



## INTEGRATED SCM APPROACH:

KEY TO  
OPERATIONAL  
EXCELLENCE



*"At KEC, quality & customer satisfaction have always been a journey and not a destination. We have the power to go extreme thanks to our exceptional supply chain," asserts Mr. Anand Kulkarni, Sr. VP – Supply Chain Management, KEC International Limited, during a freewheeling conversation with Prerna Lodaya. Excerpts...*

### **Kindly elaborate on the high & mighty business line-up of KEC.**

KEC traditionally has been a process driven organisation. With the best in class practices, we, at KEC, boast of the largest production capacity in the world for tower manufacturing of about 311,200 MTs per annum spread over five manufacturing facilities in India and America. In these facilities, we manufacture steel structures for transmission & distribution lines, telecom and railways infrastructure. Not only this, we also have close association with five Value Added Partners (VAPs) manufacturing facilities who provide exclusive capacity of more than 60,000 MTs per annum. In addition, we also have a Pole manufacturing facility in the Americas, with the production capacity of 12,000 MTs per annum. Going by the sheer volumes, one can imagine the criticality of supply chain in integrating front-end & back-end business processes, successfully managing over 200 site locations, 400 vendors & over 25 logistics service providers, all spread globally.

### **How challenging is it to manage extreme terrains?**

With established credentials in executing complex and challenging projects in all kinds of environment, KEC has repeatedly delivered projects with superior quality within scheduled timelines. For instance, we have developed specialised transmission lines on powerful rivers, deserts, mountains, war torn regions, dense forests and snowfields such as Nile

river in Egypt, Niger river in Nigeria, Kosi & Brahmaputra in India, the Arabian Sea, on deserts of Saudi Arabia, Libya and Rajasthan, on mountains of Algeria, India and Mozambique, on war-torn regions of Iraq & Afghanistan, dense forests in India (MP, Bihar & Jharkhand) and on snowfields of Kazakhstan and Tajikistan.

Not only this, we continuously overcome difficult climatic challenges in project execution ranging from +40° temperature in Middle East region to -40° temperature in CIS region. Additionally, we have erected some of the heaviest and tallest transmission towers, designed some very complex multi circuit transmission lines and constructed river crossing towers having height of above 200 metre and weight of 1800 MT per tower.

Managing all this is not possible without a proficiently designed supply chain that has always stood as foundation pillar in delivering all our crucial projects on time.

### **What are the complexities involved in the supply chain For Electrical Equipment?**

The electrical equipment manufacturing industry was complex traditionally. However, of late there have been many fast paced changes taking place in the sector that has made the operations all the more complex. Lots of grids are getting upgraded, competition has increased, costs are reduced and above all lead time for development has come down. For e.g., earlier the substations that we used to develop in 2 years, now have to be completed in 12 months. So the project time has really slashed to half. There is a

lot of pressure on delivering products with exact needs of customers in a very short span of time.

Owing to this fact, we prefer suppliers who are agile and responsive to the changing market situations. As far as selection criteria for 3PL is concerned, we emphasise lot around the cost. However, at the same time, reliability in terms of delivery and responsive nature to extremities are given equal importance.

### **How different is the global supply chain landscape vis-a-vis Indian SCM as you have a signification share of business operations abroad?**

Supply chain is a wider term, which has various subsets. Talking about the first link, manufacturing: India really has to make a mark when it comes to adopting world-class best practices as compared to developed countries. These countries deploy advanced tools & techniques and their factories are highly automated.

Of late, there has been a change in scenario in India, with lots of competent & quality talent pool coming in, India is cost effective centre for manufacturing. Going forward, with shrinking boundaries, we don't foresee much of a difference in terms of processes.

Talking about another leg of the supply chain, logistics & distribution, we as a country really need to bring about transformative measures to be at par with the rest of the world. Logistics in India is still at a very nascent stage. Reliability on transporter is not very good in India due to the sectors still being unorganised.

Because of the poor infrastructure, though developing, the delivery liability is becoming a major task for us. Moreover, third party service providers don't believe in long-term contracts. We are dependent on the seasonal variations. Factoring these conditions, on the scale of 1-10, compared with Europe, Indian supply chain would be between 2-3 points.

**What is your perception of a World-class SCM Model?**

At KEC, we constantly strive for attaining global best practices in each and every process. I would talk about manufacturing first. Our first driver is cost, then lead time and last but not the least reliability in terms of delivery. We have implemented various tools to reduce the cost. These include strategic sourcing, waste reduction (3R-Reduce, Reuse, Recycle) and uptime

**Building infrastructure globally**

*KEC International Limited, a world leader in power transmission EPC, is a diversified global infrastructure EPC major. A billion dollar company presently executing projects in over 30 countries, KEC continues to reinvent itself to achieve newer heights in quality, technology, capacity & capability. KEC's strengths lie in design, manufacturing of towers and cables, construction of turnkey projects in areas of Power Transmission & Distribution, Railways, Water, Cables and Renewables space.*

improvement. We have successfully deployed lean tools like TPM, TQM, six sigma and VSM (Value Stream Mapping to optimise cycle time), etc. Our vision is on overall improvement in the process capability and yield. Companywide, we have formed Cross Functional Teams (CFTs) to work on improving processes at the grass root level. Business Process Excellence cannot be achieved without the use of IT. We have deployed JD Edwards Enterprise Network to seamlessly work across the chain.

On to procurement side of the business, we use category based procurement. We have category leaders, who provide strategic inputs on a particular strategy as per the scenario and then execute the same. These categories are cross functional. They work dedicatedly on improving elements such as quality, cost, delivery and lead time. We put a lot of emphasis on logistics as it is one of the biggest weak links in the whole supply chain.

As 50% of our business is from exports, we focus on leveraging all the free treaties, trade free zones, various export benefits, etc. For overseas site operation, we also engage project management companies to move construction equipment from our warehouse to the working site location.

Having said this, we are working on an integrated logistics approach. Our major thrust is on timely completion of the project.

**What are the many firsts to your credit?**

We have achieved many firsts when it comes to supply chain benchmarking. KEC established the basic framework of quality management system (ISO 9001) across the plants with special emphasis on manufacturing processes & products. Next phase was adoption and successful implementation of ISO 14001 systems. Supply chain became the first KEC SBU to win the RPG Quality Excellence Award within RPG Group in 1999. Butibori plant within Supply Chain became the first transmission facility in the world to get certified for OHSAS 18001. During this journey of continual improvement, supply chain embraced various tools & techniques such as Cultural Pillar Approach, Balance Score Card & Policy Deployment Approach, Business Excellence (RPGOE), Kaizen, CSR, Best Practices Sharing, Internal/External Bench marking, etc.

The journey is still on and supply chain adopted TPM (Total Productive Maintenance) and QBM (Quality Based Management) as the vehicles to accelerate towards excellence. Also, ISO 17025 Certification for Test Stations and Quality Laboratories is underway.

**Kindly enlighten us on one of the many critical projects successfully commissioned by you.**

Going by the criticality of businesses, we can share with you lot of such extreme instances where supply chain has really played a pivotal role. For instance, SNC-Lavalin awarded us a project for design, manufacture & supply of 100,000 MT of towers in Canada. There were many

complexities involved in this project. For designing, we leveraged on our Mexican plant. For manufacturing, we had to develop full-fledged technology for welding the footings, which was very complicated and for supply we had to work in -40 degrees. Designing the supply chain

*You need to be agile, fast, and well automated to beat the competition. The faster the response time, the faster would be the communication.*

from the plant at India to the port and then to site store at Canada on time for such a huge volume was also a daunting task. In addition to above, procurement of steel was also the big challenge. The steel used for the tower was highly specialised. We couldn't afford to import that kind of steel because it would greatly add to our cost and hence we thought of taking help of a local supplier to meet our needs. This project ran for about one and half year. Such projects, while they present the extreme scenario, they also prepare you for such thrilling opportunities for future. In order to attain the same, we invest heavily in our employees to keep them abreast with the latest developments shaping up and train them suitably to manage such extreme projects.

**What has been the impact of key initiatives taken by you in terms of supply chain?**

Supply chain division has had several initiatives in place from time to time, which has resulted in positive impact on business. Our diversified portfolio strategy has been resulting into expanding the KEC footprint across the globe. The strong prequalification status in QMS EMS & OHSAS systems have resulted in consistently winning & execution of international orders in sustained manner. Value added partner approach resulted in expanding manufacturing capacity in multi-fold manner without major capital investment. Central Planning approach for multi-projects execution has resulted into significant improvement in Supplier

**Main features of supply chain quality system**

- Development of Project Specific Manufacturing Quality Plan
- Integrated ISO system across Supply Chain
- Well defined Company Standards for ensuring Quality of Fabrication, Galvanising and Packing
- Fully equipped Test laboratories

Service Level. RPG Organisational Excellence (RPGOE) approach helped into continual refining of business processes with reference to internal/external benchmark. Cultural Pillar approach has laid the foundation for strengthening the values.

**What are the changes you foresee in supply chain?**

We are highly ambitious about the 'Make in India' project. Secondly, the treaties that the government is attempting with other countries, once they materialise, will really boost our business. The more treaties we have, the more benefits we can leverage and become competitive in those markets. On the taxation front, I think GST will be a revolutionary measure once implemented in its entirety. Next skill development, which has been the government's major thrust area, will really be able to bring in quality talent. On our part, we have also adopted various ITIs whom we train for the future and then absorb them in our

business. This way we are really able to inculcate the corporate culture as well as technical capability and make them future ready.

**Your comments on the prospects for future logisticians.**

The future depends on the service industry. In the years to come, we would see a great boom in sectors such as lifestyle, healthcare, automation, etc. When we move from a manufacturing to a service driven economy, automatically supply chain becomes a crucial element. So there are going to be lot many opportunities for young people to grow. Supply chain offers you a good understanding of the business across the line in case if there is an integrated supply chain involving planning, manufacturing, transportation. So I would invite young talent to come and be a part of this exciting & growing industry, which is yet to witness a tremendous transformation. You look at retail industry for example how it used to be 10 years

*KEC has made an indelible mark on the world map by constantly and consistently re-engineering itself to retain its position of leadership in the areas of quality, technology, capacity and capability.*

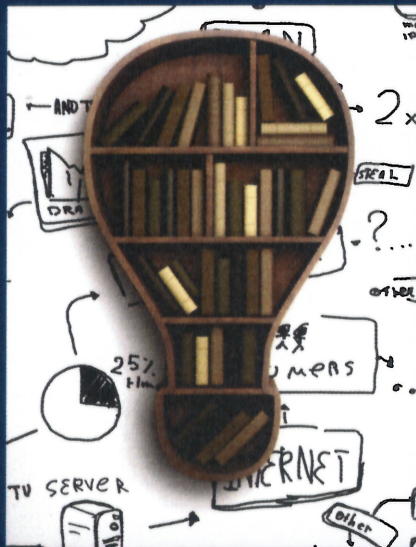
before. But now with the supermarkets and malls coming in increasing numbers, there has been a paradigm shift in this industry. I foresee similar trend shaping up in the supply chain domain as well.

*Mr. Anand Kulkarni is responsible for integrated SCM which includes demand and supply planning, sourcing, manufacturing, logistics and tenders support in terms of bought outs. Mr. Kulkarni is a Meritorious Mechanical Engineer from Karnataka University. He is also an alumnus of IR-Yale University from where he did Advanced Leadership Management. In addition, he is also a Lean Six Sigma Black Belt. He has more than 29 years of rich corporate experience across companies in the manufacturing sector.*

## TRIVIA

## DID YOU KNOW?

1. The word 'Logistics' was first used in 1898.
2. The term logistics originated from the military.
3. A ship takes an average of 8-10 hours to transit the Panama Canal.
4. It is estimated that 46% of hardwood lumber production is dedicated to the production of shipping pallets.
5. According to the World Bank Report of 2014, Germany is ranked No. 1 country in terms of Logistics Performance Indicators (LPI) while India stands at 54.



6. The first country to implement GST was France.
7. Currently, there are 160 countries in the world that have implemented VAT/GST.
8. The first major port to be commissioned in India post independence was Kandla.
9. Uttar Pradesh has the maximum number of Cold Storages in India while Gujarat stands second.
10. For the seventh year in a row, Apple captured the top slot in Gartner's list of Top 25 SCM companies.