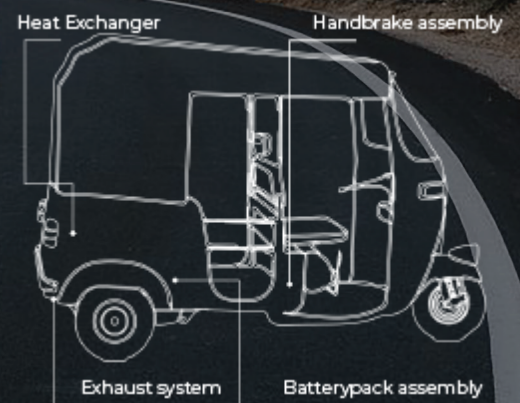
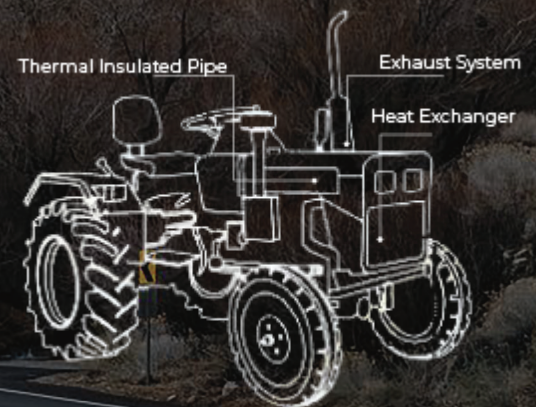
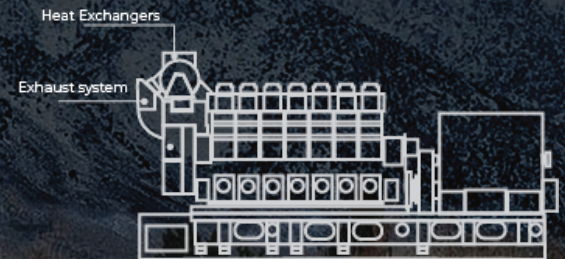
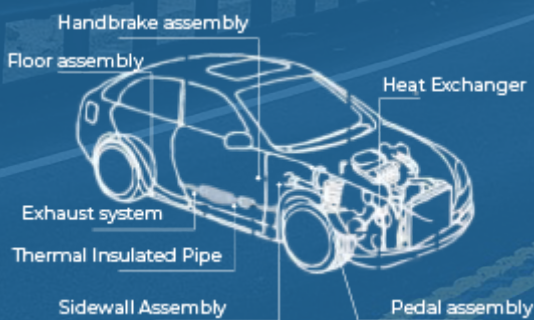
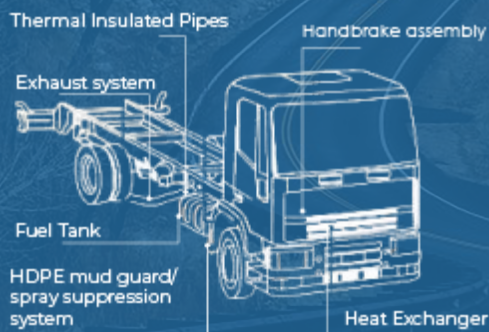
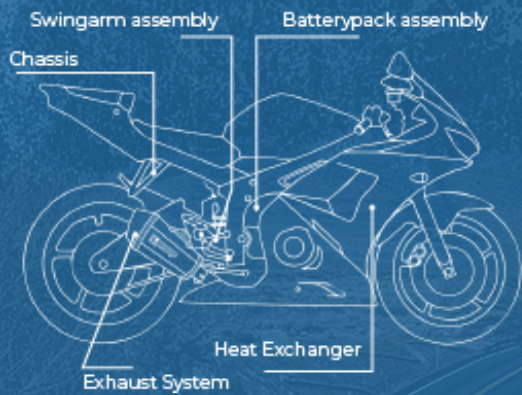




ENHANCING EXCELLENCE



www.smauto.co.in

Pune | Pithampur | Chennai

Brief Overview of SM AUTO

Across the world the automotive industry is undergoing a complete transformation. There is an increasing demand for a complete system supplier capable of designing, developing, testing and industrializing quality components. Tighter emission norms, electrification and light-weighting will be the key driving forces that will shape the future global automotive industry. SM Auto is ready to drive these changes that will shape the future global automotive industry.

S.MAutoEngineering Pvt Ltd, a family-owned group company, commenced operations in 1976. Today SM Auto is IATF 16949 certificated and has 10 independent manufacturing plants spread across Pune (Maharashtra), Pithampur (Madhya Pradesh) and Chennai (Tamil Nadu). It has evolved into a system supplier capable of designing, developing and manufacturing components & assemblies and modules for the automotive industry. A centralized product design, development & tool design office with all requisite CAD & Simulation Software's along with a modern tool room support the manufacturing plants. Keeping an eye on the future, SM Auto has taken the first steps to be in the EV industry by assembling Smart Battery Packs.



Global Alliances



Technical collaboration for passenger cars Exhaust Systems with Eberspaecher Exhaust Technology GmbH & Co.KG, Germany.



Technical collaboration for designing & assembly of Smart Battery Packs, BMS, Smart Chargers, Cloud Connected Systems and Power Integration with Go-Tech Energy Co. Ltd., Taiwan.



Technical Collaboration for Thermal Insulated Assemblies for exhaust after-treatment systems for commercial vehicles with Kavartherm, Germany.



Technical collaboration for TREM-IV & TREM-V for off-road Indian agriculture & construction Vehicles with Proventia Emission Control Oy, Finland.



Technical Collaboration for HDPE Spray Systems, Mudguards, Tool and Fire Extinguisher Boxes with OY Parlok Ab, Finland.



CLIENTS

2-Wheeler/ 3-Wheeler



Passenger/ Commercial Vehicles



Off-road Vehicles and Applications



CAPABILITIES



VMC

SM Auto has a full-fledged and dedicated team of engineers who work in close collaboration with the OEM R&D departments. This is done to design and develop products which have robust manufacturing processes that meet the aesthetic, functional and quality needs of customers.

A centralized tool engineering department, design center and proto shop have been created to provide support to the development activities. They are equipped with the latest design and simulation software's to check part drawability and formability, conduct FEA and CFD.

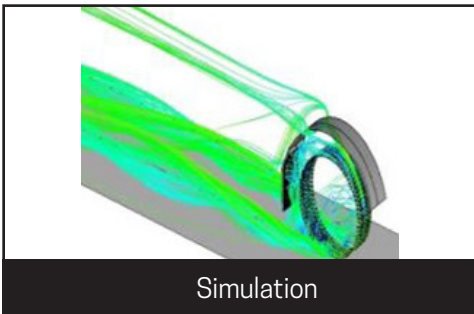
SM Auto has a dedicated team of tool-makers who manufacture precise tools and fixtures that meet the tight tolerances and quality requirement of our customers. The company adopts APQP (Advanced Product Quality Planning) in the development of its products and ensuring a robust product development & manufacturing cycle.

The tools designed and manufactured in-house are loaded onto SM Auto's own dedicated press shop (range of mechanical and hydraulic presses). After passing through rigorous quality checks, these parts are fed into SM Auto's assembly line.

To achieve the various aesthetic requirements across the product range, SM Auto has a setup of various surface coating technologies such as plating (Tri-chrome Nickel), powder coating and paint shop along with its testing facilities.



Tri Chrome Nickel Plating



Simulation



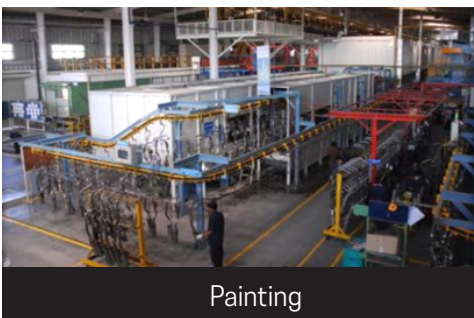
Powder Coating



CMM



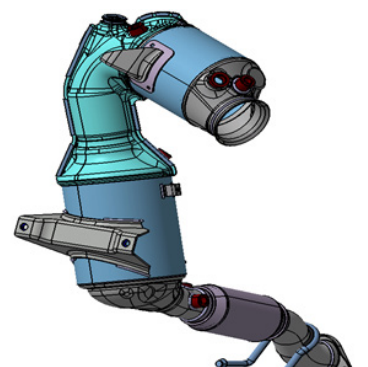
Proto Shop



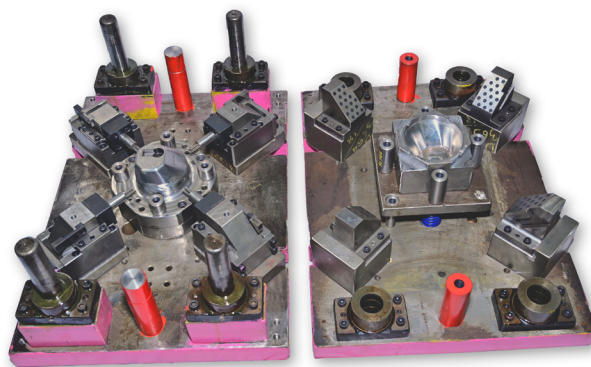
Painting



Weld Penetration Test



Proto Design



Tool Development



Design Centre

HEAT EXCHANGER

DEVELOPMENT STRENGTH

SM Auto provides customized heat exchanger solutions which are impeccably designed and thoroughly validated. Our in-house design and development team have access to advanced design and simulation software's which aid in rapid product development. The designs are tested in our in-house testing facilities (wind-tunnel, vibration rig and burst test equipment) to validate the product before it is released for mass production. The wealth of experience achieved through the years has enabled the heat exchanger division of SM Auto to deliver highly engineered cooling solutions to its domestic and overseas customers.

STATE OF THE ART MANUFACTURING TECHNOLOGY

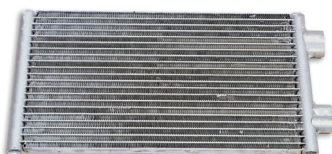
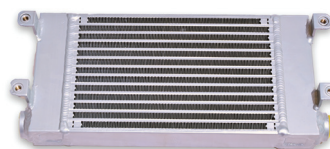
S. M. Auto has a fully equipped State-Of-The-Art Aluminium Heat Exchanger Manufacturing facility. Special machines for manufacturing and testing have been sourced from renowned machine manufacturers from all over the world to cater to both Indian and Overseas OEM and after-market customers. Our wide range of heat exchangers are built to provide high quality cooling solutions for Automobiles, Gensets & Off- Road engines and electric vehicles.

Our furnaces include a fully automatic SCADA controlled Continuous brazing furnace from Korea with Electric heating brazing chamber along with a Batch Type brazing furnace from the USA. Other equipment such as an automatic and semi-automatic Core Builder, Clinching Machine, Fin Machines, & DLT's are installed.

To ensure product durability and performance S M Auto is equipped with test facilities like 3 Axis vibration rig, Wind Tunnel for Performance testing and Burst pressure test rigs for oil coolers.



Brazing Furnace



PRODUCTS



3-Axis Vibration Rig

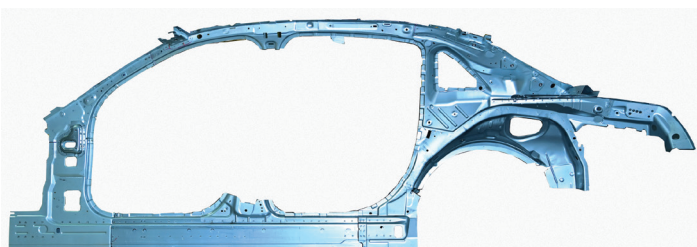
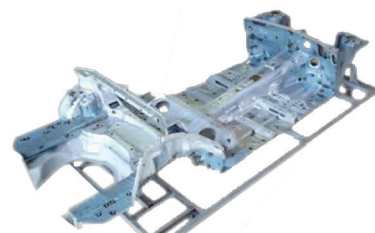
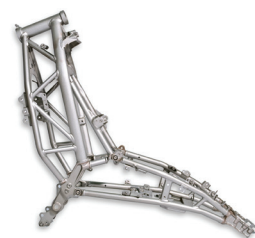


Wind Tunnel Testing

BIW/ CHASSIS MANUFACTURING & ASSEMBLY

SM Auto has dedicated facilities for two-wheeler chassis manufacturing. Using the DFM process, our team of dedicated engineers work closely with our customers R&D to come up with the most efficient manufacturing processes. SM Auto has a dedicated shot-blasting and a powder coating facility capable of using multiple colors in the same booth. This is integrated with a motorcycle assembly line which makes us a system provider for our customers.

SM Auto has a dedicated body shop plant for Mercedes Benz, India to assemble floorings, engine housings, sidewalls and inner integral for the C Class, GLC Class, E Class & S Class models. This activity involves the use of state-of-the-art spot-welding guns (fully integrated with BOSCH controller "NI-MAK"), stud welding machines (Emhart Technologies) and stich riveting guns (Gesipa). Ultrasonic non-destructive spot-checking equipment (Krautkramer) is used to qualify the critical spots.



EXHAUST SYSTEM TWO WHEELERS

SM Auto has Hi-tech manufacturing plants located in close proximity to manufacture exhaust systems for scooters and motorcycles for Indian and overseas OEMs. The two-wheeler exhaust division has a full-fledged team of engineers who work in close collaboration with OEM R&D for the development of the exhaust system. The in-house engineering center having Catia, Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) aided with an in-house tool room and proto shop is used to support development of these exhaust systems. SM Auto is now capable to manufacture BS6, Euro 6 and onwards compliant systems.

Robust manufacturing processes incorporating the latest manufacturing methods and equipment enables SM Auto to meet the stringent quality and emission requirements of OEMs.



EXHAUST SYSTEM FOR PASSENGER CARS & COMMERCIAL VEHICLES

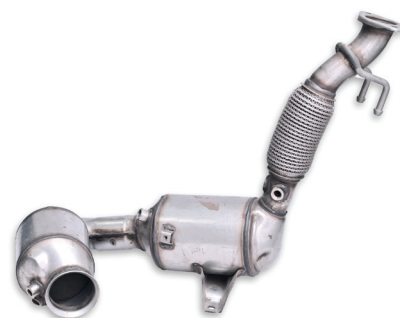
SM Auto has an established design and development center fully equipped with advance software's for designing, simulation and analysis, and has successfully productionized BS6 and Euro 6 exhaust systems. This engineering team collaborates with the R&D centers of our global partners to provide cutting edge technology to our customers.

SM Auto has entered into multiple technical collaborations with Industry leaders in various vehicle segments to provide the

most optimum solution to cater for the strict emission and acoustic norms.

A technical collaboration with Eberspaecher GmbH & Co.KG, has been established to meet the latest Emission and Acoustic norms required for the passenger vehicles of Indian and Global OEMs operating in India. For the commercial vehicle segment, SM Auto has decades of experience manufacturing cold end exhaust systems. A technical collaboration with Kavartherm, Germany has been also

established to manufacture thermally insulated systems to meet with the latest emission norms for commercial vehicles. SM Auto has also the necessary equipment to meet the customer's demand. The facility houses multi axis bending machines (also, 1D Bending), advanced canning cells and forming machines.

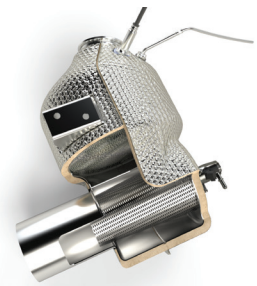
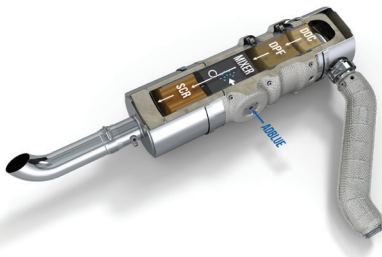
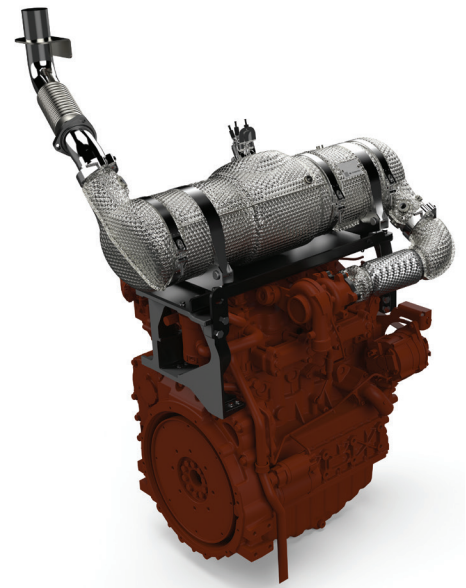


EXHAUST SYSTEM FOR OFF-ROAD VEHICLES & MACHINES

SM Auto has entered a technical collaboration with Proventia Oy, Finland to design, validate and manufacture TREM IV & TREM V compliant exhaust after treatment (EAT) system for the Indian agriculture and construction vehicle segment.

Proventia's strong R&D department has allowed the company to gain exceptional expertise in SCR and Urea mixing technology. Its flexible urea mixing devices can be used with various urea dosing systems to solve any possible

deposition issues and improve SCR performance in a variety of applications involving different engine sizes and operating environments. Proventia's mixing technology enables the design of compact EAT systems for applications with constrained space requirements and can also be integrated with the DPF. These strengths of Proventia coupled with SM Auto's extensive expertise in quality manufacturing will bring added value to customers.



SHEET METAL ASSEMBLIES

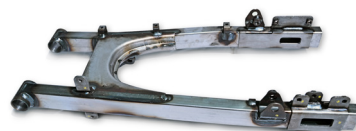
SM Auto has evolved as a complete solution provider for critical sheet metal assemblies for domestic and global OEMs.

The manufacturing facilities includes a modern press shop with mechanical

and hydraulic presses supported by an in-house dedicated tool room and tool design center. The weld shop has state-of-the-art robotic cells along with spot & seam welding and MIG/MAG micro-processor-based SPMs. Modern SPM bor-

ing machines are used to achieve final dimensions.





HDPE MUDGAURDS, MUD-FLAPS, SPRAY SUPPRESSORS, TOOL BOX AND FIRE EXTINGUISHER BOX

SM Auto has tied up with OY Parlok AB of Finland for manufacturing and supply of HDPE spray suppression systems, mudguards, spray suppressors, tool and fire extinguishing boxes. The mudguard spray suppressor assembly keeps commercial vehicles clean from dirt as well prevent them from splashing dirt and water on the rear vehicles. This in turn, makes it a safety component. The mudguards are made using the INLINE THERMOFORMING process which was invented and patented by Parlok in 1996. INLINE THERMOFORMING products have advantages of being high strength while being light weight which helps in increasing fuel efficiency. In addition, these mudguards are highly durable, require no additional fitment arrestors during testing and no warpage and twisting. This technology is available to SM Auto and are supplying these parts to major OEMs.



BATTERY PACKS & BMS FOR EV'S

SM Auto has signed a technical collaboration with Taiwan-based GoTech Energy Co Ltd (GTE) to design, develop and manufacture advanced battery packs and battery management systems for the Indian two-, three- and four- wheeler electric vehicle (EV) market along with use for Automated Guided Vehicles (AGVs) and stationary applications. Together, SM Auto & Gotech will also provide powertrain integration services.

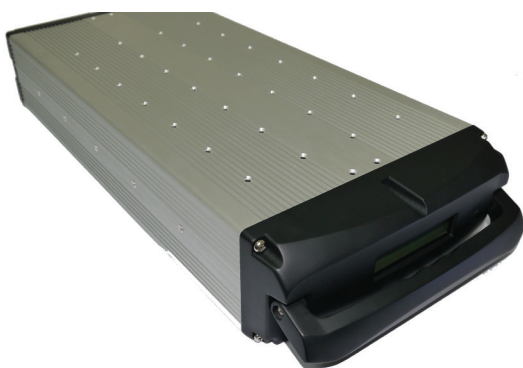
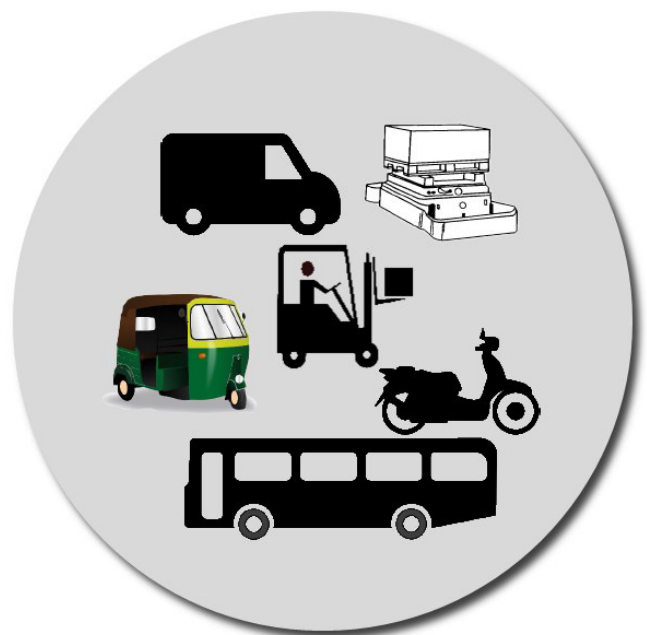
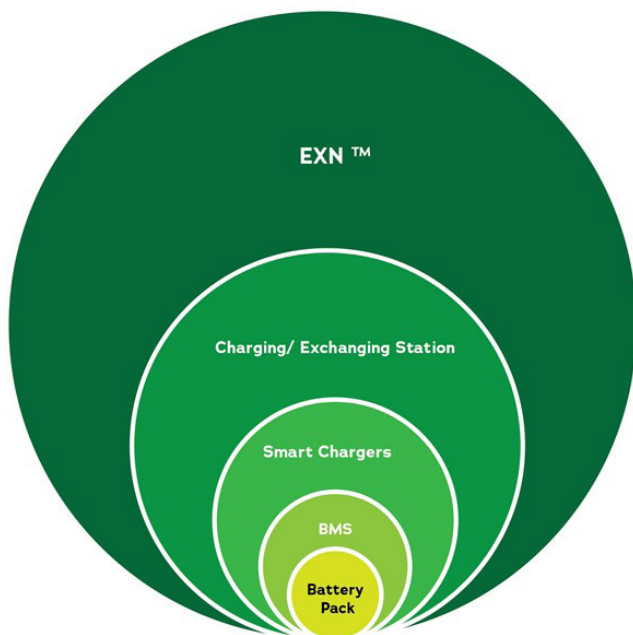
GTE was founded in 2010 by a group

of technologists. It is now a part of the \$4 billion electronic giant Supreme Group of Taiwan. Other than superior battery pack designing, the company has also have proven its strength in design and manufacturing of accurate and efficient energy management systems (BMS/EMS) with cloud management systems to connect to smart charging stations / swapping stations. The technology also allows fleet operators to monitor the state of the battery pack remotely and take timely maintenance actions. We also have the capability to

developed battery swapping and battery charging stations. The technology of GTE has already been proven as their battery packs are already being implemented by OEMs in Europe and Asia.

The state-of-the-art plant has the latest battery pack assembly equipment and a fully capable battery pack and BMS testing facility. The plant houses the latest automatic welding machines, charging/discharging center and cell sorting machines.

Electric Vehicles Eco System





Best Supplier by Mercedes - Benz



Best Supplier 2018 by Royal Enfield



Winner - Best Kaizen by TPM Club



Gold Quality Award by Bajaj Auto



MSME Empowering India Award



Best Quality Supplier by Royal Enfield



Outstanding Contribution by VECV



GM Supplier Quality Excellence Awards

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