

...Responses by – Mr A K Tyagi, Founder, Chairman & Managing Director, Nuberg Engineering Ltd

Published on December 19, 2023



Mr. AK Tyagi, the Founder, Chairman and Managing Director of Nuberg Engineering Ltd., a leading global EPC company in India. He founded and has led Nuberg EPC to become a global player in the EPC market and delivered more than over 60 turnkey projects across 32+ countries in past 25 years. The company is one of the fastest growing EPC companies in chlor alkali / caustic soda, hydrogen peroxide, sulfuric acid, and calcium chloride, serving the chemicals & fertilizers, hydrocarbon, steel, and nuclear & defence industries worldwide. In this conversation Mr Tyagi shares his vision for the organisation and his success mantra.

Nuberg Engineering has a strong global presence. Can you share some key milestones and achievements that have contributed to the company's growth and success on an international scale?

Nuberg Engineering's transformative journey spans over 25 years, evolving from international ventures to a focused expansion in India, with a strategic emphasis on **Green Energy, Petrochemicals, and Fertilizers**. Establishing itself as a global leader in the EPC industry, Nuberg has excelled in chemical plant solutions across diverse sectors. Notable achievements include becoming the **World's No.1 EPC Company** for

Calcium Chloride and Hydrogen Peroxide and the **World's No.2 EPC Company** for Chlor-Alkali. Our Heavy Fabrication Division, based in Jhagadia, Gujarat, excels in manufacturing process equipment for diverse industries.

With a 115,000 sqm facility and certifications including ASME U, U2, S, NBR Stamp, ISO, PESO, IBR, and EIL, we serve esteemed clients globally, ensuring best-in-class quality, on-time delivery, and cost-effectiveness. Our expertise spans chemicals and fertilizers, hydrocarbons, green energy, steel, and the nuclear & defence industries.

Nuberg's commitment to innovation is evident through the integration of advanced technologies like IoT, AI, and digital twin systems into projects, enhancing efficiency and sustainability. Notably, our research and development facility in Sweden has led to in-house process patent technology for Hydrogen Peroxide and proprietary technology for Sulphuric Acid, applied in large-scale industrial plants worldwide.

Our unwavering dedication to quality and timely project delivery across diverse sectors, including Chemicals & Fertilizers, Nuclear & Defence, Hydrocarbons, and Steel, has solidified our reputation. Winning the 'EPC Company of the Year' award in 2022 further validates our commitment and excellence in the industry. Additionally, the recent achievement of an EPC project in the Czech Republic underscores our continuous expansion and excellence in the international arena, emphasizing our strong global presence and adaptability to market dynamics.

As we transition our focus to India, aligning with the "Make in India" vision, our emphasis on **Green energy** projects is evident. Awards from **IOCL** and achievements like India's first commercial-scale hydrogen compressor and fuelling station reflect our commitment to sustainable energy solutions. Contracts for critical projects like the **NPK Fertilizer Plant** align with India's Renewable Energy Mission and low-carbon energy aspirations. Nuberg Engineering's growth and success on an international scale are a testament to its ability to navigate evolving opportunities in the EPC sector and maintain a leading position in the industry.

What growth do you foresee for Indian EPC companies in present times and which sector will prove to be the cornerstone of progress?

In the current landscape, the growth prospects for Indian EPC companies are highly promising, marked by significant developments and a surge in investments. Shri D.V. Sadananda Gowda, Union Minister of Chemicals and Fertilizers, envisions a substantial investment of Rs 8 lakh crore in the Indian chemicals and petrochemicals industry by 2025, underscoring the buoyant outlook for the sector. Within this optimistic trajectory, Nuberg EPC is strategically positioned for robust growth, driven by its commitment to sustainable energy solutions and innovative projects.

In my view, the cornerstone of progress for Indian EPC companies lies in the convergence of two key

elements: the rising demand for **Green energy** solutions and the imperative for supporting infrastructure development. Initiatives such as **India's first Hydrogen Fuel Station and significant bio-ethanol plant projects** by Nuberg EPC exemplify the country's dedication to sustainable energy solutions. This aligns seamlessly with India's "**Make in India**" vision, signalling a pivotal role for the EPC sector in laying the foundation for a cleaner and more sustainable future.

Furthermore, as the global focus on green hydrogen intensifies, projects like the **Hydrogen Compressor Storage and Hydrogen Fuelling Station in Vadodara, Gujarat, India**, underscore the transformative role Indian EPC companies can play in advancing green infrastructure. The emphasis on hydrogen production plants, featuring customized solutions like steam methane reforming and electrolysis methods, positions the sector as a key player in the transition to cleaner energy sources.

The hydrogen-centric projects not only cater to the burgeoning domestic demand but also contribute to India's standing in the global hydrogen landscape. Additionally, ventures like the Hydrogen Peroxide Project in Uzbekistan and the **Hydrogen Peroxide Project in Giza, Egypt**, demonstrate the capability of Indian EPC companies, like Nuberg EPC, to execute turnkey projects globally, adding an international dimension to their growth trajectory. In essence, the growth outlook for Indian EPC companies is optimistic, with the sustainable energy sector emerging as a pivotal driver. The concerted efforts towards green initiatives, backed by substantial investments, position EPC companies as key contributors to India's industrial and environmental progress in the present time.

Quality control and safety are paramount to industrial plant solutions. What measures and standards does Nuberg Engineering follow to ensure the highest quality and safety of its projects?

Nuberg Engineering's commitment to **quality control and safety** is reflected in its adherence to international standards, a highly trained workforce, rigorous risk assessments, advanced monitoring technologies, and a culture of continuous improvement. These measures collectively ensure that the highest quality and safety standards are consistently met or exceeded in industrial plant solutions projects.

Quality control and safety are of utmost importance to Nuberg Engineering in all its industrial plant solutions projects, **maintaining a flawless record of zero accidents to date**. The company strictly adheres to rigorous measures and industry standards to uphold the highest levels of quality and safety throughout the entire project lifecycle.

Additionally, we've received multiple prestigious awards from **IOCL (Indian Oil Corporation Limited)**, showcasing our proficiency in **handling** complex oil and gas projects while upholding the highest standards of quality, safety, and efficiency. Noteworthy projects include the **PPU** (Propylene Purification Unit), a **400 TPD SRU** (Sulphur Recovery Unit) project, and the Bio-Ethanol Plant Project in Panipat. Additionally, we

have achieved India's first commercial-scale hydrogen compressor and fuelling station, reflecting how we prioritizes – **Stringent compliance**, aligning with international standards and industry-specific regulations. The company maintains a **certified workforce**, continuously updated on the latest safety protocols. **Comprehensive risk assessments** at each project phase enable proactive mitigation of potential hazards. **Continuous monitoring** through advanced systems ensures real-time oversight, allowing swift corrective action for any deviations. **Quality assurance protocols**, including regular inspections and audits, ensure that all project components surpass required benchmarks. The company fosters a **safety-conscious culture** through extensive training programs and collaborates closely with clients to tailor project execution to their **safety and quality expectations**. **Third-party verification** adds an extra layer of assurance.

Client Collaboration is a key aspect, as Nuberg collaborates closely with clients to understand their specific safety requirements and quality expectations, tailoring project execution accordingly.

Nuberg Engineering's commitment to quality control and safety is reflected in its adherence to international standards, a highly trained workforce, rigorous risk assessments, advanced monitoring technologies, and a culture of continuous improvement. These measures collectively ensure that the highest quality and safety standards are consistently met or exceeded in industrial plant solutions projects.

Nuberg Engineering has a reputation for delivering projects on time and within budget. What project management strategies and methodologies contribute to this success?

Nuberg Engineering's sterling reputation for consistently delivering projects punctually and within budget hinges on a skilful fusion of astute project management strategies and methodologies. Right from a project's inception, the company diligently conducts comprehensive planning and feasibility studies to scrutinize requisites, anticipated timelines, and potential risks. This proactive stance equips Nuberg with the foresight to swiftly identify challenges, facilitating the formulation of effective mitigation strategies, precise resource allocation, and the crafting of pragmatic project schedules.

Moreover, our commendable track record of timely and cost-effective project delivery stems from a meticulous project management approach. The company prioritizes Time/Schedule, Cost, and Quality/Safety & Efficiency in a systematic sequence. Beginning with comprehensive planning and feasibility studies, Nuberg foresees potential challenges and formulates effective mitigation strategies, allocates resources judiciously, and crafts pragmatic project schedules.

The company employs cutting-edge project management tools and methodologies to optimize communication channels and orchestration among stakeholders. **Real-time monitoring systems**, digital twin technology, and sophisticated software like PIRS, AUTOCAD, HTRI, and others provide a panoramic

view of project progression, enabling swift responses to challenges. Embracing agile **project management methodologies** ensures adaptability to evolving project requirements without compromising timelines or budgets.

Human resources and teams, including Project Management and Engineering teams, play a pivotal role. Nuberg's R&D Centre of Excellence, in collaboration with EB Nuberg, Sweden, boasts a 300+ strong engineering team proficient in various disciplines. This **skilled workforce** contributes to the success of projects through expertise in FEED, Basic, Details, Piping, and Instrumentation.

In essence, Nuberg Engineering's success lies in its cohesive project management strategies, **leveraging advanced tools**, methodologies, and a **skilled human resource base**. This harmonized approach ensures efficient project execution, consistently meeting client expectations and industry benchmarks.

What plans are on the radar to make your company futuristic?

Our company, Nuberg EPC, is actively steering towards a futuristic trajectory with a strategic emphasis on **Green Energy, Petrochemicals, and Fertilizers** by embracing innovative technologies and pioneering projects. At the forefront of our vision is the commitment to providing high-quality and cost-effective solutions for large-scale industrial projects. Currently, we are focused on advancing alternative energy sources, particularly in the development of fuel cell systems and the promotion of Bioethanol, ensuring their competitiveness in the market. To address the challenge of reducing fuel cell system costs, we are employing a multi-faceted approach, including innovation, technical optimization, and scaling, while concurrently expanding our industrialization capacity to meet the evolving demands of the future.

In alignment with our futuristic goals, we have undertaken significant global projects that showcase our prowess in the **engineering, procurement, and construction (EPC)** industry. Noteworthy among them is the Sulfuric Acid Plant Project in Egypt, where we were awarded a **500 TPD sulfuric acid plant project** by Sprea Misr, a prominent chemicals and plastics manufacturer. This project, utilizing the **Double Contact Double Absorption (DCDA)** process technology, integrates a 5 MW turbine with a steam-based power generation plant, contributing significantly to the agricultural industry for urea and fertilizer production.

Furthermore, we have successfully secured two sulfuric acid plant projects in Gamasa City, Egypt, and Oromia, Ethiopia, showcasing our proficiency in executing projects of diverse scales and complexities. These ventures, based on our advanced sulfuric acid technology, specifically the Double Contact Double Absorption (DCDA) process, highlight our commitment to pushing the boundaries of technological innovation and sustainable solutions.

In essence, our futuristic plans are grounded in a strategic and dynamic approach, leveraging our expertise

in diverse sectors, including hydrogen, bioethanol, sulfuric acid, and related energy solutions. As we shape the future of industrial plant solutions, Nuberg Engineering remains dedicated to maintaining the highest standards of quality control, safety, and adherence to international norms, ensuring the consistent delivery of superior projects on a global scale.

What advice do you have for aspiring engineers and entrepreneurs who are looking to succeed in the global engineering and industrial plant solutions industry?

For those aspiring to thrive in the global engineering and industrial plant solutions industry, I offer the following advice: **First and foremost**, cultivate a deep-rooted commitment to innovation and continuous learning. This dynamic field demands an unwavering dedication to staying at the forefront of technological advancements and industry trends. Keep a pulse on emerging technologies, embrace new methodologies, and constantly seek opportunities for professional development.

Secondly, prioritize collaboration and the nurturing of robust networks. Building meaningful partnerships, both locally and internationally, is crucial. This not only broadens your perspective but also opens doors to invaluable insights and opportunities for growth. Engage with industry peers, attend conferences, and actively participate in forums to stay connected with the latest developments and potential collaborations.

Lastly, maintain an unswerving focus on safety, quality, and sustainability. These pillars are the bedrock of success in the engineering and industrial plant solutions sectors. Prioritize safety protocols, adhere to stringent quality standards, and integrate sustainable practices into your projects. This commitment not only ensures the longevity and success of your ventures but also aligns with the growing global emphasis on environmentally responsible practices.

In essence, success in this industry requires a holistic approach—blend technical expertise with a commitment to learning, foster collaboration, and uphold the highest standards of safety, quality, and sustainability. By embodying these principles, aspiring engineers and entrepreneurs can navigate the intricate landscape of the global engineering sector and pave the way for a prosperous and enduring career.