08th January, 2019

To,
The Manager- Listing Department
National Stock Exchange of India Limited
Exchange Plaza, Plot No. C/1,
G-Block, Bandra- Kurla Complex,
Bandra (E) Mumbai 400 051, India

Subject: Interview of Mr. Jignesh Raval, Managing Director in Magazine

Ref: Series SM & Symbol: SINTERCOM

Dear Sir/ Madam,

This is to inform you that below mentioned magazines has covered interview of Mr. Jignesh Raval, Managing Director of the Company. Please find enclosed herewith scan of the interviews.

1. Auto Tech Review– December, 2018 edition;
2. Auto Parts Asia- November, 2018 edition

Thanking you

Yours faithfully

For and on Behalf of
Sintercom India Limited

Anuja Joshi
Company Secretary and Compliance Officer
A32971

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AUTO TECH REVIEW

The language of technology

EMISSION CONTROL TECHNOLOGIES — MOVING TOWARDS CLEANER ENVIRONMENT

POWERED BY ATZ

SINTERCOM I **BETTING BIG ON SINTERED COMPONENTS**

Pune-based Sintercom India has made its presence felt in manufacturing sintered components in areas such as engine, transmission and chassis. Besides engines and transmissions, sintered components are also used in steering, suspension, door lock parts, brake parts, seat assembly components and alternators, among others. Auto Tech Review met up with **Jignesh Raval, Managing Director, Sintercom India** to understand the growing adoption of sintered components in the automotive industry.

BACKGROUND

Sintered components are steadily gaining prominence in the automotive industry across the globe. According to data released by the Powder Metallurgy Association of India (PMAI), approximately 17-18 kg of sintered components are being used in a vehicle in the US, whereas around 12 kg of sintered components are used in a vehicle in Europe and Japan. The working depth of the sinter technology is huge in Europe and spans across industries beyond automotive – aerospace, medical industry, consumer goods, etc. Needless to say, the sinter technology has immense potential within the automotive industry, but this technology hasn't been adequately leveraged in India, where around 4-5 kg of sintered components are used in a current vehicle.

Sensing this huge opportunity, Sintercom forayed into the Indian market to manufacture sintered components. The company's journey into manufacturing sintered components began developing idler and driven gears through a sintering process for Bajaj Auto – its sintered components were successfully tested on around 100 vehicles of Bajaj Auto.

Raval said 30 % of automotive components have an impact load; these components with impact load cannot be sintered because there is low density than forging. Almost 70 % of automotive components do not have any impact load and these components can be converted into sintered components but there are obvious limitations, in terms of the process itself. Since this process works on a vertical motion and not on a horizontal motion, one cannot produce a thin-wall product or product that has much more cavity on the horizontal side products, he noted.

SHIFT TO SINTERED TRANSMISSION GEARS

The automotive industry across the globe is increasingly shifting its focus from forged transmission gears to sintered transmission gears. Over the years, such transmission gears have been aggressively produced from the forging industry and were identified by the European Union as one of the root causes of producing emissions. It is significant to mention that the EU has been urging OEMs to leverage sintered products for future transmissions in a bid to reduce emissions. The EU is determined to encourage manufacturing of sintered transmission gears globally and is willing to invest on R&D – in fact, around 100 vehicles have been deployed in Europe with sintered transmission gears.

Raval said a sintered gear can work in a transmission, save for the first and the second gear. Sintered components cannot come into play for the first and second gears because there is a jerk in the car. However, the EU has been urging OEMs to conduct tests of the third and fourth gears.

With the impending rollout of BS VI standards in the country, many products designed to meet the stringent standards are getting converted from 'forging' to 'sintered'. Raval said these products, such as variable cam drive and variable valve drive, have been added to the engine to control emissions. There are products within the variable cam timing (VCT) and variable valve timing (VVT) that have to be produced through the sintered route owing to the complexities associated with these parts, he noted.

The automotive industry is also focussing on 'sintering' of mass balancers. Such mass balancers are produced through forging, but if produced through the sintered route, it can reduce engine weight, resulting in improving fuel economy. Split gears too are generally known to produce more sound because of the gear backlash. Sinter technology has ensured the male and female gears are of the same size, and the assembly job not only ensures zero backlashes but also reduces the sound produced by split gears, Raval explained.

Sintercom also converted the casting bearing caps on the Mahindra Scorpio and Bolero into sintered bearing caps. Leveraging sintered bearings caps resulted in a nine per cent weight reduction, translating into significant fuel savings. Delving deep, Sintercom said it did not change the dimensions while developing the synchro hubs and only inserted some pockets in the hubs that reduced its weight by 4-5 %. Each weight of a synchro hub is 250 to 300 gm, and when one calculates 300 gm over five per cent, around 75 gm of vehicle weight is reduced. This result in 2-3 % weight reduction, he noted.

Electric vehicles are a big buzz despite not much headway being made on the ground. For now, Sintercom does not manufacture any EV products, but it is betting big on manufacturing magnetic planetary gears used in EVs, as these gears are poised to be eventually sintered, Raval said.

ROUND-UP

Sintercom currently operates its plant at Talegaon, near Pune and has drawn up plans to set-up a plant in Gujarat by 2021. The nascent Indian automotive sintering market is pegged at around ₹ 1,200 cr at the end of FY 2018 and based on the expected increase in the passenger vehicle segment, this market has the potential to touch ₹ 2,000 cr by 2020, Raval stated. Further, with BS VI emission norms coming into play, there will more demand for sintered components owing to complexities and criticalities involved in the components, he said.

TEXT: Suhrid Barua

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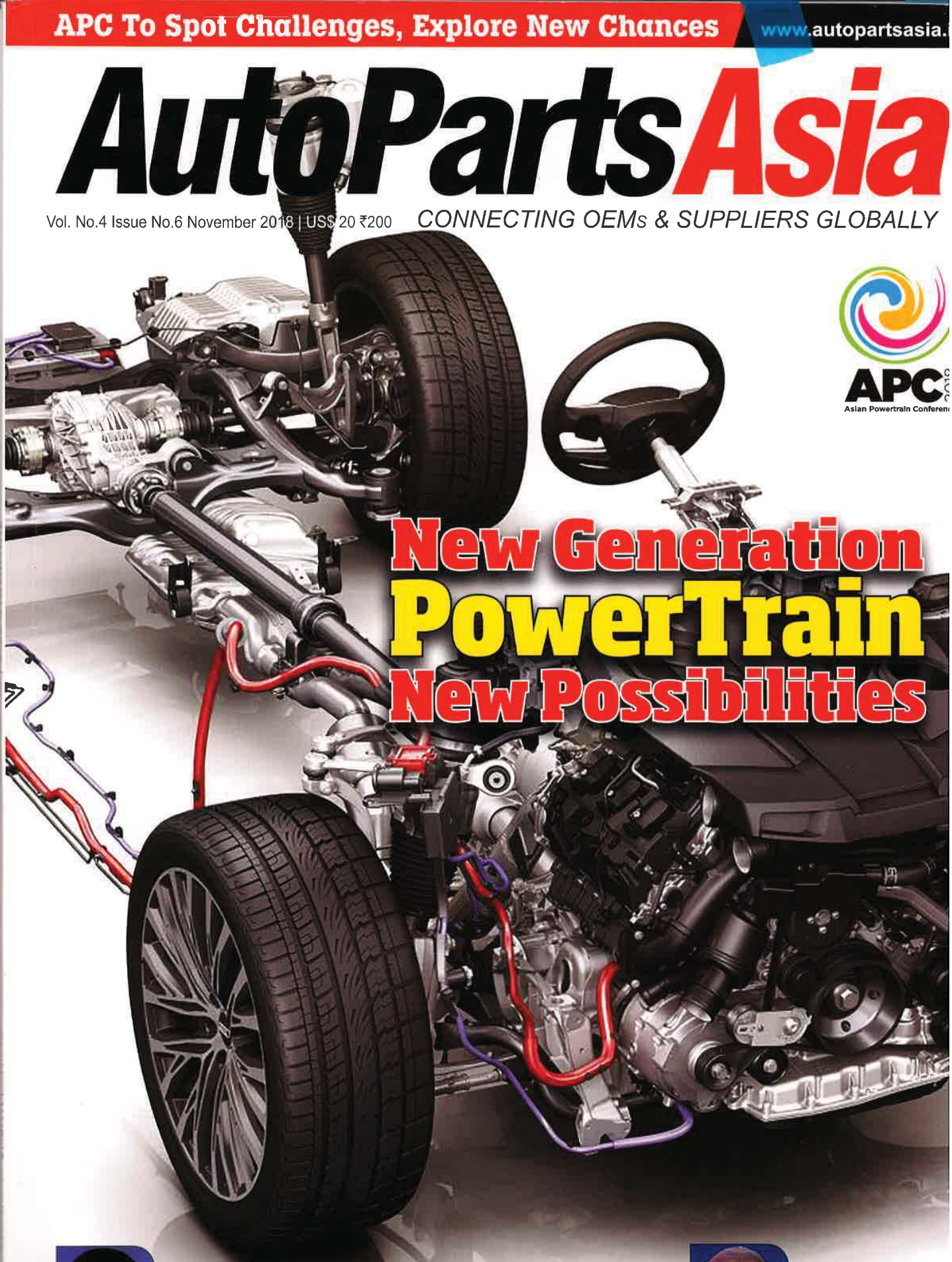

New Generation PowerTrain New Possibilities

Combination Of Multiple Elements Will Drive Future Mobility
Fuquan Zhao

South Africa Mast Plan 2035 To Raise Auto Indust On Localisation
Renai Moothilal

Sintercom Expects Better Business From EVs, BS-VI

By Pramod Thomas

The automotive industry consumes good amount of sintered components, mainly in transmission and engine. The consumption is set to grow with the introduction of Electric Vehicles (EVs) and the BS-VI norms. Sintering industry caters also to sectors like consumer goods, off-road equipment, medical equipment and similar others. The present organised sintered components market in India is pegged at Rs 1,200 crore. It is estimated to reach Rs 2,000 crore by 2020.

Sintering is the process of compacting and forming a solid mass of material by heat or pressure without melting it to the point of liquefaction. The Powder Metallurgy Association of India (PMAI) data show that a vehicle in India uses around four kg of sintered components. In Europe and Japan their use is over 12 kg. This indicates the huge potential and opportunity for the sintered products manufacturing industry in India.

"The transition towards BS-VI norms requires significant engine technology changes, including improvement in engine combustion and calibration, increased injection and cylinder pressure, NOx and particulate matter (PM) after-treatment solutions, and adopting electronic controls. This presents opportunities for increased use of sintered components in vehicles as the OEMs will look for more fuel-efficient engines by adding components such as variable valve timing (VVT) and Variable Camshaft Timing (VCT) and lightweight powertrains by reducing the weight of the components. Sintered products are lighter than casting/forging products hence preferred by the OEMs. This technology will not only increase the efficiency of the vehicle but also enhance the mechanical strength," Jignesh Raval, Managing Director, Sintercom India Ltd, said.

Sintercom India was established in 2010 with a vision to improve the material yield using advanced sintering technology and to increase the sintered component use in a vehicle up to 10 kg. Since inception, the company has been focused on the conversion of the components manufactured through forging to sintered process.

"We can claim that out of the additional 1.5 kg sintered parts per vehicle added in the auto segment since 2010, we have contributed at least 800 gm. Sintercom has six percent share in the Indian sintered products market," he said.

Product Portfolio

Sintercom's products portfolio can be broadly classified into engine, transmissions and body/chassis and stainless steel parts. Its main revenue source is powertrain components. The company holds the highest market share within India for the supply of transmission hubs. The engine product portfolio includes engine drive gears, chain sprockets, belt pulleys, cam-to-cam gears and engine shaft bearing caps for engines ranging from 800 cc to 2,000 cc. Sintercom manufactures a broad range of components for transmissions hubs from 60 N/M to 400 N/M for both petrol and diesel vehicles. It also specialises in the manufacture of stainless steel sintered parts used in the exhaust application of the vehicle.

The company provides high-value proposition of high volume, high precision and low-cost components, tailored to specific requirements. The customers of Sintercom include automotive OEM's like Maruti Suzuki, Mahindra & Mahindra, Bajaj Auto, Fiat India, and Hyundai Motors. They contribute close to 90 percent of the company's revenue.

Sintercom has one of the best-in-class production facilities at its Talegaon, Pune, plant. It has installed various compaction machines ranging from 70 tonne to 500 tonne. Further, the company has installed sintering furnaces with a total capacity of 1,980 tonne as of March 2018. Currently, the company has


Jignesh Raval

added a 1,600-tonne new furnace to meet the customer demand. It has 150 employees. "Considering the benefits emerging from AI, we have installed devices on our key compaction machine and furnace which will capture the real-time data and algorithms on the machine that help us programme the machine for higher productivity. Further, we are also exploring camera inspection at our final inspection line to automate the inspection activity," Raval said.

In 2011, Sintercom entered into a joint venture with Austria-based Miba Group, one of the global leaders in sintering technology. Its global revenue is close to EUR 400 million and is catering to various leading OEMs' like VW, BMW and GM.

The company is focused on the domestic market owing to high demand for its products from the OEM customers. However, Sintercom has been exporting synchro hubs to Suzuki Motor Corporation Japan, through Maruti Suzuki, for the past one year. It has received business nominations from Fiat for development of zero backlash gears which has good potential for export to Fiat Italy and China.

"The company has always believed in its ability to transform and grow by developing differentiated products using technology in-house and at Miba R&D capabilities. We have successfully converted cast iron bearing cap to sintered bearing cap for one of the Indian OEMs. We have also developed a new generation synchro hub by introducing pockets in the rib without affecting the performance of the product. In both the above cases, there has been a weight reduction of around 10 percent of the product," he said.

Ready For E-mobility

When asked about the company's strategy for electric mobility, Raval said that Sintercom has the technology for the development of helical pulleys for electric power steering (EPS) applications and high precision components for actuators.

"The penetration of electric vehicles globally has its own challenges. However, assuming that we see 100 percent electrification in the auto sector, we are prepared for the same. The company is working closely with the Miba R&D facilities to adapt to the emerging technologies for manufacturing gears required in a planetary gearbox in an electric vehicle. There will be requirements of sintered components in an electric vehicle. Because of its lighter weight, net shape and precision parts, sintered component players will have an important role in the electric mobility segment. As part of our long-term strategy, we will diversify our product portfolio into consumer goods and medical industry in the near future," Raval said.

Sintercom India foresees ample opportunities for indirect exports as many new players like PSA Avtec, Kia Motors, and MG Motors are setting up their plants in India and will also be focusing on exports from India. The company has concrete plans to look at potential new export customers in the next two to three years.

"In the short term the company eyes expansion of the existing capacity of the plant. Based on the order book, we plan to increase the capacity of the compaction press and the sintering process in a phased manner. We have increased the annual sintering furnace capacity from 1,980 tonne to 3,600 tonne. Parallelly, in 2018-19, we propose to increase the compaction press capacity to 12 million strokes a year from 9.45 million strokes. We propose to maintain the average plant capacity utilisation at around 75-80 percent. Strategy for the long-term horizon is to enhance our customer base and product base with a mandate for compliance with BS-VI norms by 2020 and to integrate new technology of metal injection moulding with efforts to improve functional efficiencies," Raval said. APA