

Airbag Unit To Inflate Rane Group's Growth Prospects

By T Murali

Bharat New Vehicle Safety

Assessment Programme, India's equivalent of the New Car Assessment Programme (NCAP) will be a harbinger for safety for passengers in automobiles. Accordingly, by 2020 new cars sold in India will need to comply with voluntary star ratings based on crash safety performance tests. Critical safety features including airbags and ABS will become mandatory for cars sold in India.

At present airbag is a standard fitment in passenger vehicles in most markets in the world; however, in India it is still in the evolution stage. Currently about 30 percent of the vehicles have this safety feature. According to industry estimates, 50 percent will have it by 2017 and 100 percent by 2020. The Chennai-based Rane group is equipping itself to be the market leader in the production and supply of vehicle airbags, when their OE fitment will be mandatory in the country.

The Occupant Safety Division of Rane TRW Steering Systems Private Limited has recently commissioned its state-of-the-art airbag manufacturing plant in Singaperumalkoil, about 35 km south of Chennai. The facility of the company, a 50:50 joint venture between Rane group and ZF TRW, was inaugurated recently by Nigel Harris, Managing Director and President, Ford India.

Airbag is one of the greatest inventions for the occupants' safety in automobiles. It is a large deflated heavy-duty balloon concealed in the steering wheel hub for the driver, and instrument panel, dash board, door panel, or seats for the other passengers. Airbag system is designed for rapid inflation of the balloon in the unlikely event of a frontal or side impact, to cushion and restrain occupants. One or more sensors trigger inflation



within milliseconds by burning a solid chemical that converts to a gas to inflate the bag. The bag deflates also quickly for the occupant to breathe after the impact.

The new plant in Chennai is the 18th location of ZF TRW to make airbags in the world. And it comes in the centenary year of ZF and 76th year of the Rane Group. Set up in eight months, with an investment of Rs 18 crore, the plant will progressively make all the parts required for the airbag, except the inflator, which is supplied by its partner ZF TRW. The new plant will mainly cater to the requirements of Ford India, which is in the proximity.

Located adjacent to its seatbelt plant, the new facility, spread on an area of 1800 sq.m, will assemble driver and passenger airbag modules. The plant will have an installed capacity to produce around 500,000 airbags initially. It has space to expand as the market grows. The company is currently working to localise the airbag components to improve its competitiveness in the highly cost-conscious Indian market.

Harish Lakshman, Managing Director, Rane TRW, said, "With the Government of India promoting occupant safety and road safety to reduce fatalities significantly, we expect the automotive industry in the country to introduce passive safety technologies to meet these requirements. The commissioning of this new facility demonstrates the company's commitment to support technology evolution in passenger vehicles. We expect exponential growth in the application of frontal airbags."



The new airbag plant of the Occupant Safety Division of Rane TRW



Lakshman is confident that the market for airbags will grow faster at the behest of the OEMs' proactive initiatives in introducing the safety element to their vehicles. The company has bagged significant orders for seat belts and airbags and is gearing up to meet the increased demand for airbags due to the implementation of government regulations after 2018.

Asked when the thought for the new plant came and how was it implemented, Lakshman said, airbags were a core technology of passive safety. "We were only a seatbelt manufacturing company and since long we have been discussing with TRW to add airbags into the joint venture. We were also closely monitoring the regulation implementation date from the Government of India. In early 2013, we decided that for the

and the new plant was setup in record time. According to the Chairman of Rane Group, L Ganesh, the company's business plan shows a CAGR of 24 percent between 2014 and 2020. "We anticipate exponential growth in the application of frontal airbags over the next decade and Rane TRW will be well positioned to support both global and domestic OEMs located in India with their growth aspirations to bring in these technologies to their vehicles," he said.

The Plant

Assembly of an airbag module comprises folding of the bag, assembly of child parts in series of assembly station, final checking with traceability. The components in the airbag include bag, inflator and various child parts. Currently the company assembles the bought-out child parts. It carries out one operation per station. As per internal plan and customer-defined test frequency the airbags are put to thorough tests.

While the driver side airbag is folded by machines the passenger side airbag is folded manually. There is a specific sequence of steps and each sequence is fool-proofed with sensors to eliminate errors. "This is a semi-automatic machine and not a manual machine. Continuous improvement is a basic element of our work. Automation is introduced where there is repeatability and possibilities of operators missing process or processes," Alexander Heilig, Director Product Line (Global Steering wheel Systems), ZF TRW, said.

Setting up the plant to make a safety-critical part such as airbag, in eight months is a challenge. However, for the company it is part of the continued strategy. "To meet the start of production timing of the secured orders and to meet the legislation timing, we set up a taskforce to commission the new airbag plant in a record time," Lakshman said.

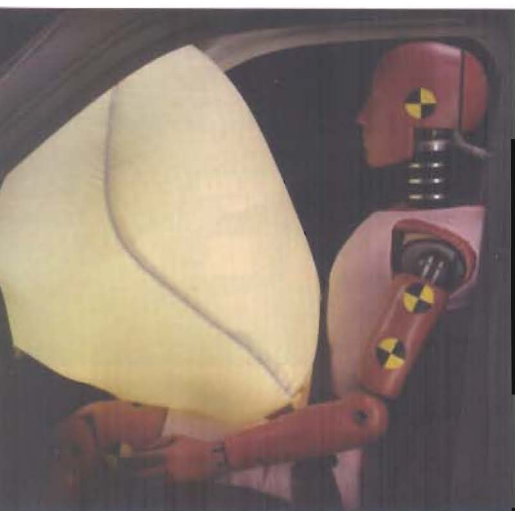
According to Heilig, the project planning was done concurrently keeping the cost and time aspects under control. Daily review of the progress with architect and contractors helped



JV to grow we needed to have airbags as part of the growth strategy and discussed with our partners. Since then we have been working with the OEMs closely and have booked some orders which has resulted in getting the board of directors' approval to expand."

Project Airbag

Rane Group approved the construction of the new airbag plant by the end of 2014



Passenger Airbag

in timely completion without any delay of key milestones.

Rane Group practices Total Quality Management (TQM) and four of its companies – Rane Brake Linings, Rane Engine Valves, Rane Madras and, Rane TRW Steering Systems Limited (Steering Gear Division) have received Deming Awards. Except for Rane Engine Valves, all other companies have received the DGP, which is given to companies that sustain quality levels continuously

for more than four years. Do the accolades help the Occupant Safety Division of Rane TRW Steering Systems in setting up the airbag plant? Lakshman said: "With TQM as a base, it was possible to achieve the timeline by close monitoring of each process."

"This is a unique achievement to meet the stringent timeline of customers and going forward we will benchmark this for every expansion," Heilig said. Currently the plant is confining itself to only assembling operations. While the crucial component – the inflator – is imported from its partner ZF TRW, most of the other components are sourced locally. The supply chain is a closely knit unit and with close interaction between ZF TRW, customers, suppliers and Rane TRW, the company could develop locally a few critical components. ZF TRW and RTSSL as JV are following global standards, product, assembly and manufacturing strategy and the philosophy is standardised at all locations, Heilig said.

Inflators

ZF TRW is among the world leaders in the design and development of inflator technologies for the full range of airbag systems, including driver, passenger, knee, side and curtain airbag modules. Single- and dual-stage options – as well as pyrotechnic and hybrid inflators are available with the global company. It has the capability to develop inflator designs tailored to suit the customers' and global market requirements. The company has also evolved to be smaller and lighter, yet offer even greater levels of inflation pressure to allow overall airbag modules to be downsized for more flexible packaging.

"We expect further market growth in India, so we will bring in over the time further airbag lines as well as go into a higher level of vertical integration of components," Heilig said.



Genesis

Rane TRW Occupant Safety Division started the journey way back in 1997 with the manufacturing of safety seatbelts. The first customers then were Fiat, Mahindra and Tata Motors and it had a modest turnover of Rs 60 lakh in the first year of inception. The next five years saw the company growing along with the market and in the process also adding new customers like erstwhile Daewoo Motors, Ford Ikon, and also growing the business with the existing customers for their new models like Tata Indica.

With the expansion of the customer base another milestone for the company came in the way of an order from Maruti Suzuki in 2003 to supply seatbelts for their flagship 800cc model. The company's sales increased to Rs 14.4 crore in 2003-04. This was a significant milestone as Rane TRW became a safety product supplier to the country's largest passenger car manufacturer. This breakthrough setup a 'technical

partnership' with Ashimori, Japan and this partnership led to further successes with Maruti Suzuki. The turnover jumped to Rs 81 crore in 2009-10.

Some reputed models in which Rane TRW seatbelts were fitted include, the Tata Nano, Renault Logan, Mahindra XUV500, Maruti Suzuki A-Star, Ritz and Ertiga,

and Fiat -Linea and Punto. All along, the partnership with TRW also strengthened significantly and the global company supported the JV with new generation seatbelt technologies to be introduced in the Indian market.

The next significant milestone for the company came when it bagged the first export order from Renault Brazil for seatbelts. It eventually changed the strategic orientation of the company. Going forward, Ford will be the biggest customer of Rane TRW in the coming years. It will supply, seatbelts and airbags to Ford, for their Ecosport and Figo Aspire models. In addition the company will export seatbelts, to Ford Thailand, Russia and Vietnam.

In 2013, the JV added the new technology with two products, the driver and passenger airbags and the production commenced for both the products from the same year.

The Rane Group was founded in 1929 as a distributor of automobiles and auto components. It diversified into manufacturing in 1959 and continues to be the preferred supplier of auto components to major OEMs, both in India and abroad. The group serves a range of industry segments including passenger cars, multi-utility vehicles, commercial vehicles, farm tractors, three-wheelers, two-wheelers, stationary engines and aerospace. 