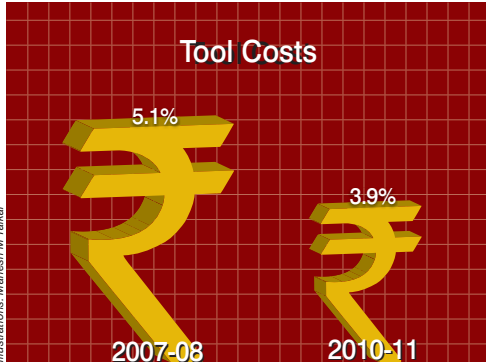


How does Rane Madras contain

■ T Murrall
Puducherry

After the Chennai headquartered Rane (Madras) Ltd (RML), part of Rane Group, won the Volvo order to supply hydraulic cylinders, the company has been receiving orders from various customers domestic and abroad. This according to the President of the company, S Parthasarathy, is due to, "the quality systems and engineering capability of RML to understand customers' needs and designing products to meet specific requirements in terms of cost, delivery and speed of development." The challenge is to develop new products without rejections and deliver at a faster pace to support the OEMs intent in squeezing the time to market. The company has taken several initiatives towards achieving its objectives across plants.



Illustrations: Mahesh M. Talwar

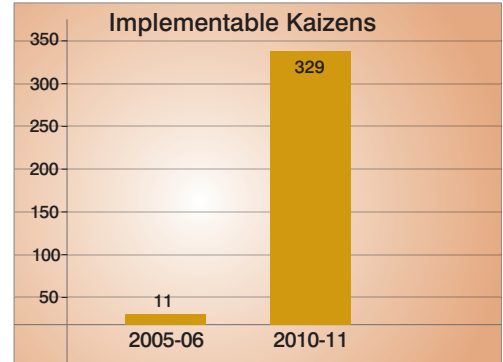
However, the Puducherry plant of the company was taken as a sample for this study recently as it majorly deals with passenger cars OEMs.

In order to reduce rejections, the Puducherry plant of RML has identified various

processes that are likely to generate rejections and developed appropriate methodologies like Quality Circle (QC) to contain them. The Cross Functional Teams (CFT) comprising engineers from several departments including production and quality, handles chronic problems. The company carries out projects using QC methodologies by using tools like design of experiments, multi-regression analysis among others.

Maintaining Quality

Vice President (Operations), Puducherry plant, RML, R Balakrishnan said, "Our focus is to primarily ensure that the problems do not recur." Usually the ppm levels at its customers' end will be high for the new products due to several processes involved in manufacturing. However, the company that manufactures safety critical parts like steering gear and steering and suspension link-



ages, has been maintaining its rejections level at its customers' end at 25 ppm despite adding several new products.

When asked how the company could maintain such quality levels, Balakrishnan said RML has been practising Process Failure and Effect Mode Review (PFEMR) concept—executed by a CFT comprising representations from R&D, manufacturing and production. The team recommends certain actions, which were derived based on the history of rejections, to be taken to contain them.

RML follows these testimonials before commencing series production of any new product. It documents these vital data as it can go to the genesis of every problem since inception. This becomes the benchmark for maintaining the quality. Though all the plants of RML practise the concept the Puducherry plant embraces it more as it predominantly

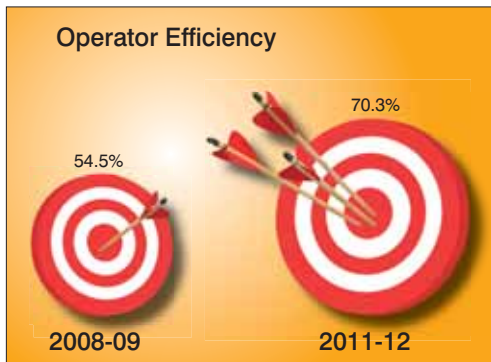
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caters to passenger car OEMs, where the sensitivity is higher. Besides, the company also carries out thorough and extensive Production Part Approval Process (PPAP). These initiatives help contain rejections



R Balakrishnan, VP(Operations), RML's Puducherry plant

rejections in new products?



Earlier, the continuous improvement and poke-yoke programmes were taken based on customers' complaints. Later, the company decided to look at the entire plant for introducing poke-yokes and kaizens to manage customers' quality parameters

significantly, he said.

In the process RML has also contained the tool cost to 3.9 percent of the turnover in 2010-11 from 5.1 percent in 2007-08. Realising that the company does not have a control over raw

material prices it focussed on enhancing tool life. Involvement of operators is high in every cost reduction programme, he said adding that the inserts / tools were deployed depending up on the accuracy requirements of every job. This enables the company to deploy used inserts also

in certain low accuracy processes. Besides, it introduced new technologies in tools that enhance the life. "We work closely with our suppliers and develop tools that have optimum life," he said.

Improving Productivity

The plant has set itself a target to reduce sub-contracting work by ₹1.29 crore. It has evolved a twin pronged approach to accomplish the objective—firstly by improving the productivity of the plant and utilise the time and effort in making the jobs sub-contracted earlier. Secondly, by bringing in those parts for in-house manufacturing to which, the company has implemented cost reduction programme. As part of its initiative to efficiently manage raw materials, the company has reduced the inventory from 49 days in 2008-09 to 12 days in 2011-12 by adopting several methodologies.

One of the key attributes of

Puducherry plant is number of kaizens that it generates every year. The total number of implementable kaizens was 11 in 2005-06 and it rose to 329 in 2010-11. The significant improvement is due to the phenomenal involvement of the people, he said.

Poke-Yoke

Earlier, these continuous improvement and poke-yoke (mistake proofing) programmes have been reactive process i.e. corrective measures were taken based on customers' complaints. Later, the company decided to look at the entire plant for introducing poke-yokes and kaizens to manage customers' quality parameters. Therefore, it began to look at all the critical characteristics of its products. About three years ago, it introduced poke-yoke implementation system in the company that instigated the people to come out with several ideas. "Today all the

fit and functional dimensions and parameters as required by the customers are protected by poke-yoke. We are currently extending this to our suppliers," he said.

Raising The Bar

The plant has also increased the operator efficiency from 54.5 percent in 2008-09 to 70.3 percent during 2011-12. It has set itself a target to achieve 80 percent this year. Additionally, it also introduced 'autonomous machine maintenance' with which, the operators not only maintain their machines on a daily basis but also carry out minor repairs like changing the belt etc. Doubling up activities were possible for the company due to its lean approach through which, it continuously identifies and eliminates waste in the process. All the ideal time of operators has been utilised by taking several initiatives to reduce operator fatigue, he added. [AZ](#)

