

COMPANY PORTRAIT

(as at 22 May 2019)

The Eberspaecher group of companies: innovative automotive technology from Germany

The Eberspaecher Group is one of the leading global system developers and suppliers for the automotive industry. The Company with head office in Esslingen, Germany, develops and produces series of components and complete systems for automobile manufacturers and also supplies the aftermarket with exactly fitting retrofit solutions. Therefore, the Group is split into three Divisions, Exhaust Technology, Climate Control Systems, and Automotive Controls. In 2018 the group of companies generated revenues of around 4.6 billion euros. Founded in 1865 as a craftsman's business in Esslingen am Neckar, Germany, the family-owned company with its rich tradition today counts around 10,000 co-workers worldwide and has a presence in all key automotive markets: from around 80 sites in 29 countries, virtually all vehicle manufacturers worldwide are supplied. The Company will continue to grow in the future in line with its MOVE strategy. Clean Mobility, Smart Solutions, Dedicated People – for Eberspaecher this means: We are shaping the Clean Mobility of the future and we are inspiring our customers with Smart Solutions both developed and produced by Dedicated People.

Exhaust Technology

Eberspaecher is one of the world's leading system suppliers in exhaust technology for passenger cars and trucks. With a sales share of over 85 percent, this is the largest Division in the Group. Stricter limit values and rising demands are leading to ever more complex system solutions. Where once a simple muffler was sufficient, today sound design is in demand. Formerly simple exhaust pipes long ago became "traveling exhaust emission conversion factories". Eberspaecher's exhaust systems contribute significantly to the fulfillment of emission guidelines. In addition, they help to reduce consumption and thus CO₂: through the consistent lowering of exhaust back pressure,

via innovative lightweight construction and by supporting new, energy-saving engine concepts that pursue the trend towards downsizing. The supplier is meeting constantly growing demands on exhaust technology with the strategic concentration of its skills in the passenger car and commercial vehicle sectors. This is the basis of innovative, highly developed system solutions – for example for commercial vehicle exhaust systems complying with strict EPA 2010 standards in North America respectively with Euro 6 standards in Europe. In this technologically sophisticated product field, Eberspaecher now holds significant market shares. Eberspaecher is developing customized exhaust systems for emission limits which are also becoming ever stricter in emerging markets such as China or India. Together with local joint venture partners, the Company manufactures commercial vehicle systems to meet the new China National 6 and Bharat Stage VI standards which will become compulsory in these countries in 2020. In addition, the company offers tailor-made solutions for the non-road sector, for whose construction and agricultural vehicles strict exhaust standards similar to those applying to trucks have been in force since 2011. In Schwaebisch Gmuend – at the site of subsidiary company Eberspaecher Prototechnik GmbH – the group of companies runs a Center of Excellence in small and special series production within the group of companies.

Climate Control Systems

Effective vehicle climate control includes heating and cooling components. In vehicle heaters Eberspaecher – together with its Herxheim subsidiary Eberspaecher catem GmbH & Co. KG – is also one of the world's leading manufacturers. Moreover, the company is the only full-range supplier offering a suitable heater for every type of vehicle and every type of drive: from passenger cars and commercial vehicles to buses and coaches – from gasoline via biodiesel-powered through to electric vehicles. The range includes air and water heaters based on fuel or electricity, in the low as well as high-voltage range. A traditional core product is the pre-heater operating independent of the engine for all types of vehicle. So-called “auxiliary heaters” also make up a large proportion of series production business with the automotive industry. They are used in fuel-efficient diesels or gasoline-powered cars that produce too little waste heat to heat the interior. For the specific requirements of electric vehicles, Eberspaecher catem has developed innovative high-voltage heaters, the first generation of which successfully went into series production back in 2011. The trend towards ever more efficient engines will continue to require new comprehensive heat concepts in the future. With

its versatile product range, Eberspaecher is a specialist in innovative thermal management for all future forms of drive.

The Eberspaecher **climate control systems** offer “competence across the board” and ensure a pleasant climate in all types of vehicles: trucks and mini/midi buses, recreational vehicles, boats and ambulances, in construction, agricultural and forestry machines. The experts from Esslingen combine air-conditioning and a variety of different heating elements in a single system, and control them together for every demand. Eberspaecher is also further developing its competence as a thermal management system provider after acquiring the French climate control specialist, Kalori SAS: The company with head office in Lyon, France, has been successfully developing and producing air-conditioning and ventilation systems for commercial and special-purpose vehicles for more than 25 years. Subsidiary company Eberspaecher Suetrak GmbH & Co. KG offers tailor-made thermal management systems, both for buses and coaches with conventional and those with electric, hybrid or fuel cell drives.

Automotive electronics

The proportion of electronics in the vehicle is constantly rising: the Automotive Controls Division, which specializes in complex electronic systems, takes also advantage of this trend. The main drivers of growth are products designed for the stabilization of vehicle electric systems. These prevent a voltage drop when the automatic start-stop system restarts the engine after stopping at a red light, thus avoiding the constant cut-out of the radio, lighting or air-conditioning. Other products are used for intermediate storing of recuperated braking energy or for controlling electrical heaters, for example high-voltage heaters in electric vehicles. With the acquisition of a majority stake in the Canadian company Vecture Inc. in 2016, the portfolio has been expanded to include highly reliable and efficient battery management systems (BMS). Eberspaecher Vecture Inc. offers battery management products for industrial applications, medical technology and vehicles.

About Eberspaecher:

With approximately 10,000 employees at 80 locations worldwide, the Eberspaecher Group is one of the automotive industry's leading system developers and suppliers. The family business, headquartered in Esslingen am Neckar, stands for innovative solutions in exhaust technology, automotive electronics and thermal management for a broad range of vehicle types. Eberspaecher components and systems provide more comfort, greater safety and a cleaner environment on or off the road. In 2018, the Group generated revenue of around 4.6 billion euros.