

THE IDEAL MIX IS CO-EXISTENCE



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Shriram Pistons & Rings reaffirmed a fuel-agnostic approach. **Prateek Pardeshi** outlines the strategy with respect to the coexisting, technology and product mix.



is one of the reasons why we have committed a major investment in a domestic company called EMF-I for an electric powertrain to be manufactured locally and eventually get a good hold in the EV market as well.” The 100 per cent subsidiary company SPR Engineers Ltd. (SEL) helped acquire EMF-I, Srinivasan informed.

SHOWCASE OF CAPABILITIES

SPRL and SEL put up a combined show of components and advanced technology in line with the company strategy to offer customers clean mobility solutions. This showcase of capabilities encompassed new piston designs for hydrogen applications, engine valves with nitrided hardened tips for off-road applications, cylinder liners, cylinder heads for air-cooled engines, and piston rings for heavy commercial vehicles, CNG engines. The display was testimony to multiple group verticals working in sync.

A cross-section piston with SFD analysis demonstrated how the piston goes through a stress test. Here red denotes high stress and blue denotes low stress. To clearly understand the mechanics of the piston crankshaft movement, an inline, four-cylinder cross-section engine was displayed. On the EV front, SEL

Shriram Pistons and Rings Ltd. (SPRL), has its roots in IC Engines. The company commands an annual turnover of over 40 million pistons, 80 million engine valves, and 150 million piston rings as a testimony. To fuel its diversification strategy of offering clean mobility solutions on alternative powertrains, the company recently acquired EMF Innovations (EMF-I),

a technology company. It is leveraging this acquisition for EV-specific components. The latter produces a range of components, including BLDC hubs, and motor controllers to name a few. Krishnakumar Srinivasan, Managing Director and Chief Executive Officer at SPRL drew attention to the government cutting subsidies and localisation being the key for markets to be competitive. He mentioned, “This

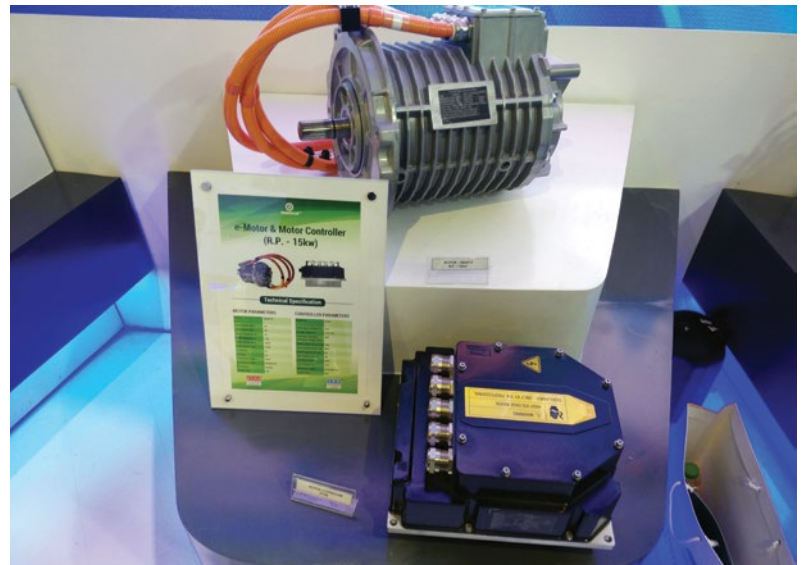
showcased the e-motor and motor controller (250 Watts-120kW). The IP67-rated hub motor with regenerating setup drew much attention at the booth. The motor was placed such that it lie submerged in liquid and was left running at over 1000 rpm. This was to establish how the motors are completely waterproofed and suitable for use in the monsoon season and claimed to be power wash friendly.

On the safety front, the company showcased its capabilities on Advanced Driver Assistance Systems (ADAS). It did so through a display of a Blind Spot Monitoring System (BSM) based on radar. The system offers a combination of blind side detection, lane change alert, rear collision warning, rear cross-traffic alert, and door opening alerts. The radar-detected signals are collated onto the ECU.

THE FOCUS ON EVS

SPRL has a state-of-the-art factory in Ghaziabad, Uttar Pradesh where IC Engines are manufactured in bulk and exported to over 45 countries. Looking at the global market switch to cleaner emission compliances (including Euro7), claimed Krishnakumar, the company has gone a step further to future-proof its solutions. Despite the focus on EVs, the company is well aware of the under one per cent penetration and continues to focus on multiple, coexisting offerings for a customer turning to the company.

Sans economies of scale, EV products continue to be priced higher than their counterparts and the company, as per Krishnakumar, is striving to bring down unit costs. It is leveraging localisation for the vast portfolio of EV aggregates across segments. With varying



rates of electrification across segments, the company is predicting that by 2030, EVs will mature to a 25-30 per cent penetration level. With this projection, the company is anticipating a CAGR of five-six per cent. Even then, it projects IC Engines to command a great deal of focus in its portfolio. Together with its partners like EMF-I, the

company will build on capabilities across motor and controller design and manufacturing. Its capabilities like in the case of Brushless DC (BLDC) motors and controllers for e-mobility are expected to hold it in good stead. It can meet customer requirements from 5” 36V 250 W BLDC Hub Motor to 12” 60V 800 W BLDC hub motors. **CV**

Industry Talk

LEVERAGING R&D FOR CO-EXISTING TECH

Shriram Pistons & Rings brings R&D to the table. In an industry talk interaction, **Krishnakumar Srinivasan** spoke to **Prateek Pardeshi** on leveraging R&D for the demand for coexisting technology.

Q. What is the significance of the new product lineup?

A. We have showcased our entire ICE product lineup. This includes the new product lines we are entering into. We showcased pistons, piston rings, pins, and engine valves apart from some new technology aggregates such as hydrogen and green hydrogen. We also have solutions for e-mobility that include motors, and controllers for multiple applications, from e-bikes to Commercial Vehicles up to 200 kW.

Q. How are you aligning with the demand for an alternative drivetrain?

A. Many OEMs are trying alternative drivetrains. We have come to the conclusion that all of these will coexist. According to me, the demand for ICE will continue and be independent of the EV demand. We are prepared for green hydrogen, and flex-fuel and Natural Gas (NG) engines. As a manufacturer, today we are delivering piston pins for the majority of the players. Having a major market share in the industry we have to service an entire range. These applications need a completely new design, and the strength which we bring to the table is our R&D. We have been developing it for over a decade. We have an in-house engineering team that is well-equipped to align with emerging trends. As a testimony, we have in-house solutions for LNG and CNG.

Q. What is the investment outlay for R&D? Are you considering higher degree of automation?

A. It is a phase-wise investment plan. We have invested three-to-six per cent of our revenue consistently almost. We have our test labs and



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other required setups on a huge scale. This set up is in our state-of-the-art factory in Ghaziabad, Uttar Pradesh. We have been working on enhancing automation levels for a long time. We have also aligned with digitisation as a buzzword over the past six-to-eight years. Automation will help us to manufacture an estimated 40 mn volume of pistons. On an annual basis, we make over 80 mn engine valves, and 150 mn piston rings, since we manufacture in bulk. It is extremely important to automate and digitise the factory so that we have a fantastic flow in our supply chain and we can readily cater to market demand.

Q. Which of ICE and EV is leading sales?

A. Well, the market is still more ICE. The EV penetration is less than one per cent. We have different market segments getting electrified in different ratios. We believe the EV penetration will be around 25-30 per cent by 2030. It is equally important to understand why we are having this CAGR growth anywhere between five-six and per cent. We believe the IC engines will remain at a fairly good number by 2030. We also have to look at how the subsidies will play out. The government is cutting subsidies. For the markets to be competitive localisation is the key. This is



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one of the reasons why we have committed a major investment in a domestic company called EMF-I for an electric powertrain to be manufactured locally and eventually get a good hold in the EV market as well.

Q. Are you supplying to EV startups for three-wheeler OEMs?

A. We cater to all segments equally, from two- and three-wheelers to M&HCVs. EMF-I already caters to two- and

three-wheeler powertrain solutions. They make hub motors, and other aggregates depending on the application.

Q. Could you give us insights into the recent acquisition of SEL?

A. SPR Engineers Ltd. (SEL) will help us to focus on newer investment areas. It is a 100 per cent subsidiary of Shriram Pistons & Rings Ltd. The EMF-I acquisition was shaped through the SEL engine. The latter will remain as a front-end engine for growth and we are looking forward to other possibilities in which we can invest.

Q. How are you aligned with the upcoming Euro7 norms and resultant compliances in India? What are the significant design and manufacturing differences?

A. There are challenges and we are equipped to overcome them, Euro7 will be an area which we can cater to easily and offer solutions on the table. Even when Euro6 came in we were the front runners. We are well prepared.

Q. Has it resulted in tangible demand on the order book from export markets?

A. SPR is a front-runner in exports. We export to nearly 45 countries and supply to major OEMs, and to the aftermarkets on a large scale. We have market-ready solutions with higher compliance than Euro7.