

### 3.3 Deki Electronics Ltd.



#### About the Company

The company was established in technical collaboration with Okaya Electric Industries Company Ltd, Japan in 1984. Deki has since been producing high quality Plastic Film Capacitors at its state of art, automatic plant imported from Japan, Korea and Italy. The present capacity of 1.2 billion pcs/annum makes Deki the largest manufacturer of Plastic Film Capacitors in India.

Deki offers the total basket of Plastic Film Capacitors, which includes Plain / Metallised Polyester, Plain / Metallised Polypropylene, Plain & Metallised Polypropylene mixed, CDI, X2, Y2, DC Link and Snubber Capacitors. Deki Capacitors have presence in all segments, including Consumer Electronics / Telecom / Lighting (HF & CFL Ballast) /Medical Electronics /Industrial Electronics / Auto Electronics / IT Hardware / Fan Regulators /Energy meters, etc. However, Deki has a strong presence in lighting (LED, CFL & HFL), Fan Regulator and Energy Meter markets in India. Deki's capacitors are currently exported to Europe, US, Hong Kong, China, Middle East, Malaysia, Philippines and South Korea.

The company's quality system is IATF 16949:2016, ISO 9001: 2015 and OHSAS 18001:2007 certified by ESR, USA. The company is also ISO 14001: 2015 certified from BIS for environment management. In addition to this, Deki's entire range is RoHS and REACH compliant. The capacitors are tested by ERTL to meet IEC standards. They are also approved by OEMs like Sony, Sanyo, Panasonic, Sharp, JVC, NEC, Toshiba, Philips and Osram for use in their manufacturing operations in India. Technical centre at Deki is responsible for carrying out the R &D activities with a target of 25% share of total T/O from new products. Deki's R&D centre has been recognized by the Department of Scientific and Industrial Research.

Deki has been consistently introducing new types of Film Capacitors in the market to meet the needs of the customers. Lighting being the main area of focus Deki has introduced PES Series & the patented PSH series. PES (Polyester Extra Strength) is a unique six Film design, which helps to achieve better minimum break down with similar or less size of capacitors.

The high stability Capacitor for Energy Meters from Deki meets a long-standing demand of the Energy Meter Industry for a highly stable Capacitor in high humid coastal areas. Deki's has been growing at an average annualized growth rate of greater than 20% year on year since 1989-90. Deki strives to be a model corporate citizen. Our vision is to conduct our business activities with diligence; integrity and honesty while ensuring that in doing so Deki engender a positive impact on society and the community.

**A number of TQM initiatives have been put in place since 1999:**

- 1) Policy deployment is done every March based on the single page strategy sheet which lists the strategic direction and the business enablers which will help in achieving the results.
- 2) Both Internal and External customer satisfaction surveys are carried out every six months. Inputs from these surveys are used to make improvement plans which are shared with the customers and the employees.
- 3) The management team of Deki is committed to provide a stimulating, learning-oriented, transparent and professional environment wherein involvement of each and every member is encouraged either through the suggestion scheme or through quality circles. Today Deki is getting on an average 1 implemented suggestion per employee per month and more than 45% of our workforce is involved in quality circles.
- 4) Six Sigma movement was started in October 2009 and till date about 75 projects have been completed. At any moment approximately 10 projects are in progress.
- 5) Training is an integral part of the development curriculum with more than 3% of working hours spent on it.
- 6) At Deki, work starts with a prayer every morning after which one member shares his thought of the day



Deki has embraced Industry 4.0. On the automatic testing machine visual cameras take the measurement of the capacitor as it is being tested and only the ones passing the customer's critical dimension are sent ahead for testing. Earlier this operation was being done after testing manually piece by piece. Besides being labour intensive there was also a possibility of dimensionally out capacitors going to the customer. Deki has shared this initiative with the customer and he is thrilled.

In another case Deki has introduced IoT on bottleneck winding machines to help capture the OEE of the machines. This has been introduced on 5 machines and shortly will be introduced on another 20 machines. So instead of getting the OEE the next day, it is now available at the end of the shift automatically.

### **A glimpse of Deki Electronics' Manufacturing facility**



### **3.3.1 Deki Electronics Ltd. – Company Background**

#### **Product Developments to suit the Technological Transition and Focus on Industrial Electronics**

Deki Electronics is a 34-year-old company formed in 1984 with a one-time technical collaboration with Japanese Company called Okaya Electric. Okaya supplied the required machinery for manufacturing the capacitors along with transferring the know-how of capacitor development to Deki. Today, Deki has grown dynamically to reach a stage in which its manufacturing capacity has raised to 1.2 billion pieces per annum compared to 10 million pieces in 1984.

During its early days, Deki was able to get good rates for its capacitors since India was a protected economy. But this changed once WTO was signed as the Indian economy

opened to international investments. For a decade since their start Deki was primarily serving consumer electronic market. In the early 1990s colour television manufacturing was at its peak in India and about 30 film capacitors manufactured by Deki were embedded in each of the TVs. So, this was a big market. As a result, 80% of the sales were in consumer electronic market. In the meantime, CFL (compact fluorescent lighting) was making buzz across the world and Deki was eager to start investing in lighting market as the company foresaw the CRT monitors being replaced by flat panels. For this Deki had to develop new products in order to grow in the lighting industry. Hence the company started developing polypropylene capacitors which helped them to capture the market share in lighting segment. CFL was a big market for Deki as one CFL housed around 5 film capacitors. This resulted in a smooth transition for Deki from a consumer electronic company to a lighting company. In 2013, India opened up to LED lighting in order to provide energy efficient lighting. This resulted in a huge transition in capacitor market as LED requires only 2 capacitors unlike CFL. Deki had foreseen this transition through their constant interaction with their lighting customers and were market ready with the development of new capacitors suitable for LEDs in order to support the transition of CFL to LED. However, the competition was with the Chinese capacitors which were available at very low prices. Deki had to work hard to stay afloat and today Deki capacitors are available to the customer at Chinese prices. Because of the cut throat competition though the top line was impressive, the bottom line was getting adversely affected. Hence, Deki shifted its focus into various industrial electronics applications such as welding machines, SMPS (switch mode power supply), UPS (uninterruptible power supply) etc. As of today, Deki's revenue is split equally between lighting and industrial electronic segments. Deki has two product lines – inductive and non-inductive consisting of polypropylene capacitors, mixed dielectric capacitors and polyester film capacitors.

### **3.3.2 Technology Development and Focus on Consolidating the Supply chain**

#### **R&D Focus, Push for Exports and Product Indigenisation**

The vision of Deki Electronics is to become the global benchmark in electronic component manufacturing. To realize this vision, Deki has been focusing on R&D towards developing new products and upgrading their existing technology. Department of Scientific & Industrial Research, Government of India has recognised the Deki Technical Centre as a competent in-house R&D unit. This centre is responsible to generate 25% revenue of the total turnover from new products. To achieve this target the design centre has come up with two unique products - PES (Polyester Extra Strength) and PSH (Polyester Self-Healing) capacitors. They have also developed high

stability capacitors for energy meters. Regarding exports, Deki aspires to maintain rate at 20%. In this regard, Deki has representatives in Brazil in order to push their products in South America. USA is another market which is opening up to other countries owing to the trade war with China. Deki has been trying its best to indigenise the supply chain through creating local suppliers and promoting them. So far, 20% of their raw materials are sourced from domestic suppliers but this is not even close to China which has achieved 100% indigenisation. Deki has been constantly educating the suppliers on the importance of developing domestic supply chain.

### **3.3.3 Key Areas to be addressed for growth in electronic manufacturing sector in India**

In order to strengthen India's electronic manufacturing sector, following challenges must be addressed effectively:

- Mitigation of disabilities such as cost of finance, energy cost and logistics which in our case is approx. 10% of the sales. This is owing to the lack of a level playing field when compared with our competitors, especially China.
- Infrastructure - while this takes time to implement, the cluster approach can prove helpful in establishing competitive manufacturing by utilising shared, economic common facilities
- Standards - implement global standards on components. Ensure strict compliance in order to prevent the dumping of poor-quality components into India
- Treat manufacturing of components as a strategic goal of the ministry. This is a capital intensive, labour intensive, high value add segment. Investments thru incentives today can result in immense strategic advantage for the country within 2-3 years. Strengthening the supply chain is the fundamental requirement for a robust electronics industry.

### **3.3.4 Best Practices and Key Success Factors**

Few of the key strategies that Deki is employing to stay ahead of its competitors are listed below:

- During the time when India was a protected economy and governed by licence restrictions, Deki was successful in developing good capacitors with the help of their able partner – Okaya. This also cultivated the entrepreneur zeal to make it

happen and imbibed the commitment to produce good quality products without any shortcuts while adhering to ethical business practices from the very start.

- **Customer Centric Product Customization:** Customizing the products to suit the customer demands has been a key attribute of Deki's success. The company identifies the challenges faced by its customers and comes up with solutions to mitigate them. Deki has developed lamp circuit capacitor which is a self-healing inductive capacitor type in order to enable CFL to withstand high voltage spikes during its ignition. On the customer's request that had faced quality issues from previous suppliers, Suntanning capacitor was developed which met the requirement and since then Deki has been the sole supplier of this capacitor to leading lighting manufacturers.
- Companywide vision to compete helped Deki to achieve their targets and facilitate scaling up in every 2 to 3 years. This helped them in benchmarking with companies from countries like South Korea.
- Deki has always been a focused learner whether it is their customers, competitors or vendors whose credits will go to the enthusiastic participative management who take part actively in company's suggestion scheme, training focus, close relationship with all stakeholders, high customer orientation, learning organization, ownership at all levels etc.
- **Diversification** – Deki has been pioneering diversified ventures like SureSolutions and more through leveraging its 3 decades of experience and understanding of electronics for India and have made great strides in emerging areas such as EVs, retail and energy. Deki has established a joint venture IPEC Drive Systems Pvt Ltd in partnership with L7, Finland, Meher, Bangalore and Sung Ho Electronics, South Korea. IPEC Drive Systems will be developing world's first electric vehicle powertrain system without Battery Management System.