



## AK Tyagi, CMD, Nuberg Engg: EPC industry is calibrating to new normal

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*Immense opportunities for growth will emerge in 2021 for the EPC industry globally and India, predicts AK Tyagi, Chairman & Managing Director of one of the leading homegrown players in project engineering and turnkey contracting, Nuberg Engineering Ltd. As part of its efforts to enhance its offerings in green products manufacturing, the Noida-based company is presently building the country's first commercial-scale hydrogen purification, compression, storage and dispensing facility for hydrogen fuel cell-based vehicles.*

### What are some of the key challenges faced by an engineering, procurement, construction (EPC) provider like you in the emerging new normal?

The Covid-19 pandemic has brought in unprecedented challenges to the EPC industry globally leading to it being calibrated to a new normal. These include the move towards local production of essential products, realignment of supply chains and remote management. These are juxtaposed with fundamental shifts, which were already underway, i.e., increasing and aging world population-based change in demand, the transformation of oil-based economies, enhanced digitalisation and the increased need for environmental sustainability.

Most of these shifts towards new normal are opportunities for the EPC-lump sum turnkey (LSTK) industry and we look forward to capitalising on them. Operationally, for the global EPC-LSTK industry there are now more stringent and dynamically changing local laws and health initiatives in project countries that need rapid response and fore-planning. Our global experience of operating in more than 30 countries has prepared us with all processes and capabilities to take on these challenges.



How do you see cutting-edge new technologies help tide over some of these issues?

Technologies and digitalisation have been the foundation of a global effort in every sector in dealing with the pandemic-induced changes and EPC-LSTK is no different. What is noteworthy is that EPC being the factory of factories operates at scales that are larger in magnitude.

We at Nuberg EPC are fast incorporating the latest in digital technologies and work processes. This includes the internet of things (IoT)-enabled monitoring and maintenance of projects and commissioned plants. We are also incorporating big data for smarter design and inspections, artificial intelligence (AI)-driven intelligent automation, augmented reality (AR) and virtual reality (VR) for superior safety, communication and training, and 3D software for accuracy in delivery and reduction in commissioning time.

Automation is enabling the development of the detailed initial design that is more than 95% fit as the final design, thus, enabling real-world estimation of engineering resources, material, and labour. Such automation also helps us to focus on construction execution and related supply chain at an earlier stage to compress timelines and costs. Nuberg EPC is also moving towards skid-mounted plants that drastically compress the construction time and reduce manpower requirements at project sites, especially for smaller units.



**In the last year, there has also been a lot of renewed discussion around the theme of cost optimisation. How do you address that aspect in your projects?**

Digitalisation, automation, skid technologies referred to earlier are serious measures creating all-around cost efficiencies. Earlier, there may have been some inertia around the capital cost of such change, but the pandemic has forced rapid strides in the shift. Overall, productivity enhancement in the EPC sector in the last two decades had been minor compared to between 50-70% productivity growth for the overall economy, as per McKinsey. We had already been offering significant cost efficiency to clients and continue to do so with our R&D and backend integration in EPC, which results in significant margin enhancement and also higher demand.

Our world-class R&D setup in Sweden in conjunction with our world-class manufacturing facility in Gujarat has resulted in significant cost efficiencies for our clients. Our global leadership in EPC for hydrogen peroxide and calcium chloride and the second position for caustic soda/chloro-alkali plants are good examples.

**As a company that has delivered over 60 turnkey projects across 32 plus countries, how can Indian EPC providers successfully combine the mantra of 'Make in India' with 'Make for the World' to compete with the leading global players in the domain?**

The success mantra for us has been the clear focus on globally leading processes and adherence to strict quality control. We have maintained a 100% accident-free record to date while delivering projects around the world. With 25 years of investment in the EPC-LSTK sector, Nuberg EPC has developed the habit of setting and improving benchmarks in the industry. Our vision is to continually add value to our clients by offering large-scale industrial projects in a very cost-effective manner and with the best-in-class quality.

We have also not let our size at any point of the journey be a hindrance in taking up complex projects as our recruitment has focussed on the best engineering talent. Today we have more than 300 engineers with 300,000-man-hours of skills available. This is towards the higher side of engineering strength vs revenue ratio for the EPC industry.

Our world-class manufacturing facility in Gujarat is a very good example of our 'Make in India for the World' capability. We thus have quite a few global clients in diverse sectors. We have been working with some of the leading customers which even include Al Ghaith Industries (Abu Dhabi), Inovyn (Sweden), FLUODER (Paraguay), ADDAR (Saudi Arabia), Gulf Chlorine (Qatar), Union Chlorine (Abu Dhabi), DOSTEL (Turkey), Samuda Chemical Complex (Bangladesh), AGROCHEM (Egypt), SARL SASKO (Algeria), AMASSAS Co.

(Ethiopia), Aditya Birla Chemicals (India), SCE Chemicals (Morocco), NCIC (Egypt), TCI Sanmar

(Egypt) and Oman Chlorine (Oman). During the pandemic, we won the project for 500TPD Sprea Misr Sulphuric Acid Plant in Ramadan, Egypt.



**How were you able to imbibe global best practices in the areas of nuclear and defence plants? Especially since both are highly specialised areas requiring manpower with an enhanced level of skills.**

Nuberg EPC has built her expertise and edge in nuclear and defence with a track record of successfully executed projects across diverse requirements. These include DENSAC plant designed to accept a mixed feed of TNT and tetryl waste, manufacturing equipment for explosives and propellant plants, special solvent extraction plant for the nuclear and defence industries with the most up to date way of recovery of oil from oil-bearing materials at very low temperature under vacuum and manufacturing entire plant and machinery for the production of single, double and triple-base propellants. We, thus, already have highly skilled and talented engineers who are domain experts and are helping the Indian government towards the goal of being *aatmanirbhar* (self-reliant) in defence.

**While giving a high rating to Finance Minister Nirmala Sitharaman's budget proposals for the current fiscal in February, you also predicted double-digit growth in India's manufacturing sector. In this backdrop, what do you see as some of the potential areas of growth for Nuberg EPC within the country?**

There is a requirement for EPC in all dimensions of the chemical industry in the country as our usage of chemicals derived end-products is rising rapidly. Gujarat has a significant share of Indian chemical manufacturing capacity and the South has manufacturing capacity for bulk drugs and pharma. There is scope for chemical infrastructure in many other states of India. 'Make in India' across sectors and the need to become increasingly self-sufficient in defence will create urgency for corresponding chemicals infrastructure. Manufacturing polyethylene and PVC products too will require raw materials. Hence, enormous potential exists in India to develop the chloro-chemicals industry, with a focus on inorganic chemicals like trichloroethylene, poly aluminium chloride and other chlorine-based water treatment chemicals.

The Union Minister of Chemicals & Fertilisers, DV Sadananda Gowda recently said that an investment of Rs 8 trillion was anticipated in the Indian chemicals and petrochemicals industry by 2025. The 12 Production Linked Incentive (PLI) scheme launched for different sectors will also directly or indirectly benefit the chemicals sector.

With an eye on future evolution, we at Nuberg EPC are strengthening our offerings in green products manufacturing as a new expertise area. To promote energy-efficient and environment-friendly hydrogen fuel cell-based vehicles in the country, the Ministry of Road Transport and Highways last year notified the standards for safety evaluation of hydrogen vehicles through an amendment to the Central Motor Vehicles Rules. Finance Minister Nirmala Sitharaman additionally announced the introduction of the National Hydrogen Energy Mission in her 2021 budget speech.

Nuberg EPC is building India's first commercial-scale hydrogen purification (fuel cell grade), compression, storage and dispensing facility. It involves the generation of ultra-pure hydrogen and its storage at extremely high pressure.

We at Nuberg EPC serve chemicals & fertilisers, hydrocarbon, steel, energy & infrastructure, nuclear and defence industries globally and in India. We now see the Indian market as becoming attractive for two reasons. Firstly, the government's prioritisation of our core expertise areas and, secondly, greater acceptability amongst project owners towards seeking an EPC-LSTK solution which is our core strength.

**What are your medium and long-term outlook for the EPC industry in India and the world?**

We believe that the opportunities in the EPC sector are huge and 2021 looks to be the landmark year for the sector. Some key chemicals that will be in demand and need EPC support are sulphuric acid, fertilisers, sulphur, lime and chlor-alkali. The Gulf Cooperation Council (GCC) countries are

looking to transform their economies from oil-dependent industries to non-oil-dependent industries by diversifying into various industries including the manufacturing of specialty chemicals. This has resulted in a spree of new projects across the entire region.



There is also increased focus on exploring the usage of hydrogen as a clean fuel in existing and new projects, especially as it is also the feedstock for green chemicals. For Nuberg EPC, hydrogen (green, grey and blue), 2G & 3G ethanol, water electrolysis, water-soluble fertilisers and next-generation nutrients are in focus currently.

**-Interview by Manish Pant**

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