draughts. By 2030, half of the world will face high water scarcity though the scale may vary. In fact we need to understand that while addressing this challenge, we need to adopt an approach that ensures proficient management & sustainable provision of water for all users at affordable price with smart assistance by the Governments."

H.E. Mr Carlos Pereira Marques
Ambassador of Portugal in India, Embassy of Portugal

"As per international norms, a place is water stressed if per capita water availability is less than 1700 cubic meter and water scarce if it stands at 1000 cubic meter. Depending on topography and hydrological factors, many areas in India are either water stressed or water scarce and there is alarming need for sustainable management of water resources due to increasing population, urbanization, and industrialization."

Ms T Rajeshwari
Additional Secretary, Minister for Water Resources, RD & GR, Government of India



Inaugural Session (L-R): Mr Ashish Mathur, Managing Director, Tata Steel Special Economic Zone Limited; Mr S Masood Husain, Chairman - Central Water Commission, Ministry of Water Resources, RD & GR, Gol & Chairman – Central Advisory Board , WaterEX World Expo 2019; Ms T Rajeshwari, Addl. Secretary, Minister for Water Resources, RD & GR, Government of India; H.E. Dr Rashid Alleem, Chairman - Sharjah Electricity & Water Authority and H. E. Mr Carlos Pereira Marques, Ambassador of Portugal in India, Embassy of Portugal

Session: Case Studies - Projects



(L-R) Ms Deeya Ray – Manager (Sewage Treatment Plant), Jamshedpur Utilities and Services Company Limited (JUSCO); Ms Alexandra Serra, Executive Board Member, AGUAS DE PORTUGAL INTERNATIONAL S.A.; Mr Sourav Daspatnaik, Chief Executive Officer, Swach Environment Pvt Ltd; Mr Suryam Kashibhatla, V.P. & CoE (Water), Centre of Excellence – Reliance Industries Ltd; Mr Claes Tigerstrand -Senior Technical Manager, Head of Region South, Europe, Outokumpu; Mr Satyajit Chakraborty, Divn Manager, Water Management, JTO, Jamshedpur Utilities and Services Company Limited (JUSCO); and Lt. Col. Suresh Patil, Green Thumb Environment Protection Group (NGO)

“While we are heavily concerned on the scarcity of water, 97 percent of water is the sea water, 2 percent is in the form of glaciers, and around 1 percent is available as the fresh water. Out of this, 1 percent fresh water, half is the ground water and half is the surface water. It is only the surface water that is available to us for all the requirements. All three major water consumers – farming, industry, & municipalities – co-exist, are co-dependent, and have conflicting interests. So, the prime focus is on how do we manage water.”

Mr Suryam Kashibhatla

V.P. & CoE (Water), Centre of Excellence
Reliance Industries Limited

“Jamshedpur is a town where people can drink water straight from the tap. Apart from maintaining the quality, we also take care of water-losses which are minimal. We work at the individual and institutional levels to reduce water consumption and maintain the benchmark of 12.36 percent of NRW which is the best in India. We have established water loss management system to take care of physical and commercial losses. Physical loss management includes treatment works, and arresting leakages through service-reservoir-management and distribution system management. We have segregated entire area as District Metered Areas (DMA) to monitor commercial losses. Commercial loss management system includes proper metering & billing of consumer connections and disconnection of any illegal connections.”

Ms Deeya Ray

Manager (Sewage Treatment Plant)
Jamshedpur Utilities and Services Company Limited (JUSCO)

“Tagus Estuary river basin contributes immensely to the ecological and economic development of Spain & Portugal. However, the concentration of densely urbanized areas and industrial clusters in the region had resulted in environmental degradation. A world exhibition in Lisbon in the year 1998 was the primitive trigger to start with this clean-up project which was a combined effort of multiple entities and strong commitment from Central Government and Municipality to work together.”

Ms Alexandra Serra

Executive Board Member,
Agua De Portugal International SA

“JUSCO has a phase-wise movement towards zero liquid discharge plan. At the initial stage, in one of our sewage treatment plants, with working capacity of 10 million liters per day, we are totally recycling the water for use in horticulture, industries and also for domestic purposes. We have been able to reduce the intake of raw water from river to a great extent. In Jamshedpur more than 70 million liters of water is being recharged and more than 7 million liters of water is being reused per year.”

Mr Satyajit Chakraborty

Divisional Manager, Water Management, JTO, Jamshedpur
Utilities and Services Company Limited (JUSCO)

“As far as water security is concerned, to meet the industrial demand, dependency on primary water needs to be reduced due to competing demand from household segment. Reuse of treated wastewater is getting strong support from Government, adding a revenue generating water reuse component to the projects boosts the financial viability of project. In the long-term shift towards covering operating costs through user fees also reduces the burden on public finances.”

Mr Sourav Daspatnaik

Chief Executive Officer, Swach Environment Pvt Ltd

“Most of the available water is sea water and fresh water is a scarce resource, however it has been taken for granted. In order to treat the sea water to make it usable and treat its chlorides, it is critical to select the right stainless steel which should be a very high alloy material for desalination ventilation systems”

Mr Claes Tigerstrand

Senior Technical Manager
Head of Region South, Europe, Outokumpu

“Since last 10 years water management has become a pertinent problem. Rain is very kind at many of the areas in India, and the nature’s cycle is close to perfect there. In that situation, the most relatable question is: Why are we failing in that case? In spite of adequate rainfall, in many of the places, water is either stressed or scarce due to poor water management. In our country, major portion of rain water gets wasted, unlike developed countries where it is the other way round.”

Lt. Col. Suresh Patil,

Green Thumb Environment Protection Group (NGO)

Session: New Technology Interventions



(L-R) Mr Matiur Rahaman, Associate Director- Business Development, IoT & Mobility Solutions, Tata Communications; Mr V P Sreekrishnan, Executive Director (Trombay), Rashtriya Chemicals and Fertilizers Ltd; Mr M. K. Srinivas, Director General, National Water Development Agency; Mr Ajay Girotra, Managing Director, AG Dauters Waste Processing Pvt Ltd; and Mr Shanesh Joshi, Head – Project Development Unit, Western Region, Tata Projects Ltd

“Technological intervention is very important for urban water management due to limited availability of this resource. To derive maximum benefit, we need to adopt the approach to move from waste to wealth. One of the prime initiatives taken up by our Government in this direction under the Clean Ganga Mission is the hybrid annuity model of collecting all the sewage water in one place and putting in the treatment plant and not discharge directly in the river.”

Mr M K Srinivas

Director General, National Water Development Agency

“According to UN about 25 percent of global population will face water scarcity by 2025 which means, one out of four individuals will face this problem. In India, we are losing close to 200 thousand lives year on year. Further, Niti Ayog report cites that about 21 cities will either go dry or go under water. Water challenge is global in nature and many technological interventions are available to measure water usage, monitor water quality & manage leakages in distribution systems”

Mr Matiur Rahaman

Associate Director, Business Development, IoT & Mobility Solutions, TATA Communications

“Apart from ground water, surface water is also the major source of water of the country today. While we have so much of water-stress already, we have been ignorant to save or conserve our rivers. But, with increasing urbanization, most of our major cities situated at the bank of rivers have been polluted as a good amount of untreated sewage is being dumped into the river.”

Mr Shanesh Joshi

Head – Project Development Unit, Western Region, TATA Projects Limited

“Grey water holds the key to the future survival of the mankind. At the moment, India produces 62000 MLD of grey water in the urban areas out of which only 18883 MLD is treated. The rest of untreated grey water is not fit to drink but can be treated to produce 31000 MLD of mineral water or produce 24000 MLD of fuel.”

Mr Ajay Girotra

Managing Director, AG Dauters Waste Processing Pvt Ltd



Audience interaction with the speakers during the session

Refining & Petrochemicals World Expo 2019

Hydrocarbon Industry in Emerging Environment Friendly World

One day conference on “Hydrocarbon Industry in Emerging Environment Friendly World” brought together the experts from the domains of Refining & Petrochemicals, Technology Licensors, EPC, Chemical Processing Equipment Suppliers, and Automation & Process Control. The program was structured to understand the impact of some of the key trends such as shift to electric vehicles, increasing pressure to reduce plastic consumption, ethanol blending on the refining & petrochemicals industries. The deliberations intended to understand the changing industry dynamics and role of all the stakeholders in the value chain towards creating the enabling environment for this industry to have sustainable growth in focused sessions on - Future Strategies of Refiners & Petrochemicals Manufacturers; Licensors & Technology Providers: Creating Enabling Environment; Next Gen Technologies for Smart Operations, & Panel Discussion: Hydrocarbon Industry in Emerging Environment Friendly World.



Lighting of Lamp: Mr B Ashok, Chief Executive Officer, Ratnagiri Refinery & Petrochemicals Ltd (RRPCL); and Mr P. D. Samudra, CEO & Managing Director, Thyssenkrupp Industrial Solutions India Private Limited



Guest and delegates attending the Inaugural Session of Refining & Petrochemicals Conference

The refining capacity of India has grown quite significantly from 0.5 MMTPA at times of independence to the current capacity of 247 MMTPA or nearly 5 million barrels per day with the number of refineries growing from 1 to 23. At the turn of the millennium, India had the capacity of 113 MMTPA which has more than been doubled over the last 18 years with capacity additions by Public Sector Oil Companies, as well as by the Private Sector and the Joint Ventures.

Mr B Ashok

Chief Executive Officer,
Ratnagiri Refinery & Petrochemicals Ltd (RRPCL)



(L-R) Mr MS Patke, Executive Director, HSSE and Advance Liquid Biofuels, Bharat Petroleum Corporation Limited; Mr P. D. Samudra, CEO & Managing Director, Thyssenkrupp Industrial Solutions India Private Limited; Mr B Ashok, Chief Executive Officer, Ratnagiri Refinery & Petrochemicals Ltd (RRPCL); Mr Anil Bhatia, Vice President & Managing Director, Emerson Automation India; Mr Rajat Kishore, Managing Director & Vice President - Process Automation Hub, Schneider Electric Systems India Pvt Ltd; and Mr Yatinder Pal Singh Suri, Country Head & Managing Director, Outokumpu

"In today's world, Refining & Petrochemicals is getting more and more complex. Digitalisation is bringing the paradigm shift in operations and businesses the way they are conducted. It leads to a digital ecosystem and Digitalisation is going to help in supply chain, backend operations, and carrying out analytics which will ensure decision making at large extent which is indeed the need of the hour. I would say the conference theme 'Hydrocarbon Industry in Emerging Environment Friendly World & Digitalisation' is very much apt in the current scenario."

Mr M S Patke

Executive Director, HSSE and Advance Liquid Biofuels, BPCL

"Digitalisation and Environment-friendly are the two words which consider as the success of Hon'able PM on India's 'Digital India' and 'Make in India' initiatives. However, one more aspect Hon'able PM has started - National Mission of 'Corrosion Mitigation'. It aims to get rid of corrosion and highlights the importance of maintaining and controlling the processes and behaviour for a sustainable environment."

Mr Yatinder Pal Singh Suri

Country Manager & Managing Director, Outokumpu

"To make investments in refineries attractive, it is essential to opt for Integrated Complexes with downstream petrochemicals & polymers production. Similarly, India needs continuous investments in Petrochemicals & Polymers over next 10-20 years to meet the demand."

Mr P D Samudra

CEO & Managing Director,
Thyssenkrupp Industrial Solutions India Private Limited



Guest and delegates attending the Inaugural Session of Refining & Petrochemicals Conference

Session: Future Strategies of Refiners & Petrochemicals Manufacturers



(L-R) Mr M S Patke, Executive Director, HSSE and Advance Liquid Biofuels, Bharat Petroleum Corporation Limited; Mr P D Samudra, CEO & Managing Director, Thyssenkrupp Industrial Solutions India Private Limited; Mr Anand Makwana, Chief General Manager-Petrochemicals, GAIL (India) Ltd; and Mr Amar Kumar, Head Operations, Nayara Energy Ltd

“Digitalization has brought a lot of transformation in Refining & Petrochemicals industry. It brings advancements in process control technologies and optimization of operations from crude sourcing to fuel station.”

Mr Amar Kumar

Head Operations, Nayara Energy Ltd

“Waste to Wealth is an initiative aiming to reduce crude oil import as well as reduction in Greenhouse Gas emissions and hence friendlier environment. It has also the capability to generate employment and complements Swachh Bharat campaign by promoting waste conversion technologies & projects.”

Mr M S Patke

Executive Director, HSSE and Advance Liquid Biofuels, BPCL

“India has 6 aromatic complexes with a combined Xylene capacity of 4.45 million MT. Out of the total production of major petrochemicals, the production of polymers account for about 59.32 percent. Feedstock advantage and domestic demand are key drivers for new investment preferences as well in India.”

Mr Anand Makwana, Chief General Manager-Petrochemicals, GAIL (India) Limited



Audience interaction with the speakers during the session



Mr P D Samudra presenting memento to Mr Amar Kumar

Session: Licensors & Technology Providers: Creating Enabling Environment



(L-R) Mr Florian Kanzler, Business Development Manager, KVT Process Technology; Mr R K Mehra, Group Advisor, Bulk MRO Industrial Supply Pvt Ltd; Mr Santosh Tandel, General Manager - Process and TIS (SPC), Thyssenkrupp Industrial Solutions India Pvt Ltd; and Mr Mayank Nagar, Business Development Manager, Air Products and Chemicals Inc.

"It is a welcome approach of India Refiners that all Indian Refiners are running with their 100 per cent capacity. While China refiners are almost running 75 per cent of their capacity and all over world, refineries are no match with Indian refinery capacity. It is not only because of the local demand of Indian market, but also the growing demand of imports."

Mr R K Mehra

Group Advisor, Bulk MRO Industrial Supply Pvt Ltd

"By integrating heavy oil processing with gasification, refiners may be realised important synergies between hydrogen and gas. These include increase of crude and crude flexibility, enhance profitability through reduced capital and operating cost, lower environmental emission, and increase reliability and efficiency of utilities."

Mr Mayank Nagar

Business Development Manager,
Air Products and Chemicals Inc.

"To meet BS VI fuel norms, there is a mandate on refineries to reduce Sulphur and Aromatic so that the requirements can be made. To meeting the requirements, there is another criteria to process more heavier crude and more sour crude."

Mr Santosh Tandel

General Manager - Process and TIS (SPC), Thyssenkrupp Industrial Solutions India Private Limited

"Waste-to-wealth is a generic processing to convert waste of process industry into energy. Waste-to-energy (WtE) technologies are now widespread in various industries through diverting waste from landfill to generate low-emission electricity which are environmentally and economically sustainable."

Mr Florian Kanzler

Business Development Manager, KVT Process Technology



Audience interaction with the speakers during the session

Session: Next Gen Technologies for Smart Operations



(L-R) Mr Abhijit Dani, Vice President & BU Head, Critical Process Equipment & Skids Business, Praj Industries Limited; Mr Amit Patil, Senior Manager- EPC Sales, Kelvion India Private Limited; Mr Davendra Kumar, Director, Mumbai Operating Centre, TechnipFMC India; Mr Jay Jeong, Refinery Market Manager, Alfa Laval Lund AB; and Mr Jim Drago, Director- Applications Engineering, Garlock Sealing Technologies, USA

“Staying competitive in the refining business requires energy optimisation through energy recovery; even from low grade heat source. Preparations for diversified crude – crude mix with heavier and sourer crude and bottom of barrels technology to get the best out of crude are two other factors that improve profitability in refinery.”

Mr Jay Jeong

Refinery Market Manager, Alfa Laval Lund AB

“Cutting-edge digital technologies such as IoT, AI, Blockchain, Robotics Process Automation, etc will be the next-gen technologies for refineries to apply digital to the heart of their refining operations to enable new levels of productivity and efficiency, services, experiences, and ultimately, value.”

Mr Devendra Kumar

Director, Mumbai Operating Centre, TechnipFMC India

“The trend to modularization will be continuing in the coming years under the pressure of fluctuating oil prices and reduced availability of skilled workers, along with tighter environmental regulations.”

Mr Abhijit Dani

Vice President & BU Head, Critical Process Equipment & Skids Business, Praj Industries Limited



Mr Davendra Kumar presenting memento to Mr Jim Drago



Audience interaction with the speakers during the session

Panel Discussion: Hydrocarbon Industry in Emerging Environment Friendly World



(L-R) Mr K S Rao, Executive Director – Industrial Specialities Refinery, Petrochemicals – TPT & Coke Plants, Thyssenkrupp Industrial Solutions India Private Limited; Mr S Sriram, General Manager – Refineries Projects, Hindustan Petroleum Corporation Limited; Mr Raj Jhajharia, Technical Manager, Gulf Downstream Association (GDA); Dr Debesh Patra, Chief General Manager, In-Charge Planning, Bharat Petroleum Corporation Limited; and Dr A S Firoz, Chief Economist, Ministry of Steel, Government of India

“GCC countries plan to add 6,732 MW power from renewable sources, including 81 percent Solar Photovoltaic, 10 percent Concentrated Solar Panel, and 9 percent wind.”

Mr Raj Jhajharia

Technical Manager, Gulf Downstream Association (GDA)

“The rapid deployment and falling costs of clean energy technologies; in 2016, growth in solar PV capacity was larger than in any other form of generation; since 2010, costs of new solar PV have come down by 70 percent, wind by 25 percent, and battery costs by 40 percent.”

Dr Debesh Patra

Chief General Manager, In-Charge Planning
Bharat Petroleum Corporation Limited

“Environmentalism and sustainability are probably the two words that come to mind when we think of oil & gas industry. With that in mind, it shouldn't come as a surprise that modern oil companies recognize the need for a more sustainable and environment-friendly business model that will not only help the environment, but the industry as a whole.”

Dr A S Firoz

Chief Economist, Ministry of Steel, Government of India

“Green refinery concept depends on the degree of oil conversion, oil composition, the range and quality of products and other factors that reduce energy consumption.”

Mr S Sriram

General Manager – Refineries Projects,
Hindustan Petroleum Corporation Limited

“While India is going to be the largest manufacturer of refining products globally, the question is: are we really encouraging environment-friendly technologies for refineries as global par under the ‘Make-in-India’. There is a need of collaboration between technology suppliers and providers with innovative thoughts to create a refinery footprint in India.”

Mr K S Rao

Executive Director – Industrial Specialities Refinery,
Petrochemicals – TPT & Coke Plants
Thyssenkrupp Industrial Solutions India Private Limited



Dr A S Firoz presenting memento to Mr Raj Jhajharia

Industry Automation & Control World Expo 2019

Embracing Digitalization – Applying & Adapting to the Emerging Ecosystems



(L-R) Mr Jonas Berge, Senior Director, Applied Technology, Emerson Automation Solutions; Mr Dhruv Jain, CoE (Smart Manufacturing & Industry 4.0) Group IT, Aditya Birla Group; Mr Sharad Joshi, Head Industry 4.0, BASF Chemicals India Pvt Ltd; Mr Eberhard Klotz, Global Head of Industry 4.0 Campaign, FESTO; and Mr Benjamin Bruns, Product and Business Manager, Beckhoff Automation

Session: Applying & Adapting Industry 4.0

“Since last two decades industrialization or digitalization through Industry 4.0 is taking the shape – it is moving across the different segments, and different types of industries. Lot of developments are happening to the manufacturing industry. Lot of applications (as a part of digitalization) are being implanted and have already been implemented. When we talk about digitalization in manufacturing industry, it is going to touch the entire value chain of the manufacturing industry – be it supply chain management, be it digital business model where you are connected with customers, be it innovation, and last but not the least – the manufacturing itself where it is going to play a big role.”

Mr Sharad Joshi

Head Industry 4.0, BASF Chemicals India Pvt Ltd

“We need digital operational infrastructure to achieve operational excellence to curb loss of production days, maintenance cost, containment losses, energy cost, out of spec production, avoid any untoward incidents and violation of compliance norms”

Mr Jonas Berge

Senior Director, Applied Technology,
Emerson Automation Solutions

How to adapt technologies to make Industry 4.0 happen because at the end, it's about us. It's about you and me to drive that change, and to adapt change, and to be willing to adapt change. We see customers, who are the early adapters; we also see customers, who hesitate a bit for good business. Digitalization is not only about measuring, but it is also about adding value. It is also not about only being just connected, but to use the data in the right way; and not to distract us continuously.

Mr Benjamin Bruns

Product and Business Manager, Beckhoff Automation

“Before implementing any technology, one should ask themselves – what strategy my company is going to follow. If you have made a commercial study program perhaps – you may have come across the Porter's model of 70s talking about differentiation and cost-leadership options on a global-scope or on a regional-scope.”

Mr Eberhard Klotz

Global Head of Industry 4.0 Campaign, FESTO

“Digital technologies have very vital impact on people. How are we going to manage the change? This is the change management part of the People. It's about the people who are at the creation-side, at the operation-side, and at the users-side. So the option for manless-plant where there will be no people and only machines is still being explored. At the back, there are still being people who are manning those plants, managing those plants, and taking decisions on what direction to go at.”

Mr Dhruv Jain

CoE (Smart Manufacturing & Industry 4.0)
Group IT, Aditya Birla Group



Audience attending the session

Session: AI & Big Data



(L-R) Mr Huzefa Saiffee, Head - Technology and Solution group, Happiest Minds IT; Mr Subramanyam Kasibhat, Founder & CEO, Vegam; Mr Sanjeev Malhotra, CEO, NASSCOM; Mr Bhupendra Bhate, Chief Operating Officer and Whole-Time Director, L&T Technology Services; and Mr Sridhar Sampat, Sales & Marketing Automation, Digital Transformation, Partnerships, Sales & BD, Siemens.

“Any story of AI and digitization cannot be complete unless we talk about start-ups. Start-ups are not just the new company start-ups. They are also the important component in this change we are going through for many reasons.”

Mr Sanjeev Malhotra
CEO, NASSCOM

“Chemical industry has been one of the very oldest and traditional industry, while the technology we are talking about (AI and big data) are fairly new. So, how can the integration of these two happen? What we expect from it is: from the excellence point of view, it could be functional excellence, operational excellence, manufacturing excellence, and service excellence.”

Mr Bhupendra Bhate
Chief Operating Officer and Whole-Time Director
L&T Technology Services

“Technology is there to solve the problem today. But, what we need actually is for companies to create awareness. Customer will have a single pain-point. They will come back to us and say: here is my pain-point. And after hearing this, we jump on and try to solve the problem. And that’s where I see that we fail. Whatever solution I am trying to give to the customer, should solve his immediate pain-point, and subsequent pain-point.”

Mr Huzefa Saiffee
Head - Technology and Solution group, Happiest Minds IT



Mr Sanjeev Malhotra presenting memento to Mr Sridhar Sampat

“We are in the business of making manufacturing plants smarter. Our philosophy is how do we make them smarter; and for us, smartness is right decision at the right time using right insights and data at the right resource.”

Mr Subramanyam Kasibhat
Founder & CEO, Vegam

“The market is new, the solutions are new, the companies are new, and the customers are coming up with the new problem as well. That’s where the large organizations like Siemens will bring in the partner-ecosystem and solutions, so that it becomes easy for the users to select the vendor who most closely matches the requirement.”

Mr Sridhar Sampat
Sales & Marketing Automation, Digital Transformation,
Partnerships, Sales & BD, Siemens

Session: Driving the Business and Operational Outcomes



(L-R) Mr Soumyatattwa Kar, Asst Manager Automation, LPG HQ, BPCL; Mr Sriram Ayyar, Head of Project Controls & Digitalisation, Onshore Projects, L&T Hydrocarbon Engineering Limited; Mr Ravindra Deshmukh, General Manager (LPG), BPCL; Mr D S Vibhandik, GGM – Instrumentation, ONGC; and Mr Somavanshi Vinod, Sr. Manager Engineering Services-LPG, BPCL

“Digitalization of oil-field is a relative term and it varies from company to company. Ideal digital oil-field is where entire business processes from exploration, drilling, to dispensation of everything related to upstream, midstream, and downstream is working seamlessly in real time. But it's a distant dream and we are trying to go behind the dream. The challenges of implementation of Digital Oilfields are: What is it worth? What is it possible? How to build it? How do we run it?”

Mr D S Vibhandik

GGM – Instrumentation, ONGC

“Artificial intelligence enables machines to mimic human behavior. It is more like a discipline with theories and methods to build machines that think and act like humans. In machine learning, the machine learns based on experience using statistical methods”

Mr Soumyatattwa Kar

Asst Manager Automation, LPG HQ, BPCL

“Automation - a world-class technology has been introduced in LPG industry to achieve significant cost-saving through in-house development with man-less operation. The initial goal of introducing a fully autonomous system was to read the tare weight of the cylinder. Algorithms were developed and used specific to the application achieved at about 80 -87 percent accuracy level. Further trail was based on the AI approach. To implement the AI approach, massive image data sets were collected to train the algorithms. The good part is: system is self-learning. The system has been successfully installed and implemented at one of our plants.”

Mr Somavanshi Vinod

Sr. Manager Engineering Services-LPG, BPCL

“How do you digitalize the building of an asset? Digitalization has a different meaning basis where you are in the value chain and what you intend to achieve out of digitalization. There is a huge gap between digitalization in production of oil & gas, and the building of oil & gas assets, in terms of digitalization.”

Mr Sriram Ayyar

Head of Project Controls & Digitalisation,
Onshore Projects, L&T Hydrocarbon Engineering Limited



Mr Sriram Ayyar presenting memento to Mr Ravindra Deshmukh

PVF World Expo 2019

Embracing Digitalization – Applying & Adapting to the Emerging Ecosystems

In today's era of digital world, we are in an artificial environment created with software in such a way that the user accepts it as a real environment. In other words, reality is virtual and intelligence is artificial. Digitalization is the use of digital technologies to enhance efficiency, productivity, and profit of a business. It is the process of moving to a digital business through the forward steps of Digitization to Digitalization, and finally, to transformation. PVF World Conference 2019 – the pumps, valves, and fitting expo provided a platform to showcase the latest innovations in Pumps, Valves, and Fittings for critical applications in chemical process industry and further downstream applications. This expo was themed on embracing digitalization – applying & adapting to the emerging ecosystems



(L-R) Mr Swapnil S. Varadkar, Chief Manager ROU (Pipelines), HQ, Bharat Petroleum Corporation Ltd; Mr Sujal Shah, Managing Director, Sulzer India Ltd.; Mr Sameer Deshpande, Senior Manager, Aker Solutions; Mr Sandeep Agarwal, Senior VP and Head – IoT CoE, Happiest Minds Technologies Pvt Ltd; and Mr Mareesan Bose, Head – R&D, NPD, L&T Valves Limited

Session: Digitalization & Predictive Maintenance

“Over 50 percent of global assets in Oil & Gas are beyond the mid-point of their asset life cycle. The top three challenges the industry has been facing these days are: reliability, efficiency, and performance or throughput. A few serious implications of such constrictions are – high cost of availability, high energy bills, growing concern over carbon footprint, and loss in revenue due to capacity bottleneck. Digital technologies are recognized as adding value to oil and gas companies by helping cost reduction, faster and better decision making, and workforce productivity enhancement. It's time to implement a digital representation of a physical asset and introduction of a dynamic system comprising of physical, operational, and simulation data on an IoT cloud-based platform. This is to monitor, predict, and optimize physical assets through the deployment of analytical solutions. The ultimate goal is to promote a product life-cycle analysis by enriching the combination of different data-sets and engineering expertise.”

Mr Sujal Shah
Managing Director, Sulzer India Ltd.

“In continuous process industries, even though the cost of purchasing and commissioning new equipment is a small fraction of total life-cycle costs, reducing the customers' operating and energy consumption cost is exceptionally difficult with current tools. Operators need a new generation of solutions to achieve proactive outcomes. To establish a sustainable and reliable partnership, the four necessary steps are: embracing predictive maintenance practice, operating the equipment more effectively, minimizing the maintenance costs, and tangible increase in production. Such partnerships are practical, economical, and scalable. Moreover, such partnerships are augmented through specifically designed professional engineering services that help in turning data-derived decisions into real economic value. Such transitions need a shift from reactive to proactive in approach thereby providing a platform to impart sensible changes to operating and maintenance practices.”

Mr Kumar Ramasundaram
Director of Digital Product R&D, Flowserve Corporation, USA

“We derived intelligent performance solutions (IPS) through the integration of hardware and software. This is a platform agnostic solutions empowered with superior analytics, predictive power, differentiated service and repair, and best-in-class collaborations. In this solution, the data flows from the assets in the field up through our DAQ communications network into the Cloud where IPS insight portal performs the predictive analytics and machine learning and then provides the results in the web interface. Alert messages are also sent by email and text to the applicable person during event scenario.”

Mr Steven Zhao
R&D Engineering Manager - Condition Monitoring, Diagnostics, & Prognostics, Flowserve Corporation, USA

“Digitalization is a great arm to monitor, to predict, and to optimize the health of the assets by typically sensing in real time. We use PAM solution that predicts the potential problems and thus optimize the maintenance and operations decisions. It performs through a four stepped model – Sense, Assess, Decide, and Act. Sensing happens through wired, wireless, and virtual sensors; HART devices and historians also take active part in it. Post sensing, assessment happens through predictive analysis, condition monitoring, and trending. This helps to arrive at the decision making stage through the factorials viz preventive maintenance, predictive maintenance, run to failure, and reliability centered maintenance. Basis the decision, actions are being taken. We use enterprise asset management (EAM) and computerized maintenance management systems (CMMS) for this purpose”

Mr Unnikrishnan R

Sr. Business Development Manager, Process & Automation, Pepperl & Fuchs (India) Pvt Ltd

Session: Advancement in Pumps & Valves

“In today’s age of 4th industrial revolution, we are in the midst of a major transformation of how we produce products thanks to digitization of manufacturing, which has taken automation to the next level and enhanced it with smart & autonomous systems fueled by data and machine learning, self-learning system, and artificial intelligence. Introduction of Internet of Things (IoT) is a major revolution towards it which generates a system of interrelated computing devices, mechanical and digital machines, objects, animals, or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. In this context, it’s important to understand how critical the pumping solutions are. If we talk about total cost of ownership (TCO) principle in light of ice-berg model, the visible ice-berg tip is the buying price, while the under-water invisible parts are energy maintenance and downtime operation which contribute significantly. This total cost of ownership (TCO) can be reduced to a great extent through the utilization of inherent safe pump technology with hydrodynamic shaft seal.”

Mr Michael Wolf

Regional Director Asia-Pacific, BUNGARTZ Special, Centrifugal Pumps

“Today’s epoch is empowered by Industry 4.0 and is featured by network, big data, augmented reality, cloud computing, autonomous robots, additive manufacturing, internet of things (IoT), simulation, system integration, cyber security, etc. With this context, the valve market is expected to grow up till USD 90 bn during 2025, out of which USD 50 bn market will be shaped by IIoT. The advantages brought to the table by IIoT are: cheaper technology through sensors and processors, better infrastructure through cellular technology and mesh networks, inexpensive storage imparted by cloud data storage and cheap hardware costs, and big data analytics through third party analytics, Hadoop, etc. It is important to connect people, product, and data throughout the organization value chain to drive additional outcome through transforming the way we design, source, machine, weld, inspect, assemble, sell, and service without comprising on our IP / cyber security. Predictive maintenance will take predominance over reactive and preventive maintenance; because predictive maintenance will bring the benefits of lower unscheduled downtime, lower maintenance cost, and lower risk exposure.”

Mr Mareesan Bose

Head – R&D, NPD, L&T Valves Limited

Session: Case Studies – Implementation of Digitalization

“Pipelines are the integral part of almost all the industries. In context of oil and natural gas, it is reliable and fast-mode of transportation to meet the energy demand. It also imparts safety to transport petroleum products, economical in operation and maintenance, generates possibility for multiproduct transportation, and as a cherry on the cake – it does have minimal quality issue. However, there are instances evidencing the failure of hydrocarbon pipelines due to external corrosion, external interference, internal corrosion, ground movement, pipe defect, girth weld defect, seam weld defect, etc. Along with this, the challenging factorials for industry are confronting aging pipelines and managing new infrastructures, as well as complying statutory requirements. Therefore, it’s very important to monitor pipeline health through pipeline integrity management system to access and mitigate pipeline risk, thereby reducing both likelihood and consequences of incidents for safe and long-term pipeline operation. The five essential steps to address these challenges are: understanding the current situation, creating and implementing the standards that work, harnessing the power of data, making the data and analytics easy to access and measure, and last but not the least – not to tackle today’s challenges with yesterday’s technology.”

Mr Swapnil S Varadkar

Chief Manager ROU (Pipelines), HQ, Bharat Petroleum Corporation Ltd

“Digitalization is all about connecting the products to connecting the experiences. And in pursuit to this, the three verticals to be focused on are: agile and secure infrastructure, next-gen product and platform engineering, and enterprise digital transformation. Internet of Things bring value to the table through connected assets, connected operations & logistics, connected services, and connected experiences. It caters to manufacturing, energy & utilities, wearable, healthcare, security, smart homes, buildings & offices, retail, telco, etc through gateway management framework, developer engagement platform, application enablement, anomaly detection, etc. The major challenges we have seen are: aging & less technologically advance workforce, increasing energy prices, non-sustainable conventional operations, continuous drive to cost reduction, inventory visibility, operation in silos, etc. To address these issues, a common platform can be created to create a connected experience through intelli-factory, intelli-product, intelli-services, and intelli-track.”

Mr Sandeep Agarwal

Senior VP and Head – IoT CoE
Happiest Minds Technologies Private Limited

Student Outreach Program

Students of Engineering & Biotechnology interacted with the renowned industry leaders from India and overseas, entrepreneurs & innovators during two days of Icon Lecture organized as a part of Student Outreach Program during Chemtech World Expo 2019. 2150 students of engineering and biotechnology attended 4 day event in Mumbai and participated in Icon lectures, presented innovative ideas as posters, prototypes, and solutions to industry defined problems across the categories of Non-Conventional and Clean Sources of Energy, Automation and Trends in Chemical Technology, Environmental Solutions & Green Chemistry, Novel Engineering Materials, Corrosion Mitigation, and Industry defined problems on Waste Management & Wastewater Treatment.



Lighting of Lamp: Mr Adnan Ahmad, Vice Chairman & Managing Director, Clariant Chemicals India Ltd; Mr Hemant Shetty - CEO, Jasubhai Media Pvt Ltd; Mr Gurcharan Das - Author, Commentator, Public Intellectual inaugurating the Student Outreach Program 2019



Mr Adnan Ahmad, Vice Chairman & Managing Director, Clariant Chemicals India Ltd giving his keynote address at the Student Outreach Program 2019



SOP BioPharma speakers who graced the event: (Left to Right) Dr Amrita Joshi - Senior Manager Technical, BIRAC; Mr Adarsha K - CEO & Co-Founder, Ayu Devices Pvt Ltd; Ms Jilma Peruvangat - Founder & CEO, Kozhnosys



Q & A session at the Student Outreach Program 2019. Students interacted with the industry experts



Students at the Student Outreach Program listening to experts' speak about the various opportunities available in chemical and biotechnology industry sector.



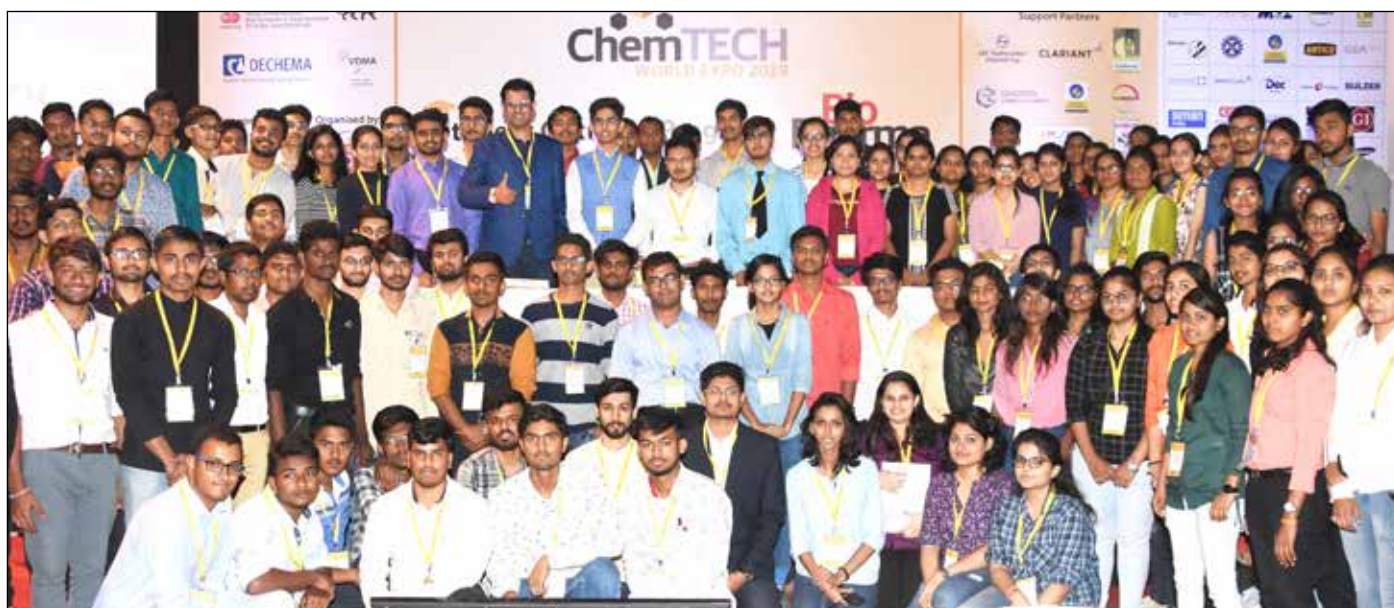
(L to R) H.E. Dr. Rashid Alleem, Chairman - Sharjah Electricity & Water Authority; Mrs T Rajeshwari, Additional Secretary, MoWR RD&GR, Govt with DVC, CWC; Mr Adnan Ahmad, Vice Chairman & Managing Director, Clariant Chemicals (India) Ltd; and Dr. Mahesh Gupta, Managing Director, Kent RO Systems



Mr Sanjay Joshi - SVP Customer Management-APAC & Country Manager-India at Aker Solution presenting a memento to Ms Roma Shah, CEO, Eastmen Chemicals



Q & A session at the Student Outreach Program 2019. Students interacted with the industry experts



Students pose with the young innovators & entrepreneurs: Mr Prateek Sharma, CEO & Director, Nanoclean Global Pvt Ltd & Mr Harshwardhan Zala, CEO & CTO, Aerobotics 7



(L to R) Ms Ann Ollestad, Consul General, Royal Norwegian Consulate General Mumbai; Ms Ashima Sushilchandran, Head Thane Plant, BASF Chemicals India Pvt Ltd; Ms Upasana Wadhvani, Process Engineer BASF Chemicals India Pvt Ltd; & Ms Roma Shah, CEO, Eastmen Chemicals.



Q & A session at the Student Outreach Program 2019. Students interacted with the industry experts



Q & A session at the Student Outreach Program 2019. Students interacted with the industry experts



Mr Hemant Shetty - CEO, Jasubhai Media Pvt Ltd and Mr Yatinder Pal Singh Suri Country Head, Outokumpu India with the winners of poster competition.



Students at the SOP 2019 Program.



The lead team of student volunteers for SOP & SOP Biotech 2019



At the registration desk



Q & A session at the Student Outreach Program 2019. Students interacted with the industry experts



Speakers of SOP Biotech 2019 with the volunteers

CHEMTECH Leadership & Excellence Awards 2019

CHEMTECH instituted Leadership & Excellence Awards in 1983 to recognise priceless contribution of business leaders, technocrats, scientists, academicians, and corporates across various spheres of Indian chemical processing industry. The award winners are decided by an independent jury comprising of eminent leaders from the industry who are then presented with CHEMTECH Leadership & Excellence Awards.



(L-R): Dr Raman Ramachandran, Head South Asia & CMD, BASF India Pvt Ltd; Dr R A Mashelkar, National Research Professor, Chairman, Award Committee, CHEMTECH Leadership & Excellence Awards 2019; and Mr Maulik Jasubhai, Chairman & Chief Executive - Jasubhai Group & Chemtech Foundation



Hall of Fame
Mr Gurcharan Das
Former CEO, P&G India.



Lifetime Achievement
Mr Dilip Shanghvi
Managing Director, Sun Pharmaceuticals Industries Ltd



Award Winners with Dr R A Mashelkar (FRS) - Chairman , CHEMTECH Leadership & Excellence Awards 2019



Business Leader of the Year - Water Management
Dr Mahesh Gupta
 Founder Chairman, Kent RO Systems



Business Leader of the Year - Specialty Chemicals
Mr Ramakant Tibrewal
 Chairman, Roha Dye Chem



Business Leader of the Year - Chemicals & Petrochemicals
Mr Prasad K Panicker
 Executive Director - Kochi Refinery
 Bharat Petroleum Corporation Ltd



Business Leader of the Year - Engineering Services
Mr Vinayak Deshpande
 Managing Director, TATA Projects Ltd



Business Leader of the Year - Plant & Machinery
Mr Sanjay Kirloskar
 Chairman, Kirloskar Brothers Ltd



Outstanding Achievement - R&D Excellence
Prof (Dr) A B Pandit (J.C. Bose Fellow)
 Institute of Chemical Technology



Outstanding Achievement by Start up
Mr Devang Shah and Mr Gaurang Shah
Directors, Bulk MRO Industrial Supply Pvt Ltd



Outstanding Contribution R&D
Excellence - Corporate - Praj Industries



Best State Initiative
State of Odisha



Dr R A Mashelkar greets H.E. Dr. Rashid Alleem



Dignitaries during Gala Awards Presentation Ceremony

ChemTECH World Expo 2019

Facts & Figures



612
EXHIBITORS



18962
VISITORS



18
COUNTRIES



85
SPEAKERS

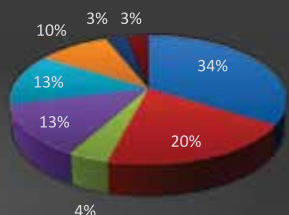


923
DELEGATES



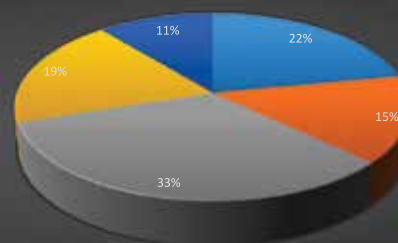
2150
STUDENTS

Exhibitor (As per Industry)



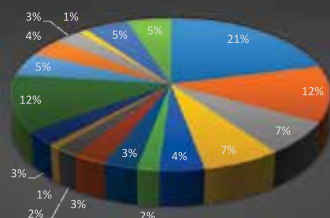
- Chemical Processing Equipment
- Pharma Processing Equipment
- Engineering Services
- Pumps Valves & Fittings
- Industry Automation & Process Control
- Environment & Water Technologies
- Refining & Petrochemicals
- Specialty Chemicals

Exhibitors (As per Company Size in mn USD)



- Upto 0.75 million USD
- 0.75- 1.5 million USD
- 1.5 - 7 million USD
- 7-35 million USD
- Above 35 million USD

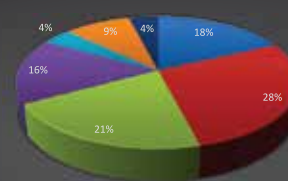
Visitor (As per Industry)



- Chemicals & Petrochemicals
- Specialty & Fine Chemicals
- Fertilizers & Agrochemicals

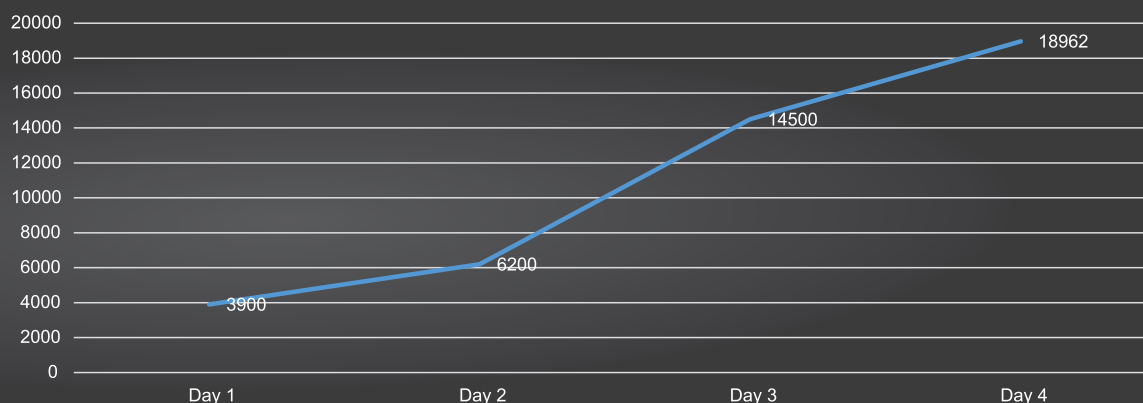
- Pharmaceuticals, Nutraceuticals, Food Processing
- Oil & Gas & Petroleum Refining
- Government Agencies
- Contract Research & Manufacturing
- FMCG, Paints & Coatings
- Paints & Coatings
- Cement, Paper & Pulp
- Pollution Control & HSE
- Equipment Manufacturers & Supplier
- Instrumentation, Process Control, Automation & IT services
- Engineering Consultancy
- Pumps & Valves
- Banking & Venture Capital
- Traders & Suppliers
- Miscellaneous

Visitor (As per Designation)



- Chairmen, MDs, CXOs, Directors, Presidents
- Managers for Project, Purchase, Operations, Technology, Manufacturing
- Heads of Plant Maintenance & Safety
- Quality Control & Assurance
- Scientists & Researchers
- Students
- Miscellaneous

Visitors Footfall





German Pavilion



BHS - SONTHOFEN GMBH



GERMANY-FEDERAL MINISTRY FOR ECONOMIC AFFAIRS AND ENERGY



WITZENMANN GMBH



EKATO INDIA PVT. LTD.



DR. PAUL LOHMANN GMBH KG



HERMETIC-PUMPEN GMBH



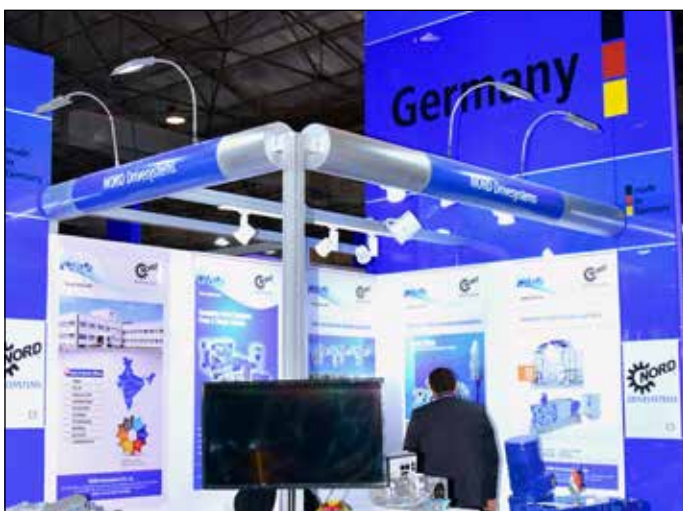
German Pavilion



IGEMA GMBH



LEWA GMBH



NORD DRIVESYSTEMS PVT LTD



PILLER BLOWERS & COMPRESSORS GMBH



URACA GMBH & CO. KG



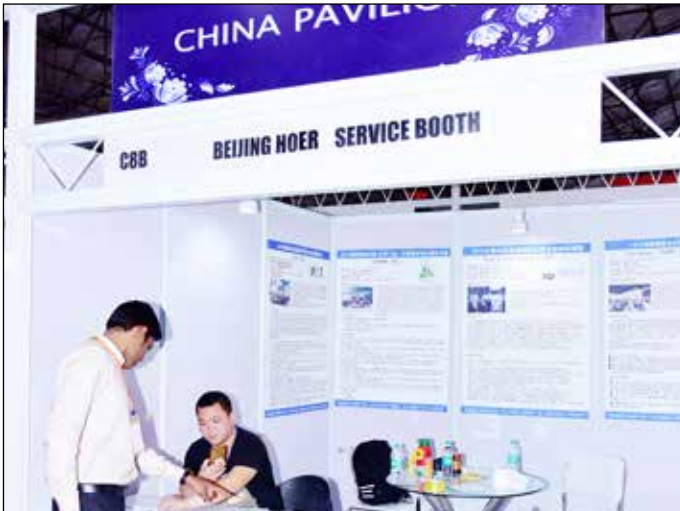
WITTE PUMPS & TECHNOLOGY GMBH



PAUL BUNGARTZ GMBH & CO. KG



China Pavilion



BEIJING HOER INTERNATIONAL FAIRS CO.,LTD



BSK FLUID TECHNOLOGY LLC.



CHANGZHOU FANQUN DRYING EQUIPMENT CO.,LTD



HANGZHOU ALKALI PUMP CO.,LTD



HANGZHOU JIEWEIKAI FILTRATION TECHNOLOGY CO.,LTD.



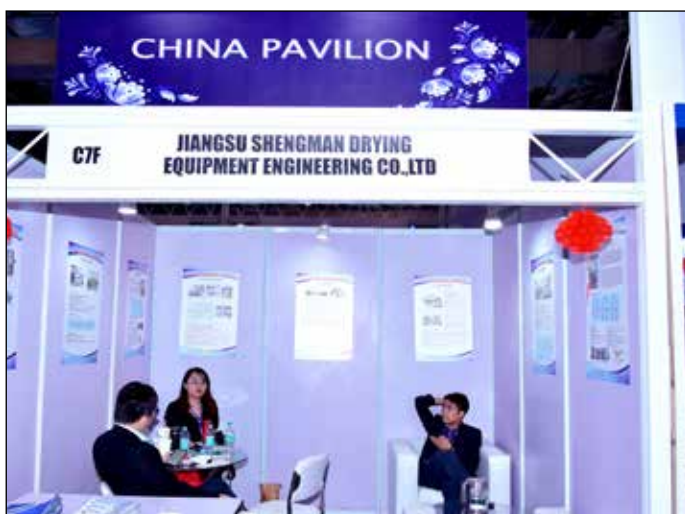
HEBEI LIANDA FILTER EQUIPMENT CO., LTD



SHIJIAZHUANG POROYAL TECHNOLOGIES CO.,LTD



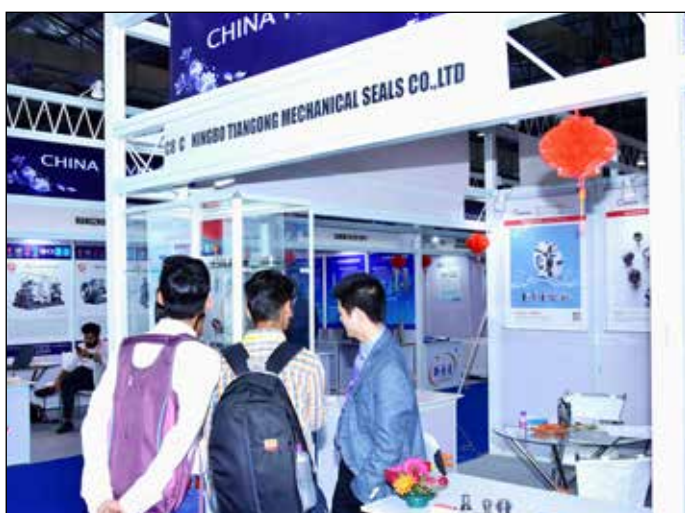
China Pavilion



JIANGSU SHENGMAN DRYING EQUIPMENT ENGINEERING CO., LTD



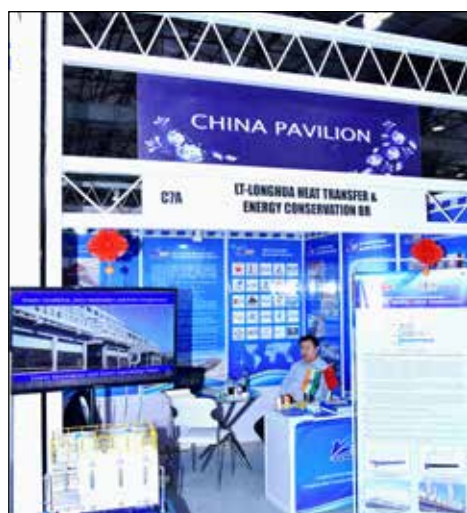
LINYI HONGYE CHEMICAL EQUIPMENT CO.,LTD



NINGBO TIANGONG MECHANICAL SEALS CO.,LTD



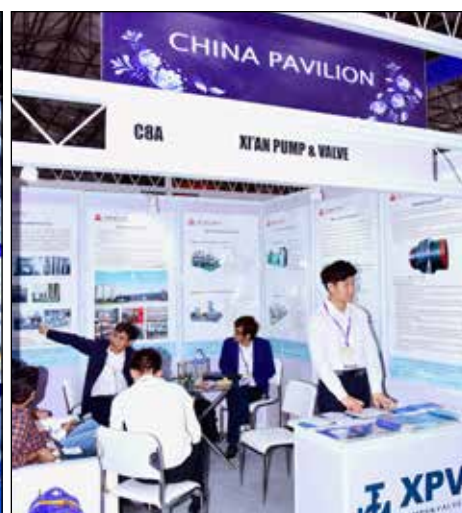
SHENZHEN POWER-TOMORROW ACTUATOR VALVE CO.,LTD



LONGHUA TECHNOLOGY GROUP (LUOYANG) CO.,LTD



WEIDOU LI VALVES CO.,LTD



XI'AN PUMP & VALVE PLANT CO.,LTD

PSU (PUBLIC SECTOR UNDERTAKING)



INDUSTRIAL PROMOTION AND INVESTMENT CORPORATION OF ODISHA LTD.



COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH



CENTRAL WATER COMMISSION



NATIONAL WATER DEVELOPMENT AUTHORITY



GIDC



MINISTRY OF EARTH SCIENCES



GOVERNMENT OF ANDHRA PRADESH



RASHTRIYA CHEMICALS AND FERTILIZERS LTD

INTERNATIONAL EXHIBITORS



XCEED PRIVATE LIMITED



KSI FILTERTECHNIK



BUENO TECHNOLOGY CO., LTD.



PURITY S.R.L.



ABO VALVE, S.R.O.



ZHEJIANG LINUO FLOW CONTROL TECHNOLOGY CO., LTD

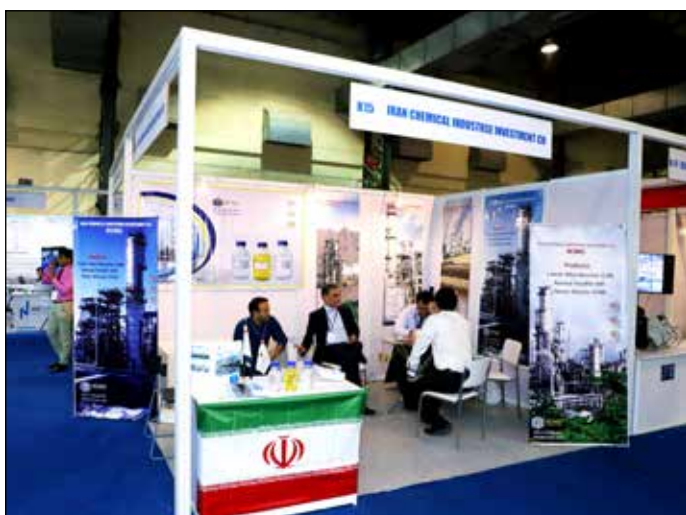
INTERNATIONAL EXHIBITORS



AISENBERG GmbH



WENZHOU HELI AUTOMATIC METER CO.LTD



IRAN CHEMICAL INDUSTRIES INVESTMENT CO.



JOINT STOCK COMPANY UNICHIMTEK



SODIMATE



SEWOON T&S CO., LTD.



MYANDE GROUP CO. LTD.



ALIAxis UTILITIES AND INDUSTRY PRIVATE LIMITED



FABEX ENGINEERING



KELVION INDIA PVT. LTD.



ALFA LAVAL INDIA PRIVATE LIMITED



DIPESH ENGINEERING WORKS



GARUDA ENGINEERING TECHNOLOGIES



SAMSON CONTROLS PVT LTD



RESISTOTECH INDUSTRIES PRIVATE LIMITED





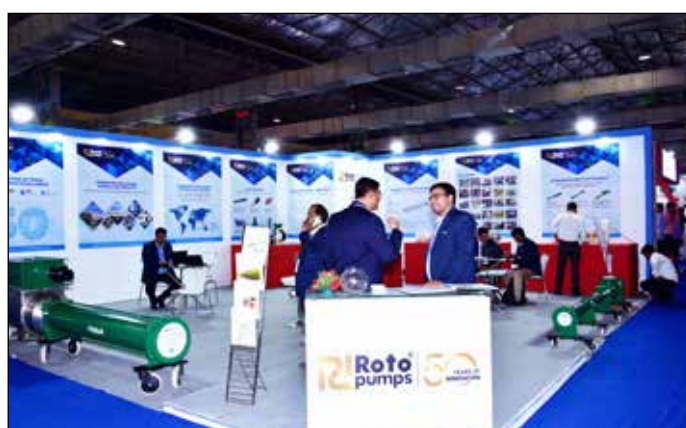
ADVANCED EXPERTISE TECHNOLOGIES PVT LTD



SCHUNK CARBON TECHNOLOGY



DOVER INDIA PVT LTD (OPW)



ROTO PUMPS LTD



HILTON METAL FORGING LTD.



KISHOR PUMPS PVT. LTD.



CHEMTROLS INDUSTRIES LIMITED



ANTICORROSIVE EQUIPMENT PVT LTD



SUKHRAS MACHINE PVT.LTD



KHOSLA PROFIL PVT LTD



INGERSOLL RAND TECHNOLOGIES & SERVICES PVT. LTD.



MICRO PNEUMATICS PVT LTD



EPP COMPOSITES PVT LTD



HRS PROCESS SYSTEMS LTD.



PEPPERL+FUCHS (INDIA) PRIVATE LIMITED



SULZER PUMPS INDIA LIMITED



WIKA INSTRUMENTS INDIA PVT LTD



DELVAL FLOW CONTROLS PVT LTD



GMM PFAUDLER LTD



BASF CHEMICALS INDIA PRIVATE LIMITED



UNIFLOW CONTROL INSTRUMENTS PRIVATE LIMITED



STALWART INTERNATIONAL PVT. LTD.



GARDNER DENVER ENGINEERED PRODUCTS INDIA PVT. LTD.



SAP FILTER PVT LTD





DUFLON INDUSTRIES PVT LTD



BRAY CONTROLS INDIA PRIVATE LIMITED



UNP POLYVALVES (INDIA) PVT LTD



DIPFLON ENGINEERING & CO



KRISHNAVENI CARBON PRODUCTS (P) LTD



ZIBO GLASSCOAT (INDIA) PVT LIMITED



CONSITE ENGINEERING CO LTD



ION EXCHANGE (INDIA) LIMITED





PRETECH AUTOMATION PVT LTD



ANDRITZ SEPARATION AND PUMP TECHNOLOGIES INDIA PVT LTD



ADOR WELDING LIMITED



BUSCH VACUUM INDIA PVT.LTD



GEA PROCESS ENGINEERING (INDIA) PVT LTD



HI-FAB ENGINEERS PVT. LTD



HYDRODYNE TEIKOKU (INDIA) PVT LTD



ITALVACUUM SRL







NIRMAL INDUSTRIAL CONTROLS PVT LTD



TEXEL-SEIKOW CHEMICAL ENGINEERING & MACHINERY LTD



ALFA PUMPS (P) LIMITED



AARTI INDUSTRIES LTD



DALAL ENGINEERING PVT. LTD.



KENT RO SYSTEMS LTD



SHACHI ENGINEERING PVT.LTD.



KLAUS UNION ENGINEERING INDIA PVT. LTD.



KINAM ENGINEERING INDUSTRIES



SEALMAX



ROECHLING ENGINEERING PLASTICS (INDIA) PVT.LTD



NAV MAHARASHTRA ENGINEERING SYNDICATE



SIMONA INDIA PVT LTD



LEISTER TECHNOLOGIES INDIA PRIVATE LIMITED



ABIRAMI ENGINEERING COMPANY



R. STAHL PRIVATE LIMITED



MAXIMA BOILERS PRIVATE LTD.



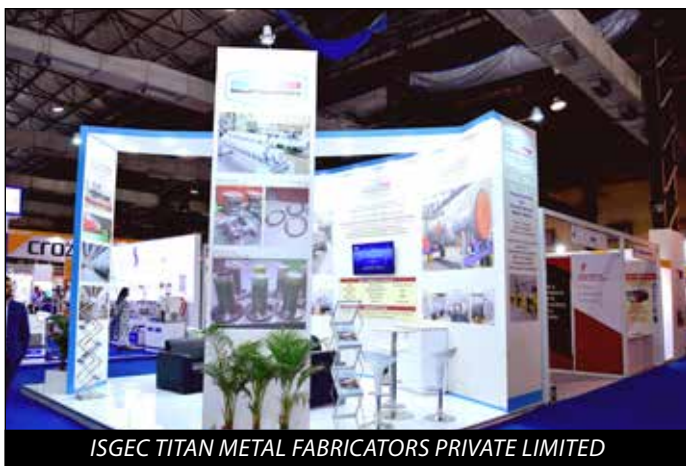
CHEMITEK EQUIPMENTS



ROXUL ROCKWOOL TECHNICAL INSULATION INDIA PVT. LTD.



RAVIKIRAN INDUSTRIES



ISGEC TITAN METAL FABRICATORS PRIVATE LIMITED



POLY PLAST CHEMI PLANTS (I) PVT LTD.



SANBI IMPEX PVT. LTD.



PETROFAC INTERNATIONAL LIMITED



REMI PROCESS PLANT AND MACHINERY LTD



SHREE GANESH PROCESS EQUIPMENTS PVT LTD



MASCOT SYSTEMS PVT. LTD.



TAPFLO FLUID HANDLING INDIA PRIVATE LIMITED



RASCHIG PMC INDIA PRIVATE LIMITED



BONFIGLIOLI TRANSMISSIONS PVT LTD



AERON COMPOSITE PVT. LTD.



ZABS ENGINEERS LLP



EVEREST BLOWER SYSTEMS PVT. LTD



MAHAVAS PRECISION CONTROLS PVT LTD



RAJ PROCESS EQUIPMENTS AND SYSTEMS PVT LTD



TEKMAN INDIA PVT LTD



BEDA FLOW SYSTEMS PVT. LTD.



ATR-ASAHI PROCESS SYSTEMS (P) LTD



PRIMA EQUIPMENT



UNIQUE DOSING SYSTEMS



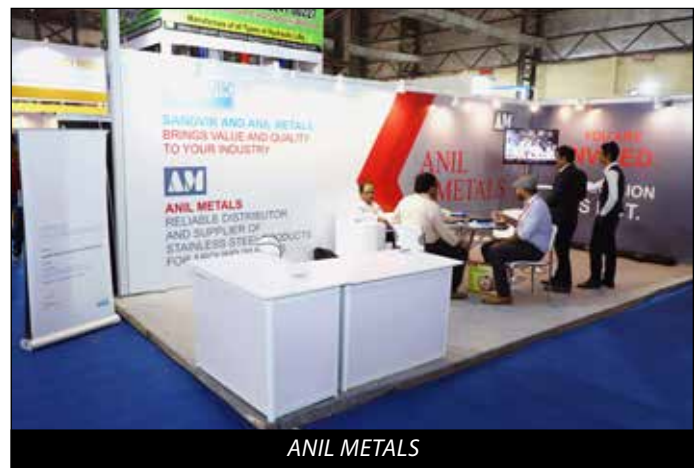
VENUS PIPES AND TUBES PVT LTD



DYNAMIC FORGE & FITTINGS (I) PVT. LTD.



HONEYWELL AUTOMATION INDIA LTD



ANIL METALS



POWER BUILD PVT. LTD.



NUTSHELL ENGINEERS



ARIES ALLOYS



LUBRIZOL ADVANCED MATERIALS INDIA PVT LTD



GRAPHITE INDIA LTD



AMARAMA ENGINEERS



WOODFIELD SYSTEMS INTERNATIONAL PVT LTD.



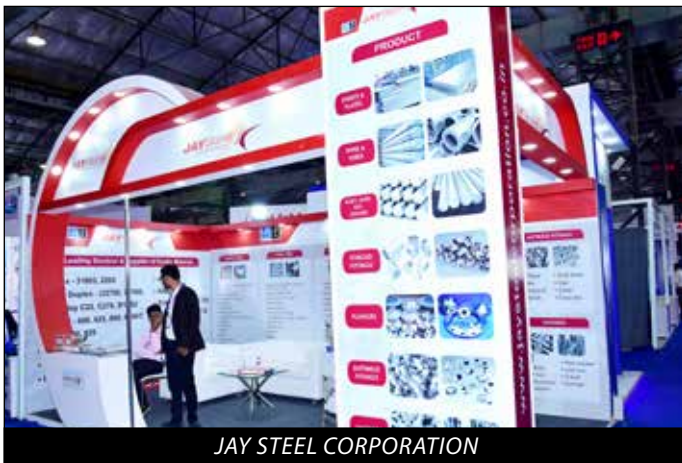
LARSEN & TOUBRO LTD



THERMOTECH ENGG & SERVICES PRIVATE LIMITED



SUKAN ENGINEERING PVT LTD



JAY STEEL CORPORATION



VIRAL ENTERPRISE / SAKKTHI POLYMERS



RAAJRATNA VENTURES LIMITED



EBARA MACHINERY INDIA PRIVATE LIMITED



PRINCE PIPES & FITTINGS LTD



INDUS CONTROL AUTOMATION PVT. LTD.



TATA STEEL SPECIAL ECONOMIC ZONE LTD



MONIBA ANAND ELECTRICALS PVT LTD



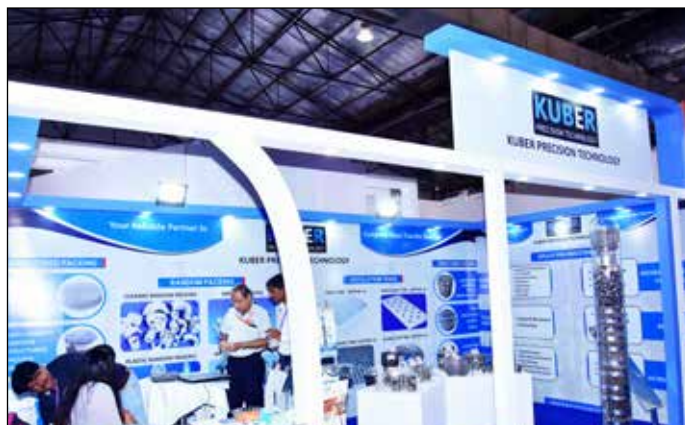
ELESA AND GANTER INDIA PVT LTD



S K LAB FURNITURE



DRM FILTER TECHNOLOGY PVT. LTD.



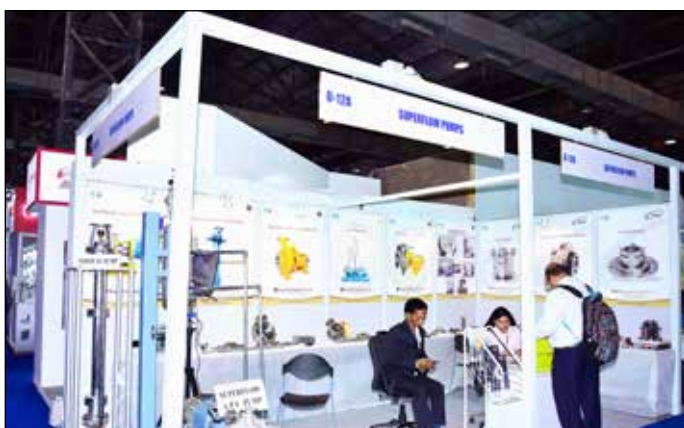
KUBER PRECISION TECHNOLOGY



ATV PROJECTS INDIA LTD.



KPL INTERNATIONAL LIMITED



SUPER MECHANICAL SEAL PVT. LTD.



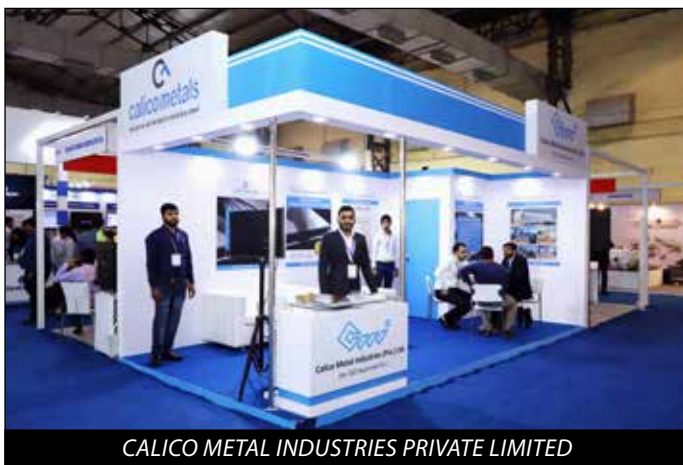
JRE PRIVATE LIMITED



DIVINE TUBES PVT. LTD.



PARTH POLY VALVES PVT LTD





ACE INDUSTRIES (INDIA) PVT. LTD



GROTH CONTINENTAL MANUFACTURING PVT. LTD.



CHEMICAL PROCESS PIPING PRIVATE LIMITED



ASAHI YUKIZAI CORPORATION



THORAT FILTRATION PVT. LTD.



ASTRAL POLY TECHNIK LIMITED



AIRA EURO AUTOMATION PVT LTD



FUNKE HEATEX ENGINEERING INDIA PVT. LTD.



FLOWSERVE INDIA CONTROLS PVT LTD



TEADIT PACKING & GASKETS PVT. LTD.



GRASIM INDUSTRIES LIMITED (CHEMICAL DIVISION)



BULK MRO INDUSTRIAL SUPPLY PVT. LTD.



SCHWING STETTER (INDIA) PRIVATE LIMITED



SKY ENGINEERING AND CLEANING SYSTEMS



JET FIBRE INDIA PRIVATE LIMITED



J D CONTROLS



NEW AGE TECHSCI RESEARCH PVT. LTD.



SUPER SCIENTIFIC WORKS PVT.LTD



GRAPHITE TECHNOLOGY LTD



VIN-TEC ENGINEERS



DINESH PLASTIC PRODUCTS



TECHNIP INDIA LTD.



R+B FILTER MANUFACTURING ENTERPRISES PVT LTD



HHV PUMPS PRIVATE LIMITED



CHEMO FAB INDUSTRIES LLP



CITIZEN INDUSTRIES



GUARNIFLON INDIA PVT LTD



PPI SYSTEMS



TWIN SEAL TECH PVT. LTD.



OSTECH FLUID TECHNOLOGIES



THERMOTEC ENGINEERING (INDIA) LLP



TIA TECHNOLOGY (I) PVT LTD







BLAST CARBOBLOCKS PVT LTD



PADMATECH INDUSTRIES PVT. LTD.



ABLAZE GLASS WORKS PVT. LTD.



ADVANCED FITTINGS PVT LTD



LABULTIMA PROCESS TECHNOLOGIES PVT. LTD.



DOVER INDIA PRIVATE LIMITED



G M ENGINEERING PVT. LTD.



EMERSON AUTOMATION SOLUTIONS



AESSEAL INDIA PVT. LTD.



FLOWTECH



MASCOT DYNAMICS PRIVATE LIMITED



ATOMIC VACUUM COMPANY (EXPORTS)



ACMEFIL ENGINEERING SYSTEMS PVT. LTD



DESCOTE S.A.S



FLUID CONTROLS PVT LTD



R. K. DUTT CONCERNS



Paint & Surface Coating

World Expo 2021

24-27 February 2021

Bombay Exhibition Center, Goregaon (East), Mumbai, India

Major Highlights

- Paint & Surface Coating World Expo & Conferences will be a comprehensive platform servicing the needs of every facade of the Paints, Coating & Surface Engineering industry right from raw materials, formulation, application, technology, finishing, quality assurance, recycling, disposal and end consumer.
- Innovation Pavilion showcasing latest developments by various Paint and Coating manufacturers, Raw Material manufacturers, Equipment and Tools manufacturers, Testing Equipments and Labs services etc.
- Green Pavilion showcasing Eco Friendly and Sustainable Paints & Coating Solutions.
- Emerging Technology Pavilion showcasing New Technology which will shape the future of Paint & Coating Industry in next decade.
- Pavilion on New Applications in Coating Industry & Surface Engineering.
- Product Presentation Lounge & Demo Zones.
- Two Days Technical Conference on Surface Engineering, Paints & Coating Industry.
- Over 20,000 Buyers from user Industry .

CONNECTING EXHIBITORS & THEIR BUYERS

Comprehensive platform servicing the needs of every facade of the Paints, Coating & Surface Engineering industry.

EXHIBITORS PROFILE

- Paint manufacturers and formulators for liquid and powder applications
- Manufacturers and distributors of paint raw materials for paints: Pigments, Additives, Resins, Solvents, Monomers, Bulk Chemicals & Intermediates, Specialty Chemicals, Stainers, Pigments Dispersions & Machine Colorants.
- Manufacturers of Pre-treatment and Corrosion prevention chemicals
- Manufacturers of Spray-guns and other paint application equipment
- Paint booths for OEM applications and quality assurance systems
- Decorative Paint Manufacturers
- Decorative Paint Applications Tools and Devices
- Paint Mixing, Conveying and Handling Systems
- Colour Matching Tools
- Dispensing Machines and Systems
- Manufacturing & Capital Equipment
- Analytical Instruments
- Testing Equipment
- Testing and Research Services

BUYERS PROFILE

- | | | |
|--|---|---|
| → Aerospace | → Chemical & Pharma | → Oil & Gas |
| → Architectural | → Construction Equipment & Heavy Duty Equipment | → Paint & Coating Manufacturers, Dealers & Distributors |
| → Agriculture Industry | → Food & Beverage | → Packaging |
| → Automotive OEM | → General Engineering | → Power & Thermal |
| → Automotive components | → Marine Coating | → Textile & Paper |
| → Automotive Refinish | → Metal Working | → Research & Environment Technology |
| → Building Segment – Residential, Commercial, Industrial | → Measuring & Test Technology | → Wood Coating |

For more details:

Jasubhai Media Pvt Ltd

Taj Building, 3rd Floor, 210, Dr D N Road, Fort, Mumbai – 400 001, INDIA.

Tel: +91-22-4037 3636, Fax: +91-22-4037 3635, Email: sales@jasubhai.com

• Ahmedabad - 07238038888 • Bangalore - 09444728035 • Chennai - 09176963737 • Delhi - 09818148551 • Pune - 09822209183 • Vadodara - 09898061072

Support Partner

Organised by:



Jasubhai
MEDIA



30th International Exhibition and Conferences

24-27 February 2021

Venue: Bombay Exhibition Center, Goregaon (East), Mumbai, India

Concurrent Events:



Scope for CHEMTECH + Biopharma World Expo 2021

- Refining & Petrochemical products
- Biotechnologies
- Chemical & Pharma Processing Equipment
- EPC Services
- Automation Technologies
- Environment Solutions
- Water & Wastewater Treatment Technologies
- Pumps & Valves
- Pipes & Fittings
- Packaging Solutions
- Material Handling Systems
- Analytical & Laboratory Technologies
- Consulting Services
- Equipment Fabricators

Scope for Specialty Chemicals World Expo 2021

- Agrochemicals Intermediates
- Adhesives & Sealants
- Agrochemicals & Crop Protection
- Bulk Drugs & Intermediates
- Enzymes
- Colorants, Dyes & Pigments
- Cosmetics & Personal Care Ingredients
- Hygiene & Cleaning Chemicals
- Laboratory Chemicals
- Surfactants
- Water Treatment Chemicals
- Catalysts
- Electronic Chemicals
- Flavours & Fragrances
- Contract Manufacturers

FACTS & FIGURES - CHEMTECH WORLD EXPO 2019

612 EXHIBITORS	18962 VISITORS	18 COUNTRIES	85 SPEAKERS	923 DELEGATES	2150 STUDENTS
--------------------------	--------------------------	------------------------	-----------------------	-------------------------	-------------------------

Benefits for Exhibitors

- ✓ **Business Interactions:** Meet over 800 exhibitors from across the entire value chain of the chemical process industry
- ✓ **Strategic alliances:** Interact with the entire supply network across the Chemical, Pharma & Biotechnology sectors from a single location
- ✓ **Market analysis:** Evaluate the Indian consumption market and get feedback with over 25,000 visitors walk-ins over 4 days



Organised by:

Jasubhai Media Pvt Ltd

Taj Building, 3rd Floor, 210, Dr. D N Road, Fort, Mumbai – 400 001, INDIA.

Tel: +91-22-4037 3636 | Fax: +91-22-4037 3635 | Email: sales@jasubhai.com

www.chemtech-online.com

Supported by



CONNECT TO THE NETWORK

 <p>Chemicals & Process Industries Holistic platform for latest trends in chemical processing equipment, technology & services for the downstream chemical industry.</p>	 <p>Engineering Procurement & Construction Connects the project owners from oil & gas, chemicals processing, power & infrastructure industries with the technology & services providers for Engineering, Procurement & Construction and allied sectors.</p>	 <p>Specialty Chemical Engages the manufactures & suppliers of specialty chemicals, intermediates & formulations with multiple end user industries.</p>
 <p>Biotech & Pharma Provides an opportunity for manufacturers of pharma products, processing equipment & allied services providing sectors.</p>	 <p>Lab Analytix Cutting edge lab technologies, analytical instruments & advanced automation for R&D, quality control & quality assurance across industries & research institutions.</p>	 <p>Water Management Utilities, technologies & advanced automation to manage water & waste water for multitude of applications across Industrial & Municipal infrastructures.</p>
 <p>Industry Automation & Control Process & Factory automation, Industrial electronics & Instrumentation for applications across up – mid & downstream of hydrocarbon & chemical processing industries.</p>	 <p>Pumps, Valves & Fitting Pumps Valves & Fittings to meet needs for fluid management across up – mid & downstream of hydrocarbon & chemical processing industries.</p>	 <p>Paint & Surface Coating An International Exhibition and Conference connecting the Buyers, Sellers & Influencers in the Paints, Coatings, Surface Engineering Industry</p>
 <p>Student Outreach Program Student Outreach Program: Student Industry interaction platform to develop future leaders for the chemical industry. SOP Biotech: Mentorship platform for students aspiring to join various industries as biotechnology professionals in the field of R&D and pursue entrepreneurial journeys.</p>	 <p>Oil & Gas One stop for equipment, technology & services for E&P, hydrocarbon processing, transportation, storage & logistics for the hydrocarbon value chain.</p>	 <p>Natural Gas & LNG Valuechain Complete solutions for Natural Gas exploration, production, gas processing, LNG supply chain and infrastructure for transmission & distribution.</p>
 <p>Refining & Petrochemicals Connects the refiners and downstream petrochemicals manufacturers through common platform.</p>	 <p>Power World Expo Total solutions and technology innovation for application in power generation, transmission & distribution across electricity value chain.</p>	 <p>Nuclear Energy Equipment, technologies & services for nuclear power sector & supply chain.</p>
 <p>Inland Waterways Ports & Logistics Enabler for development of national waterways, rail-road-ports connectivity, warehousing & logistics.</p>	 <p>Shipping, Marine & Ports Maritime show for complete technology, equipment & services for ship building, repair, breaking, port development & management, manpower training & recruitment.</p>	 <p>Infrastructure & Design Melting pot for innovative ideas in architecture and Design for professionals from global fraternity of architects & designers.</p>

Jasubhai Media Pvt. Ltd.

Taj Building, 3rd Floor, 210, Dr. D N Road, Fort, Mumbai – 400 001, INDIA. **Tel:** +91-22-4037 3636, **Fax:** +91-22-4037 3635, **Email:** sales@jasubhai.com

Ahmedabad
64/A, Phase 1,
GIDC Indl Estate Vatva,
Ahmedabad 382 445
Tel: +91-79-25831042
Fax: +91-79-25831825
E-mail: sales@jasubhai.com

Chennai
1-A, Jhaver Plaza, 1st Flr.
Nungambakkam High Road
Chennai 600 034.
Tel: +91-44-43123936
Email: princebel_m@jasubhai.com

New Delhi
803, Chiranjiv Tower, 43, Nehru Place,
New Delhi - 110 019, India.
Tel: 91-11-4674 5555,
Fax: 91-11-2642 7404,
Email: pr_singh@jasubhai.com

Pune
Suite 201, White House, 1482
Sadashiv Peth Tilak Road, Pune 411 030
Tel: +91-20-24494572
Telefax: +91-20-24482059
E-mail: amit_bhalarao@jasubhai.com

Vadodara
202 Concorde Bldg
Above Times of India Office
R C Dutt Road, Alkapuri
Vadodara - 390 007
Tel: +91-265-2337187/189
E-mail: sales@jasubhai.com