Threats, Opps. Of New Trends

By Harish Lakshman

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A few disruptive trends, such as autonomous driving and electrification, have taken root in the automotive industry. The progress in the last 24 months has got most of the players in the industry worried with many of them taking significant action to address them. I feel these two trends are the biggest since the development of the Internal Combustion (IC) engine about 110 years ago. Most people in the industry agree that the next 15-20 years will be the most disruptive. In addition to traditional OEMs such as GM and Ford, this has caught the attention of technology players such as Google, Uber and Apple as well.

Take electrification for instance, where Tesla has set new benchmark in terms of range. Nissan is committed to electrification and has made a mark with Leaf. Their recent Note e-Power, which is electrically driven but has an IC engine to charge the battery, is a strong contender of future powertrains. Another big news, in my view, is Volkswagen publicly committing, in its vision document 2025 that 25 % of its vehicles are going to be electric. All these news point to the fact that there is accelerated adoption of electric powertrain. This presents significant threat as well as opportunity to many auto component players.

Though electrification is also a function linked to gas prices, it has finally reached a stage where even if the price comes down further, the electrification journey will continue. With the extreme case of the complete IC engine going away it is going to drastically impact the multi-billion dollar powertrain industry. At the same time, it is going to give many opportunities to those in electronics and battery-related technologies. For the Indian auto component players it will be a big challenge to come up with innovative products applicable for electrification.

However, most forecasts for Indian industry suggest that by 2025 hardly five to seven percent will be electric, but often industry insiders are very blind. Who would have thought in early 2000 that Apple and Android would disrupt the smartphones market denting the then market leader Nokia. Even Toyota, which had earlier said that electric cars would not take off, has invested one billion dollars in electrification. Companies like Ford, GM and BMW are taking the lead.

Regardless of whether the powertrain is hybrid, electric or IC engine, autonomous is on a parallel track. This technology is bound to be developed further. Society of Automotive Engineers (SAE), headquartered in the US, has clearly defined levels of automation from L-0 to L-5. India is somewhere between 0 to 2, with some models of levels 3 and 4 starting to come out.

Google has shown that level 5 autonomous is possible and Ford has committed that the autonomous car will

be on road by 2021 and commercially sold by 2023. In L-0, L-1 and L-2 the driver is fully in control, assisted by support systems. L-5 is where he can switch off mentally – the car is fully autonomous. L-3 and L-4 are neither here nor there; it is the most dangerous because the ultimate responsibility, if any failure occurs, is with the driver. It is extremely difficult for the driver to be always in control; with so many things automated in the vehicle the driver may not be able to take control swiftly when required. It is better to jump to L-5 from L-2 as the level is fully autonomous. However, from the mass market point of view, especially the Indian perspective, we are years away - but it will start happening, initially in a closed environment and you will see it soon.

Threats, Opportunities

Definitely there are threats and opportunities. For the Rane Group's product portfolio, valve train components face threat due to electrification; but all the other products, such as friction materials and steering components, are all necessary for electric and autonomous vehicles.

Obviously, the opportunities are immense. I see it at two levels – more opportunities with autonomous because it is all software and India has an inherent advantage in IT. As autonomous cars evolve, lots of opportunities in software will crop up which I believe Indian entities can support. We already have Global Tier suppliers such as Bosch and ZF with technology centres in India to support their product development globally. The second point is increased electronics content in the vehicles with the suppliers' need to strengthen their electronics capability and benefit out of it.

Home-grown Companies

For the home-grown companies it is going to be tough – for multiple reasons. One is that India does not have a good electronics manufacturing ecosystem. Everything is imported, from cell phones to TVs – all forms of consumer electronics. Unfortunately we missed the electronics boom that started in the 1980s, unlike countries like China and Taiwan.

The good news is that the Indian market is growing significantly – all the top automotive electronics players - Bosch, Magna, Continental, Wabco, etc. - have a presence in India that is going to increase in the future. The country will benefit as they will bring in huge investments. I see possibilities for us to be Tier-2 suppliers to such large automotive electronics players and system integrators. The other challenge is that we don't have the technology to compete with the big names. That is why I believe being Tier-2 creates more opportunities; we cannot compete as Tier-1.

Digitalisation

This is clearly a trend that is going to continue, thanks to the internet

boom with all the connected devices driven by the mobile revolution. Obviously there is significant advantage as a user with the connected world of information and processing. Industry 4.0 takes our traditional factories to a completely new level. A country like the US has lost a lot of manufacturing during the last 15-20 years. I feel manufacturing will come back to the US but it would be of a much higher level with sophisticated robot-based technologies, and Internet of Things (IoT) where data management is at a much superior level.

From the Indian context, there is lot of interest on many of these aspects as lots of it is low-cost automation. We will not take a full-fledged Industry 4.0 transformative exercise as it will be difficult to justify the Return on Investment. However, we will invest on tailor-made bolt-on projects. This kind of experimentation has already started in many of our plants where we connect machines to a computer to get live information on vital parameters. These kinds of technologies will only increase in the coming years. The only challenge that I see is standardisation of solution. Solutions are available but each follows its own methodology. We are not able to replicate these solutions across similar requirements. Standardisation helps companies to structure their cost economics. We need standard solutions to address Industry 4.0 on a large scale.

IoT To Fuel Supply Chain

In India, we will see a lot of progress in the supply chain as there is more inefficiency compared to other developed economies. The average cost of supply chain in India is 13 percent while in the developed markets it is between 4 and 6 percent I think technology will help narrow the gap bringing in operational efficiency to the supply chain. Today the tracking mechanism we have for vehicles is far superior to what we had five years ago; technology based solutions for logistics is at a much higher level now, at lower costs enabling shorter delivery times.

Additive Manufacturing

Additive manufacturing is very useful from an R&D and product development standpoint. Many of our plants are already using it where we are able to reduce product development lead times. At this point, many companies outsource the 3-D printing considering the cost aspects. As the costs are coming down, we may consider investing in a 3-D printing machine in a year or two. But I don't see additive manufacturing being utilised in automotive space with high volume mass production setup. The technology has not evolved to that stage to give very high volumes of millions of pieces. I see additive manufacturing coming into industries that have low volumes but require lot of engineering like aerospace and defence.

Our Group's performance last year was decent for us. We are growing - both in the domestic and international front. Every few years we are also adding new products to our existing portfolio which helps to sustain better growth. Our recent addition was airbags and we continue to explore opportunities to add newer products. In most of the products we make we are ranked either number 1 or 2. The strategy is to defend our share and also grow in the domestic market, in line with the Indian industry.

Another strategy is to grow exponentially in the international market which we are achieving through a combination of exports and expansion of footprint by M&As. Rane has one overseas plant - in the US - and two sales offices in North America and Germany where we have been adding employees. APA

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