

We attended Auto Expo – Components 2023 in Delhi (Pragati Maidan). About 800 companies from 15 countries including Canada, France, Germany, India, Israel, Italy, Japan, Poland, Singapore, South Korea, Switzerland, Taiwan, Thailand, the UK, and the USA participated showcasing thousands of their existing as well as new launch of products with particular focus on lightweight electric vehicle products. We have noticed BMS is a standard product many companies have developed and some of sourcing out of India. In Auto ancillary significant raw materials were 1) Steel, 2) Rubber, 3) Plastics 4) Aluminium, and 5) synthetic rubber. Apart from that, a very positive outlook is given for the EV, CV, and off-highway industries for the upcoming year.

Key takeaways

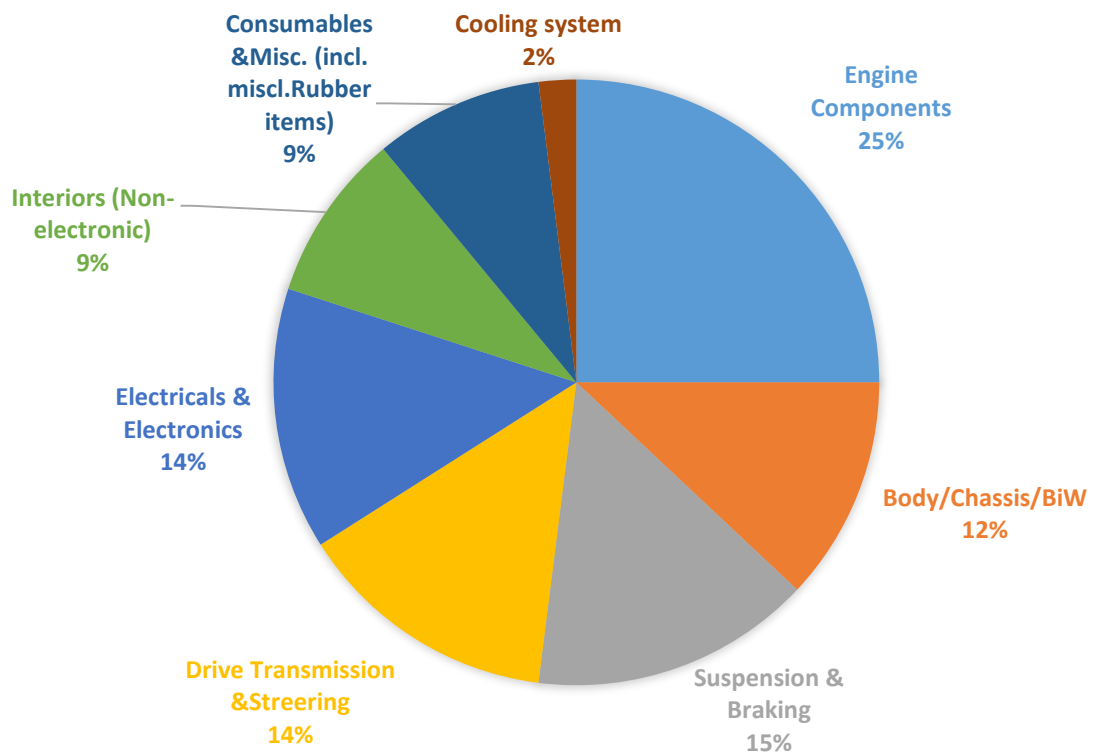
- The Indian Auto component industry in general is on a robust path, with strong rebound seen in almost all segments.
- **>60-70% of stalls were dedicated to EV-related components ranging from Traction motor, BMS, DC-DC convertor, On-Board charger, Controller, Battery Pack, E-throttle, Heat Pump, Gearbox for traction motors, Traction motor shaft, Hub motor, regenerative braking system, etc.**
- **In addition, component manufacturers displayed products relating to premiumization, safety, and comfort.** In the last three years, there has been considerable development in technology, and the expo featured new safety technologies like as ADAS, blind spot detection, and battery cooling technology.
- **In Components Show also included Low Weight Tailgate and Sunroof;** Tyre Changing Attachment for EVs; Energy Efficient Power Control Units; Nano-Catalyst for Coating CDPF; Friction Motor Cooling System; Semi-Solid Lilon Cell; On-Board Carger (OBC); Digital Twin Benchmarking, Delta Costing and Iceberg 3.0; PVC Fabric Tarpauline; LSR Components for EVs.
- **In Components Show highlights the shift in automotive trends towards clean technology, software, connected, autonomous and shared mobility, and electrification.** It is the largest show for the auto component industry in the country, highlighting new technologies, R&D, indigenous solutions, sustainable and responsible manufacturing.
- **2W and 3W segments will increase its portfolio in electrification as main stream.** Forecast to have 30-50% EV market by 2025.
- **The majority of auto component manufacturers are ready to manufacture and assemble locally one or more EV component solutions, with technical JV/Association support with their overseas partner.**
- **4W segments also foreseeing to increase their EV market share.** Not aggressive as 2W and 3W. However, every 4W OEM will have at least 1 product in BEV by Q3FY23.
- **Almost all traditional Tier-1 suppliers planning to have their footprints in e-mobility.**
- **Capex and diversification: We have seen a lot of product & segment diversification and that requires large Capex.**
- **Auto component players expect strengthened exports through new FTAs and increased export benefits rates under existing schemes such as RoDTEP.**
- **Despite the increasing penetration of EVs in this decade, expect the vehicle industry to register a nominal CAGR of 4-5%, which, when combined with the immense motorization potential of the Indian market, will offset the 30% growth anticipated in the EV category.**
- **The automotive value chain, which spans across different geographies of the country, is a large, integrated and complex network of OEMs and suppliers.** It contributes 6% of the country's national GDP, 49% of the national manufacturing GDP and is responsible for over 30 mn jobs. The auto component industry is dominated by SMEs which are the key drivers of India's economic growth and the 'Make in India' program.
- **Exports are expected to grow and reach US\$ 30 bn in FY26.** A cost-effective manufacturing base keeps costs lower by 10-25% relative to operations in Europe and Latin America. India is the second largest steel producer globally, hence has a cost advantage.

View: We remain positive on the Auto ancillary coverage universe led by EV agnostic products and increase the share of the premium, safety, and comfort content in their product portfolio. Our top picks in Auto ancillary are Gabriel and Suprajit Engineering.

About companies-

- **Sona BLW Precision Forgings Ltd** (Sona Comstar) aims to double the share of its global electric vehicle business to 45%-50% of revenue by 2025. They have first mover advantage.
- **Cummins Group** in India, mulling to launch lithium Iron Phosphate (LFP) battery pack solutions for the evolving electric city bus market in India over the next five years.
- **Brakes India**, the INR 5,000 crore revenue TSF Group has used the platform of the Auto Expo 2023-Components Show to showcase the latest development by its wholly-owned company. The indigenously developed motor-on-drum brake system is designed for use in passenger vehicles.
- **The auto companies launching more of LNG Based vehicle.** Currently, CNG is total 6% of overall sales which is targeted to increase 10% going forward.
- **Shriram Pistons & Rings (SPRL)**, a leading Indian component player in the conventional-powertrain domain, has reaffirmed its commitment to the internal-combustion engine (ICE), even as it simultaneously gears up to cater to the future industry requirements of clean mobility technologies.

Exhibit 1 : Component Sales By Category



Source: Company, Arianth Research

Auto component suppliers are expected to log an 8-10% growth in revenue this fiscal led by healthy demand from domestic original equipment manufacturers and pent-up demand from the aftermarket as per ICRA. Domestic original equipment manufacturer demand constitutes almost 50% of sales for the Indian auto component industry. This is likely to remain healthy in FY23, with double-digit growth expected in both passenger vehicle and commercial vehicle segments. Furthermore, select companies have also started witnessing a healthy ramp-up in revenues with a steadily rising share of EVs where content per vehicle is expected to rise considerably ,and added that these trends will translate into healthy growth for auto component suppliers over the medium-to-long term. The auto part makers are also likely to see a 50-75 basis points improvement in operating margins in FY23, with margins for the ex-tyre sample likely to return gradually to pre-Covid levels of 10.5-11%.

A brief interaction with the companies are highlighted below:-

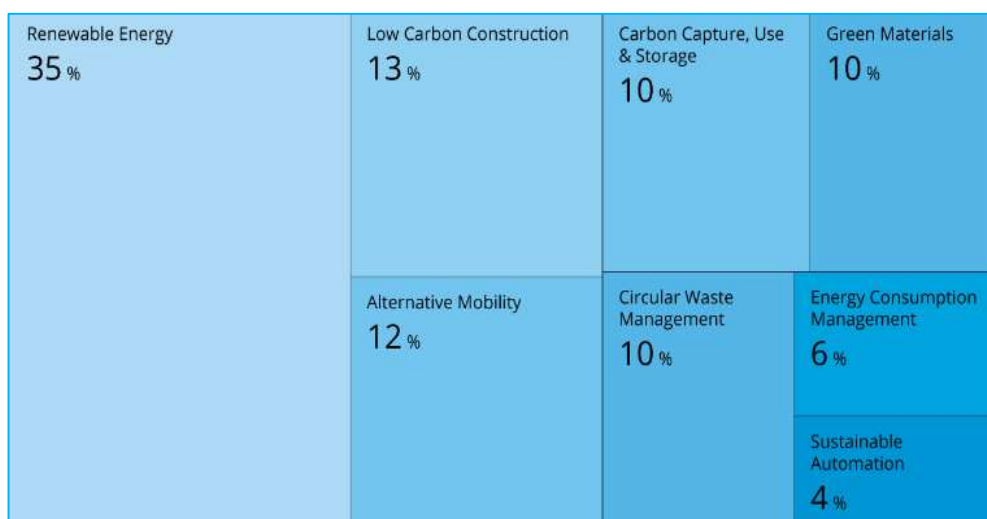
Anand Group

- The company discussed about sustainable products it could be for EVs and it could be for renewable energy it could be for some other solar related applications but mainly which helps in expedited or accelerating the sustainable cost.
- The company has announced on Thursday their new cleantech platform, ‘ANEVOLVE’ to create, design, and manufacture green technology solutions for electric mobility and other sectors.
- At ANEVOLVE’s launch at the Auto Expo in New Delhi, Jaisal Singh, Executive Chairman of ANEVOLVE, announced three partnerships with sustainable solution providers from Japan, Israel, and Britain. He also stated that the Group’s first EV-focused company, Anand Mando eMobility (AMeM), a joint venture with HL Mando of Korea that manufactures motors for two, three, and four wheelers and controllers for two and three wheelers, will also form part of ANEVOLVE.

Three MoUs with greentech firms

- As it builds its platform, ANEVOLVE has signed an MoU with an Israeli start-up, ZOOZ, to initially supply the Tel Aviv-based company critical precision machined parts for mechanical energy storage systems for EV infrastructure in international markets, especially the US and Europe.
- ANEVOLVE is targeting at least INR 3,500 crore in revenues by FY2028 and will need to hire about 2,500 people by then. It will operate from the National Capital Region and house an innovation hub, a design centre for advanced technologies as well as manufacturing facilities in other parts of India. AMeM already has a cutting-edge manufacturing facility in Bhiwadi, Rajasthan
- As ANEVOLVE develops its cleantech solutions, products, and applications for sustainable mobility, it is looking at more collaborations in the coming months.

Exhibit 2: Impact of Top 8 Cleantech Trends & Innovations



Source: Company, Aриhant Research

ANAND Group, a leading manufacturer of automotive components in India, today further consolidated its presence in the Indian automotive safety systems vertical. ANAND Group has Tri-Party Joint Venture with Joyson Safety Systems (“JSS”) in India. The new Tri Party Joint Venture will be called “Joyson ANAND Abhishek Safety Systems Private Limited” (“JAASS”). JSS 65%, ANAND Group 30% and Abhishek Group 5%.

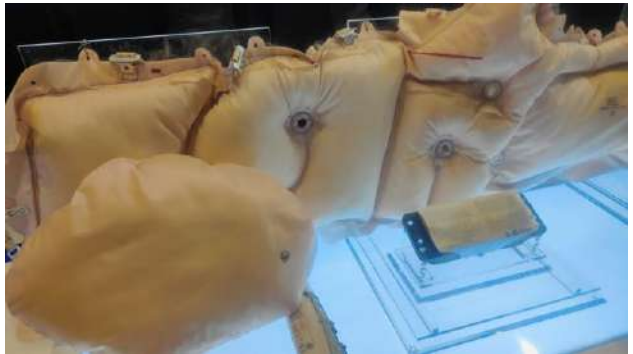
- Joyson Safety Systems is a global leader in mobility safety providing safety-critical components, systems and technology to automotive and non-automotive markets.
- JAASS is poised to become a leading supplier of safety-critical components such as airbags (all types- driver, passenger, side, curtain etc.), seat belts (front and rear) and steering wheels to all major OEMs in India and is projected to achieve a turnover of INR 1000 Crores by 2023.

Airbag Systems

- Joyson Safety Systems driver airbag modules allow incredible design scope in combination with the steering wheel. They fulfil all quality and legislative requirements for every market and offer optimum performance.
- Driver airbags by Joyson Safety Systems offer reliable functionality delivered through a combination of robust design and a high level of standardization in the non-visible area.
- **Price range:** Airbag price range INR 3500 to INR 4000 and in total INR 5000. In Car for side approx. INR 1000 and Curtains INR 1000.
- **Major Competitor:** ZF Rane Automotive India Private Limited is major competitor in Driver Air Bag and Passenger Air Bag.

Steering Wheel

- The steering wheel is not only a central visual element and a key design feature of the vehicle interior - it also fulfils functions relating to safety, functionality, comfort, visuals and driving enjoyment. Add to that the individuality factor, and it is easy to see the major importance that steering wheels have.
- **Raw Material:** The company manufacture steering wheels from **die-casted magnesium or alloyed steel** frames which are foamed with urethane foam, leather wrapped, and finally assembled. Multifunctional switches and decorative parts such as wood elements or carbon fiber parts are manufactured at Joyson Safety Systems and individualize each steering wheel.
- **Advanced functions** like steering wheel heating, hands on detection, light elements on the steering wheel rim and vital sign sensing can be combined with any surface material and enable future automated vehicles.
- **Price range:** The company steering cost INR 3000-3500.



Sona Comstar, a leading supplier of differential bevel gears and assemblies to passenger and commercial vehicle OEMs in India and overseas, which has diversified into e-axes and e-motors for electric two- and three-wheeler OEMs in the domestic market, has lined up a comprehensive display of futuristic technologies.

- The company will showcase a range of advanced driver assistance systems (ADAS) sensors developed by Serbia-based Novellic in which it recently announced plans to acquire a 54% stake at INR 356 crore by end-Q4 FY2023.
- Novellic has developed an in-cabin radar-sensing technology to monitor vehicle occupants using millimetre or mmWave technology which offers a wireless solution to ascertain presence of passengers inside a vehicle to offer functionalities such as triggering seatbelt alarm and airbag system activation.
- The technology company also offers perception solutions and full-stack embedded systems and is vertically integrated across the value chain from machine learning and perception software to hardware and chip design. Novellic’s partners include global automotive OEMs, autonomous vehicle makers, Tier-1 suppliers and chip manufacturers like Infineon and Texas Instruments.

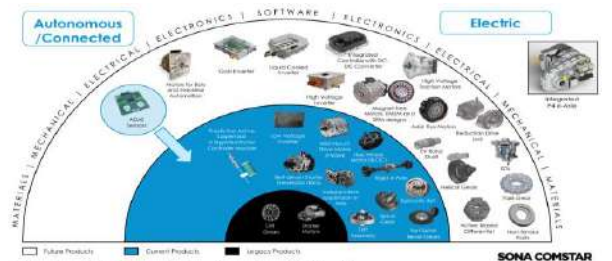
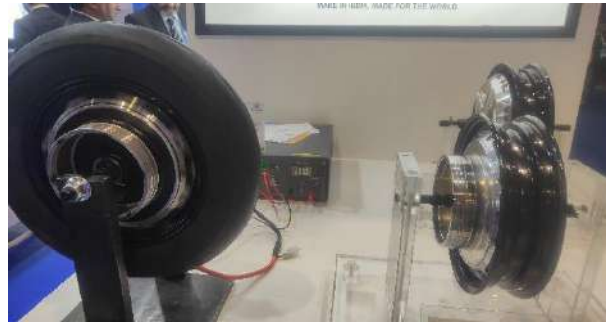
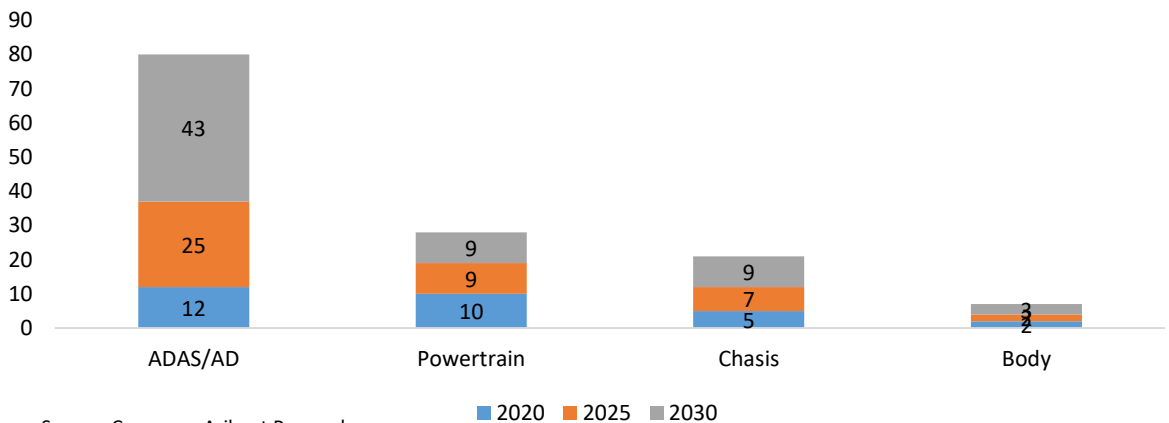


Exhibit 3: ADAS/AD sensors market size (USD Bns)



Source: Company, Arianth Research

Outlook: SONACOMS continues to be a good indicator of the global electrification trend with a revenue mix of approximately 25% from electric vehicles and a mix of approximately 68% in the order book. This, coupled with its focus on product portfolio expansion, global scale and customer base expansion, will translate into strong earnings growth and healthy capital efficiency.

Pricol Limited

The company is one of India’s leading automotive technology and precision engineered solutions company, showcased its robust product portfolio of automotive solutions at the Auto Components Expo.

- Heads Up Display (HUD), E-Cockpit, Disc Brake, Round **TFT Instrument Cluster**, **TFT Smart Clusters**, End-to-End Telematics solution and Battery Management system (BMS) along with their existing range of products. The line of products unveiled at the Expo 2023 cater to all vehicle segments and they are all EV ready solutions. In line with ‘Make in India’ initiative, the company has been involved in the in-house designing for all its products and solutions with the commitment, dedication and collaboration of 5100 strong, talented and value driven employees.

Exhibit 4: Product Verticals



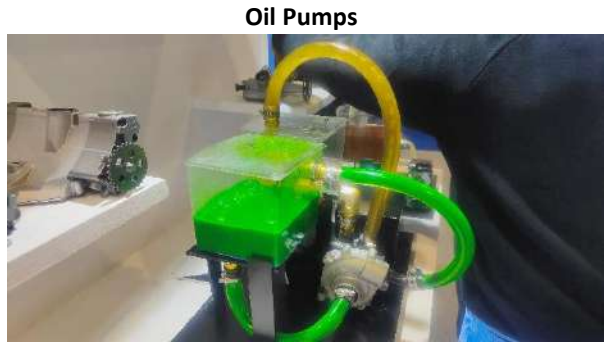
Exhibit 5: Major Customers



Source: Company, Arihant Research

Entered into an International licensing agreement with BMS PowerSafe, a part of Startec Group to manufacture and sell Battery Management System (BMS) for Indian Market. They launched in Auto Component Expo in 2023.

Outlook: Going forward, Pricol see very good opportunity in the Driver Information System as well. So, Pricol is working already with multiple customers through the Indian origin also, where it is exported through the Indian JV partners, and then it is exported to their parent company. So, they feel that there is a good opportunity in front of them for the Driver Information System using the new technology like the TFT clusters, already launched in the domestic market, and exporting to customers as well. So at this point of time, the function mechanical products are more on the export, but as the company is going along, the company find that it is going to have equal opportunities on both segments growing.



Suprajit Engineering Ltd

Suprajit Group comprises of Suprajit Engineering Limited, Suprajit Automotive Limited, Suprajit Europe Limited, and Phoenix Lamps Limited. The group is a global leader in the automotive cable and halogen bulb industry.

Exhibit 6: Product Details

Digital & EV Clusters



Digital & EV Clusters



Mediums force Actuator



Halogen Lamps



Flock Cable



Brakes



Source: Company, Arihant Research

- The company new age products have much higher realization than its traditional products. Like normal mechanical cables for cars priced around INR 100-200, while instrument clusters ranging from INR 2,500 to as high as INR 12,000 for touch screen based. ethrottle cables (used in EVs) realization is 8- 10x higher than normal cables.
- The order book from new products is about 2bn, a few months ago it was INR 1.6bn. RFQs keep floating almost every day with OEMs for different products.
- **Outlook:** Its three products instrument cluster, ethrottle and actuators are some of the products where Suprajit has been winning orders from EV and ICE players.

Endurance

Its major focus is 2W, 3W. The company developed BMS for electric PV as well, but it's not yet commercialized.

Exhibit 7: Product Details

Heat Sink & Control Mounting



Break DISC



Master Cylinder Assembly (CBS)



Front Caliper Assembly



Mono Shox Absorber



AXLE CLAMP



Source: Company, Arihant Research

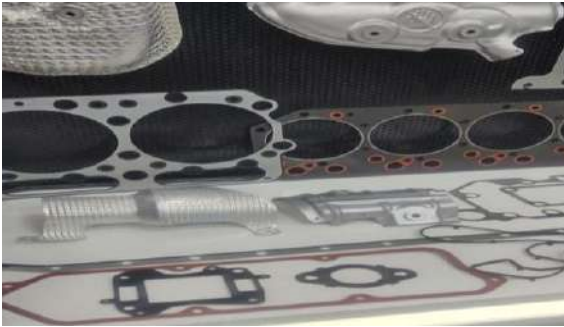
- The company has almost all the OEMs in the customer list across segments like **2w & 3w top clients like Bajaj Auto, HMSI, HeroMoto Corp, and Piaggio vehicles.** In EV, customers like Ather, Greaves Cotton, Her Electric, and many more. In PV segments like BMW, Daimler AG, KIA Motors, etc.
- **Outlook:** Overall positive view for the endurance group as they are doing a healthy order book along with decent growth. The strong clientele will them to grow further.

Talbro Automotive Components

The Company, along with its joint venture companies, boasts of an extensive product portfolio which includes Gaskets, Heat Shields, Forgings, Chassis and Suspension Systems, Anti-vibration Components and Hoses. Backed by its diversified product basket, the Company caters to different automobile segments, including PV, CV, 2w, 3w, Agricultural machinery, Off-loaders and Industrial vehicles, among others

Exhibit 8: Product Details

Gasket division under Nippon Leakless Corporation (Japan)



This is manufactured under Magneti Marelli Talbro Chassis Systems Private and this is huge in demand



Gasket with Nippon Leakless



Source: Company, Arihant Research

- The recent order won of INR 4000 Mn will help the company to gain clients across the geography, and good relations with the new and existing clients.
- The company is doing pretty decent on the **Magneti Marelli side**.

Steel Strips Wheels Ltd (SSWL)

- The product on display was the Controller made with Redler company of Israel and its focused vertical in India is EV -2w & 3W.
- Alloy wheels is running at near peak utilization will complete debottlenecking exercise by Feb FY23, which will increase the capacity from 3mn to 4mn per annum.
- The company is very optimistic about alloy wheels demand in domestic for FY24e, and will start exports in the next 4-5 months.
- Recently, Steel Strip Wheels Limited (SSWL) has signed a Memorandum of Understanding (MoU) with Israel-based Redler Technologies to set up a joint venture in India.
- The Association will synergises SSWL's manufacturing capability, large customer access and strong presence in India with Redler's access to advance technology to significantly contribute towards ATMANIRBHAR BHARAT theme of India," the company said.
- This will help to bring state-of-the-art technology products with an aim to promote 'Make In India, Make For World.
- Joint Venture company SSWL-Redler EV solutions focusing on developing, manufacturing and servicing innovative state of the art motion controllers.
- SSWL an Indian based Global leader in wheels will lead to support the EV market product penetration in India while Redler an experienced and dynamic high-tech Israel company through this JV will support in development of small and efficient Motion controllers for the EV market alongside low voltage micro-grids.
- The JV's Micro eV Controller is small in size and can power motors ranging from 6-15kW at 72V DC with 85-135ARMS.
- Interestingly they have a IoT enabler too (for full range of AI reports) through Cloud-Wise I-Sticker which is just a Stick & Go solution.
- SSWL manufactures steel and alloy wheels for automobile, tractors and off-road equipment makers to serve clients in domestic (77% of total volumes in FY21) as well as export markets (23%).
- Started business with Maruti Suzuki, and now has almost all domestic large OEMs in its kitty. BMW, Audi, JLR, PSA, among others are in the export client list.
- The calculated market share of SSWL in steel wheels is about 52% in PVs, 37% in tractors, 33% in CVs (Majorly present in MHCVs), 29% in two & three wheelers. Its PVs alloy wheels market share is 20%, growing faster from just 3% in FY19.

Alloy wheels Industry

- Alloy improves overall appearance of a car. Adds beauty, elegance & a sporty look.
- Can be customized to premium designs & sizes.
- As alloys are light in weight, it increases fuel efficiency.
- Lighter rotational mass improves acceleration & braking.
- Longer tire life because of better heat dissipation (alloy wheels are better conductor of heat).
- No corrosion or rust, perfectly round & balanced hence no wobbling even at high speed.
- Suitable for modern tubeless tires as its perfectly air tight, and other factors.

Exhibit: 9 The opportunity in PV exports

- The company supplies spare wheel to the PV OEMs in the US and Europe.



Spare steel wheel in a car



Global OEMs have confidence in SSWL's steel wheels

Source: Company, Arihant Research

Varroc Engineering:

Varroc showcased all its products including new ones viz. Chargers, BMS, DC-DC convertor, Tractor motors, Controllers, Blind spot detection, among others. Except Blind spot detection, all other products are production ready & have orders.

Exhibit 10: Traction Motors



Source: Company, Arihant Research

Subros: As of now, the company has no orders for EV cars. It already have the product/technology to make different compressors & chillers for electric vehicles. Subros makes products for Room AC players like Voltas, Havells, etc.

GNA Axles: The company is doing decent on the domestic CV industry, while domestic tractor is stable. Internationally, its sales is doing reasonably better with incremental volumes coming in from its new segment SCVs. Additionally, received orders from Jimny & M&M's SCV in India.FY24 & FY25 will be a good year as it has good orders for SCVs components especially from international markets.

Exhibit 11: Product Details



Source: Company, Arihant Research

In India, Automotive Component Manufacturers Association of India (ACMA) will see growth as passenger vehicles and commercial vehicles are expected to grow. If there is a recession in the US...hopefully volumes will get replaced by other export markets. The turnover of the automotive component industry stood at INR 2.65 lakh crore (USD 33.8 bn) for the April-September period, registering a growth of 34.8% over the first half of the previous year.

Brakes India

Brakes India's indigenous motor-on-brake system uses an actuator which is common for brake drums of diameter ranging from 200mm to 295mm, therefore ensuring compatibility for both cars and large SUVs. The system is also capable of offering up to 200kg of load at the lever end, stepping it up from 150kg in conventional EPBs.

EV: The product strengthens footprint in the EV segment for both domestic and international markets and has been validated in line with global braking norms. The design is compact and robust and the company is seeing tremendous market response.

Exhibit 12: Motor on drum Brake



Source: Company, Arihant Research

Brakes India currently commands a healthy order book of INR 1,500 Cr and sees exports contributing 20% to its overall revenues. The company exports to over 30 countries including Europe and North America and its exports growth in the ongoing fiscal is in the range of 15-20%.

Exhibit 13: Hydrogen internal combustion engine



Source: Company, Arihant Research

Cummins Group in India,

Cummins is a leading power solutions technology provider, mulling to launch lithium Iron Phosphate (LFP) battery pack solutions for the evolving electric city bus market in India over the next five years.

According to Brian Wilson, New Power Global Leader Cummins, 50% of India's city bus market will turn electric in next five years and LFP technology is going to grab a sizable share within this market due to its significant cost advantage.

India's city bus market is evolving at a faster pace and LFP technology is widely adopted here. These batteries can serve up to 10,000 cycles which is 2-3 times higher than other chemistries like Nickel Manganese Cobalt (NMC) which allows it to last till the life of the vehicle. Subsequently, the company see a huge drop in total cost of ownership which is a key parameter in markets like India. And therefore the company is keen to come up with lighter LFP battery solutions for the Indian e-bus market in coming years.

Exhibit 14: Battery electric technology



Source: Company, Arihant Research

Shriram Pistons & Rings (SPRL)

A leading Indian component player in the conventional-powertrain domain, has reaffirmed its commitment to the internal-combustion engine (ICE), even as it simultaneously gears up to cater to the future industry requirements of clean mobility technologies.

In order to tap into the future opportunities, the company has set up an independent subsidiary – SPR Engenious Limited (SEL) – to specifically focus and invest into new-mobility technologies such as those for vehicle electrification. In December 2022, SEL acquired a majority stake in an electric motor design and manufacturing firm – EMF-Innovations (EMFI).

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Stock Rating Scale	Absolute Return
BUY	>20%
ACCUMULATE	12% to 20%
HOLD	5% to 12%
NEUTRAL	-5% to 5%
REDUCE	-5% to -12%
SELL	<-12%

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