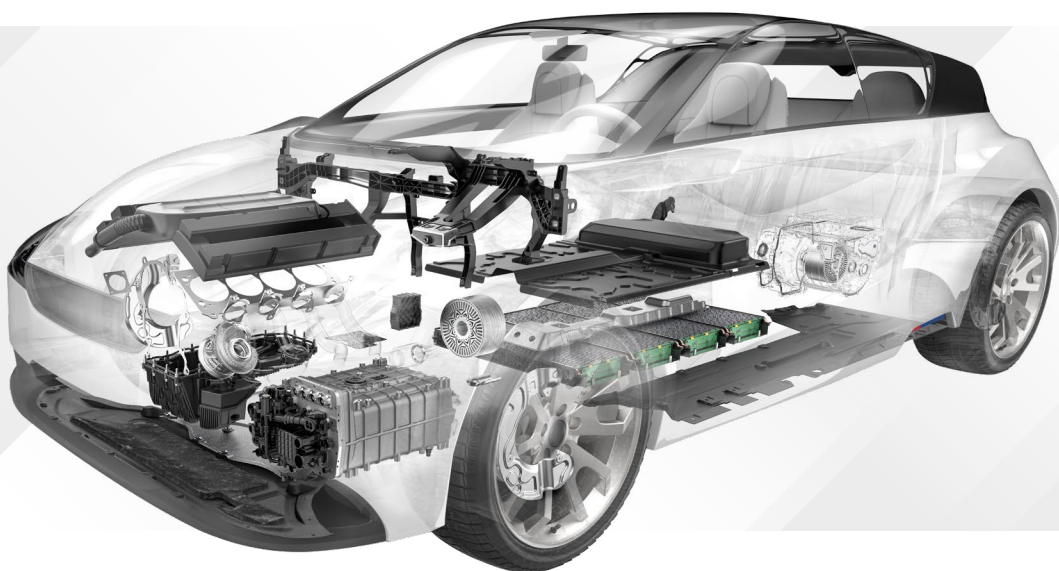


EXPERIENCE MOBILITY

# THE ELRINGKLINGER GROUP.

SYSTEM PARTNER. TECHNOLOGY LEADER. PIONEER.



SYSTEM PARTNER. PROBLEM SOLVER. PIONEER.

# SHAPING THE FUTURE. WITH ELRINGKLINGER.

For us, system expertise means being a pioneer, creating freedom and reaching goals faster. With our portfolio, we offer groundbreaking solutions for all vehicles, whether traditional, hybrid or pure electric.

YEARS LEADING THE WAY



# 140

Nothing can replace experience combined with innovative spirit. ElringKlinger has plenty of both. In 1879, Paul Lechler founded a trading company for technical products, which would later become ElringKlinger AG. Today, we are a global player offering future-proof solutions for all drive types in all product areas. We also demonstrate our strengths in other industrial sectors. Our customers benefit from ElringKlinger's combined materials, engineering, and manufacturing expertise. Thinking ahead, developing solutions, being the first to break new ground, taking responsibility. This is what sets us apart – and has done so for more than 140 years.

SHAPE30 is our answer to the challenges of the present and the future. We want to help shape the future of mobility and state-of-the-art technologies, in addition to leveraging the opportunities presented by the transformation of the automotive industry and other sectors as well as by the energy transition.

**▶ SHAPE<sup>30</sup>**



**SHAPE30** – The strategic direction of the ElringKlinger Group



# THE STRATEGIC DIRECTION OF THE ELRINGKLINGER GROUP

OUR PURPOSE

**PIONEERING INNOVATIVE TECHNOLOGIES FOR A SUSTAINABLE FUTURE.**

OUR VISION

**THE PREFERRED PARTNER IN DRIVING INNOVATIVE TECHNOLOGIES.**

OUR MISSION

**SHAPING THE FUTURE OF ELRINGKLINGER BY OUR FIVE SUCCESS FACTORS.**

- #1** TRANSFORMING THE PRODUCT PORTFOLIO
- #2** IMPLEMENTING SUSTAINABLE THINKING AND ACTION THROUGHOUT THE GROUP
- #3** ACHIEVING PROCESS AND PERFORMANCE EXCELLENCE BASED ON STABLE, RELIABLE, AND TRANSPARENT PROCESSES
- #4** ACCELERATING OUR DIGITAL TRANSFORMATION
- #5** EVOLVING A MARKET-ORIENTED CORPORATE CULTURE WITH FOCUS ON INNOVATION AND PERFORMANCE

KNOWING HOW THINGS WORK

# THE ELRINGKLINGER PRODUCT PORTFOLIO.

The world is changing. Sustainability, energy efficiency, and climate protection are the main focus. We work with our customers to develop high-performance product solutions and drive innovation.



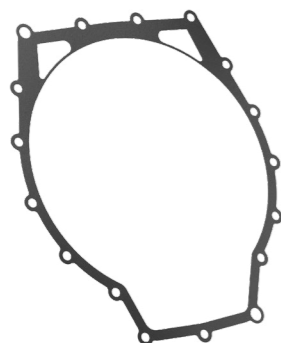
## BATTERY TECHNOLOGY

An efficient energy storage device is a key piece of technology for sustainable electric vehicles. ElringKlinger offers complete battery storage systems, battery modules and various components such as cell housings, cell connectors, cell contact systems, pressure equalizing units, and battery management systems. Intelligent, flexible, absolutely reliable, and field-tested.



## FUEL CELL TECHNOLOGY

Our fuel cell modules, stack modules, and components such as metallic bipolar plates and end/media modules meet the highest standards in terms of robustness, functionality, and performance. Both customer-specific developments for each integration level and standard solutions can be provided. EKPO Fuel Cell Technologies GmbH, a joint venture between ElringKlinger and Plastic Omnium, aims to tap into the global market for fuel cell stacks and components. We have also launched a strategic partnership with Airbus to further develop fuel cell technology for aviation.



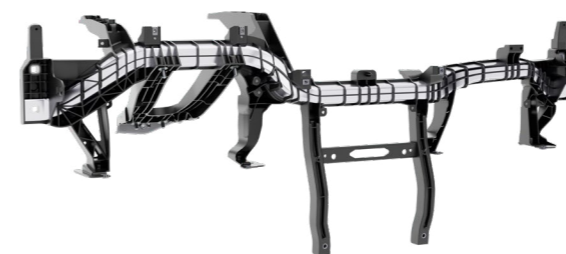
## SEALING SYSTEMS

ElringKlinger deals with the numerous sealing tasks in engines, gearboxes, exhaust systems and auxiliary units, and in the body-work and chassis area with customized, efficient sealing systems. Materials and designs are perfectly matched to the specific requirements. What's more, it is possible to integrate additional functions such as heat shields, filters, sensors, and pre-assembly elements. For maximum safety, performance, and economy.



## METALOBOND™ TECHNOLOGY

To meet the rising performance demands of electric motors, advanced thermal management is essential. MetaloBond™ from ElringKlinger offers full-face bonding technology with best-in-class sealing performance – validated across numerous customer projects. It meets the highest standards for temperature, media resistance, and mechanical strength. Thanks to its ability to seal on minimal surfaces, MetaloBond™ enables in-slot cooling without additional components and allows for reduced bridge widths depending on stator design. The coating is applied in-house to electrical steel, stamped in high-speed presses, and processed in fully automated lines. Customer-specific 100% end-of-line testing, including leakage checks, is available.

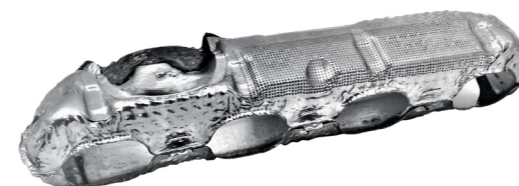


## LIGHTWEIGHTING AND ELASTOMER TECHNOLOGY

Every gram counts. Lighter materials (fiber-reinforced plastics, thermoplastics and thermosetting plastics, organic sheet materials, and metallic materials such as aluminum and magnesium) are combined with state-of-the-art manufacturing processes. This opens up the possibility of integrating more functions, with the resulting benefits for the customer in terms of a reduction in the total number of parts. Customized lightweight components from ElringKlinger can be used anywhere in the vehicle, for example cockpit cross-car beams, door modules, underbody shielding, or engine mounts.



“Changes are always an opportunity to do something even better.”



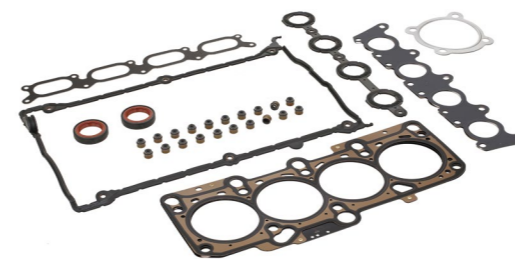
#### SHIELDING SYSTEMS

For any application point in the entire vehicle – from the underbody, trunk, spare wheel, exhaust manifold to the turbocharger – ElringKlinger offers the right shielding system in terms of temperature management, acoustic behavior, vehicle safety, electromagnetic compatibility, and aerodynamics. The focus here is on fuel economy, emission reduction, noise reduction, and safety aspects.



#### COMPONENTS MADE OF HIGH-PERFORMANCE PLASTICS

Our subsidiary ElringKlinger Kunststofftechnik GmbH specializes in innovative gaskets, construction elements, assemblies, and modules made of PTFE, PTFE compounds, and other materials. In doing so, it can draw on many years of application and processing know-how in almost all industries. Besides the automotive industry, these include medical technology, mechanical engineering, electrical engineering, chemical and apparatus engineering, and food technology.



#### ELRING™ SPARE PARTS

For the professional repair of engines, gearboxes, exhaust systems and auxiliary units, we supply an extensive range of spare parts under the brand name “Elring™ – Das Original”, including gaskets, gasket sets and other components. We also offer comprehensive service, technical training courses and much more. Elring™ products for passenger cars and commercial vehicles are available in over 140 countries around the world.

## COMBINED KNOW-HOW

# EXPERTISE IS OUR MIDDLE NAME.

Always questioning the tried and tested, refusing to settle for standards that have been achieved. This has always been a hallmark of ElingKlinger. This is where we apply our unique expertise in materials, engineering, processes, and manufacturing methods. In addition, we invest around five percent of Group turnover in research and development each year.

## EVERYTHING FROM A SINGLE SOURCE

Short development cycles, the complex interaction of all components, and exacting demands in terms of cost-effectiveness and sustainability make an integrated approach essential. This is an important factor in ElingKlinger's success, as everything from the initial concept to the finished product comes from a single source. For us, system expertise means being a pioneer, creating space for development, and achieving our goals more quickly.

That's why when it comes to innovative production concepts, for example, we place a lot of importance on our own process development and the associated accumulation of expertise. By closely integrating development, prototype construction, and series production, an optimal level of quality can be achieved immediately on start of production.

## GOOD TO KNOW

We want to create scope for our customers to achieve goals more quickly and further advance sustainable mobility. That's why we always have the entire system in mind and make targeted use of our know-how and innovative strength to realize optimal product solutions.

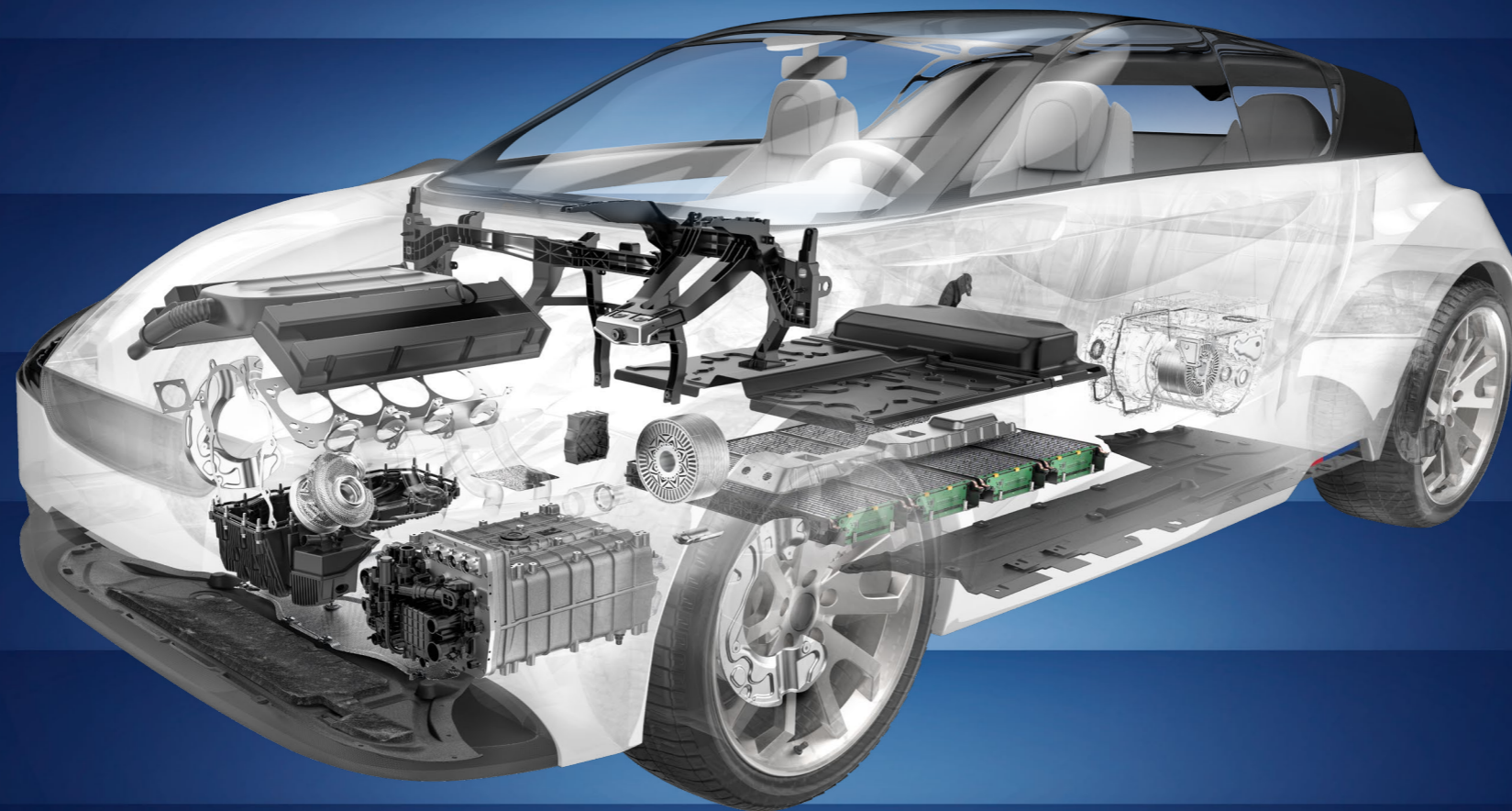


## SYSTEM EXPERTISE GIVES US THE EDGE

Our core competences include stamping, embossing, forming and coating metal, plastic injection molding, and the processing of high-performance plastics. We are also able to combine a large number of different components into a single assembly with high process reliability. Another core competence is tooling technology, as we design and manufacture a large proportion of the tools we use ourselves in our in-house tool shop. In the area of plastic injection molding, for example, which plays a major role in lightweight components in particular: our competence center in Lenningen, Germany has been specializing in mold and tool making and the processing of fiber composites for over 50 years.

The rapid transformation toward e-mobility makes industrialization processes very demanding, both technically and in terms of time. This is where we excel with our three technology centers for e-mobility, which have all the relevant manufacturing processes at their disposal to realize prototypes and pilot series in the field of alternative drive technologies. The centers enable new developments to be tested in practice at a very early stage and further optimized for series production. Sample phases for customers can be run through quickly and associated manufacturing processes developed in parallel.

# OUR EXPERTISE IN THE AUTOMOTIVE SECTOR.



Modern vehicles are fitted with a large number of ElingKlinger components. Some of these possible applications are illustrated overleaf.



## ELECTRIFIED DRIVE

### FUEL CELL TECHNOLOGY

including complete PEMFC modules with peripheral components

### LIGHTWEIGHTING AND ELASTOMER TECHNOLOGY

e.g. engine and assembly supports

### SEALING SYSTEMS

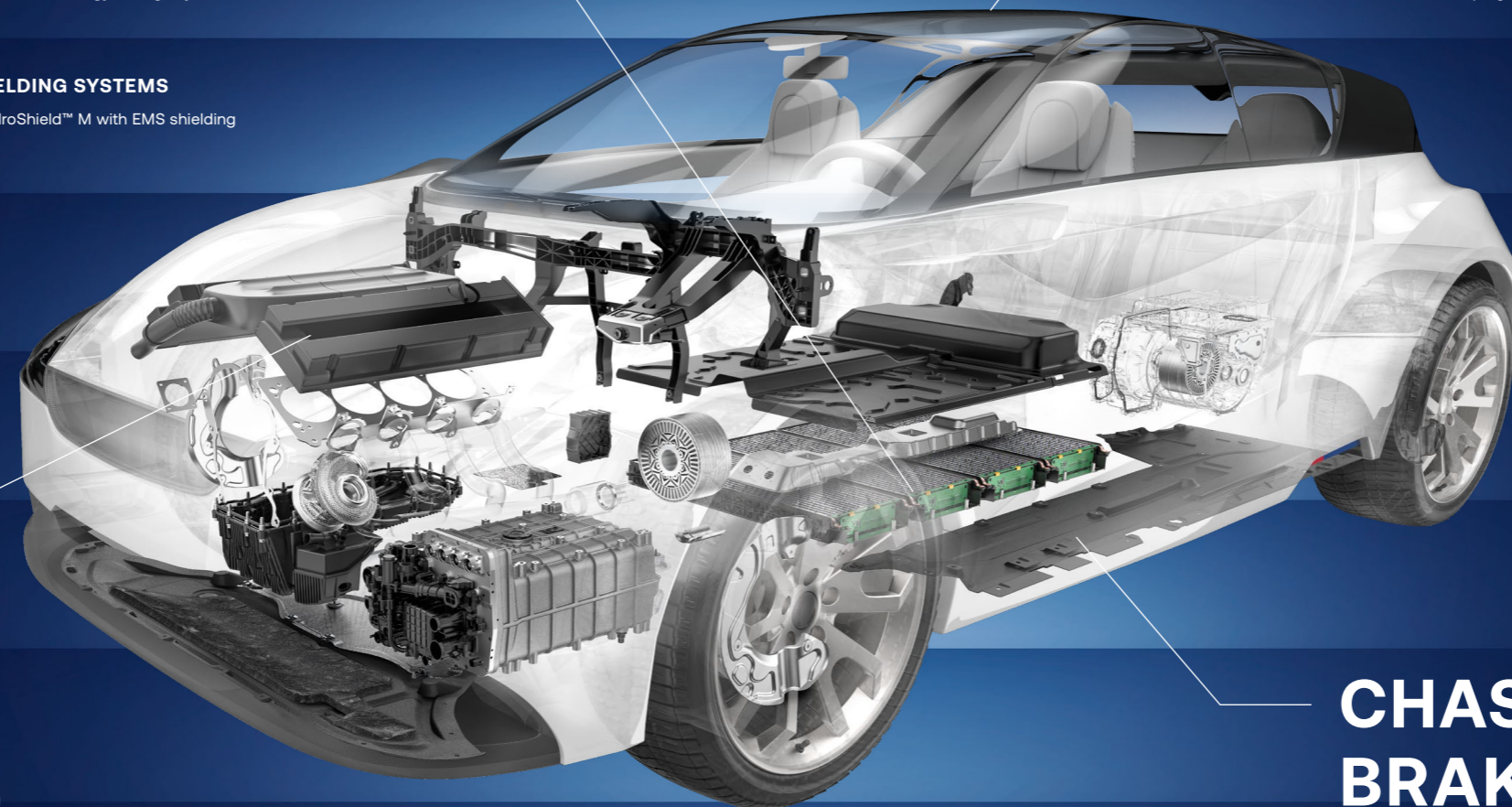
including elastomer and metal-elastomer gaskets for large and very large battery housings, deep-drawn covers with seals such as inverters or service covers, Metaloseal™ housing gaskets and ElroSeal™ shaft sealing rings for electric motors, actuators and compressors

### BATTERY TECHNOLOGY

including cell contacting systems, lithium-ion battery modules and energy storage systems

### SHIELDING SYSTEMS

e.g. ElroShield™ M with EMS shielding



## CONVENTIONAL DRIVE & EXHAUST SYSTEM

### LIGHTWEIGHTING AND ELASTOMER TECHNOLOGY

including plastic modules, e.g. oil pans, oil separation systems, dry sump oil tanks, cylinder-head covers and transmission pistons

### SHIELDING SYSTEMS

ElroShield™ S, M or D as thermal or acoustic protection for components, e.g. on the exhaust manifold or turbocharger

### SEALING SYSTEMS

including Metaloflex™ or metal-elastomer cylinder-head gaskets, Metaloseal™ gaskets e.g. for exhaust gas returns including rescue filters, transmission control plates, metal-elastomer gaskets e.g. for the crank housing, elastomer gaskets e.g. for the intake manifold, coolant applications and oil trays; transmission composite pistons and spring-loaded PTFE groove rings for separation of media in high-pressure injection pumps

## BODYWORK & INTERIOR

### SHIELDING SYSTEMS

e.g. ElroCoustic™ trunk covers for noise and vibration damping

### LIGHTWEIGHTING AND ELASTOMER TECHNOLOGY

e.g. cockpit cross-car beams and front-end carriers/adapters using plastic-metal hybrid technology and door modules, module supports, seat structures and crash elements using thermo-plastic composite hybrid technology

### SEALING SYSTEMS

including memory packings in headlight cleaning systems or in air pumps for active seats, also complete pistons in compressors for air suspension

## CHASSIS, BRAKING SYSTEM & UNDERBODY

### LIGHTWEIGHTING AND ELASTOMER TECHNOLOGY

e.g. (underbody) shielding made of fiber composite materials

### SHIELDING SYSTEMS

including ElroShield™ M and S for underbody shielding and ElroCoustic™ wheel arch linings

### SEALING SYSTEMS

including PTFE guide bands for brake applications and PTFE membranes for pumps and valve applications

FROM VISION TO REALITY

# E-MOBILITY AS A MEGATREND.

Electric drives continue to gain momentum worldwide. Everyone is talking about climate protection. Forward-looking mobility must be environmentally friendly and resource-efficient, networked, and safe.

## SUSTAINABLE SOLUTIONS IN SERIES PRODUCTION

The crucial technologies for the electrification of the powertrain are the battery and fuel cell. ElringKlinger set the right course a good 20 years ago and has the necessary expertise in development, industrialization, and manufacturing in both areas to offer mature systems and components suitable for series production. As a standard solution or custom-designed. As a modular solution or as individual parts.

Joint venture EKPO Fuel Cell Technologies GmbH combines the expertise of ElringKlinger and French automotive supplier Plastic Omnium. Its aim is to develop and mass-produce high-performance fuel cell stacks to further advance carbon-neutral mobility – whether by road, rail, water, or in open terrain.

The aviation industry is also working to make mobility as climate-neutral as possible in the future. As part of our strategic partnership with aerospace company Airbus, we are looking to further develop and validate fuel cell technology for aviation.

Our development and testing activities in battery and fuel cell technology are concentrated in specially established centers in Dettingen/Erms and Neuffen in Germany and Suzhou in China.



EKPO Fuel Cell Technologies offers fuel cell stacks with the highest power density in the market.



SUCCESS ACROSS THE BOARD

# WE CAN ALSO DO NON-AUTOMOTIVE.

ElringKlinger components and systems are also successfully used outside the traditional automotive sector. Our innovative strength, efficiency, and quality are in demand in many industries.

## PRODUCTS WITH POTENTIAL

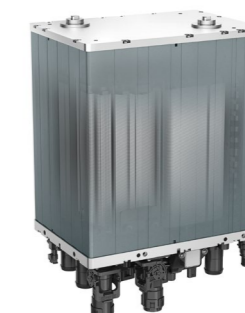
We continue to develop in the areas around our core competences. Gaskets, shielding systems, lightweight components, battery and fuel cell technology, and drive train components – the areas of application are numerous and include rail traffic, aerospace, marine applications, logistics, energy supply, domestic appliances, mobile homes, and construction, municipal and agricultural vehicles. Added to this are components made from high-performance plastics produced by our subsidiary ElringKlinger Kunststofftechnik such as those for medical technology, chemical and apparatus engineering, and food technology. With its ThermoGenius™ Water, ElringKlinger Kunststofftechnik also offers a highly efficient, environmentally friendly water heat exchanger for supplying energy to houseboats or buildings near water.

## EXAMPLES OF NON-AUTOMOTIVE APPLICATIONS

In mining vehicles, ships or power plants, our metal-elastomer cylinder-head gaskets seal drive units of up to 10,000 kW. Plastic modules are also used here. Cylinder-head and oil pan gaskets from ElringKlinger are among the products used in small aircraft. As standard flange joints, for example in petrochemical plants, Volumesoftseal flat gaskets provide a long-lasting seal. ElroShield™ shielding parts are used in ovens, heating devices, etc. to deliver low energy consumption or protect against electromagnetic waves in microwave ovens. Air conditioning units, heat pumps, and small power plants are further areas of application. ElringKlinger technologies are impressive in all areas.

Free energy for houseboats as well as houses and apartment complexes near water – easy and quick to implement with the ThermoGenius™ Water heat exchanger from ElringKlinger Kunststofftechnik.

ElringKlinger's PEMFC stack modules are designed with additional system functionalities and combine top performance with a highly robust structure. They can, in addition to passenger cars and trucks, also be used in trains and other scenarios, e.g., to power the drive as a permanent charger for the traction battery.





“Growing profitably while creating sustainable value is not only compatible, but must also be the focus of all entrepreneurial activity.”

## TAKING RESPONSIBILITY

# SUSTAINABILITY MEANS FUTURE VIABILITY.

ElringKlinger's corporate culture is based on the combination of long-term economic success with environmental protection and social responsibility. Sustainability is a principle shared across all areas of our business.

## CORPORATE SUCCESS AND RESPONSIBILITY

ElringKlinger is conscious of its responsibility towards its employees, customers, business partners, shareholders, society, and the environment. That is why, in addition to economic considerations, we always include ecological and social concerns in our decision-making processes. We have defined four spheres of activity in this context: Products and Innovations, Environment and Quality, Employees, and Social Commitment.

Our product portfolio thus contributes directly to the reduction of pollutant emissions and the further development of sustainable mobility concepts. ElringKlinger has a certified environmental management system in place throughout the Group. We also continuously optimize internal processes and invest in modern, intelligent, and resource-efficient production systems, both to keep emissions at all production sites as low as possible and to ensure high quality standards. Our ambition is to achieve carbon neutrality by 2030.

Employee satisfaction is our top priority. Appreciation, respect, opportunities for further development, diversity and equal opportunities, and a motivating working environment are essential elements of our corporate policy.

As an active member of society, it is important for us to make a positive contribution, especially in the regions and communities where we operate. In those areas, we are committed to social institutions and support climate protection campaigns while also promoting investments in science and education. ElringKlinger also engages with social issues indirectly through the Paul Lechler Foundation. The Lechler families behind the Foundation are also the main shareholders of ElringKlinger AG, meaning that year after year, a portion of the company's profits flows into the Paul Lechler Foundation. For us it is clear that corporate success and responsibility are inseparable.

MOVING FORWARD TOGETHER

# OUR EMPLOYEES ARE OUR DRIVING FORCE.

Sophisticated products and services, a strong market and customer focus, and bold, forward-looking decisions are among our key strengths. However, the most important factor in our success is our workforce of around 9,000 employees.

## GLOBAL PLAYER AND ATTRACTIVE EMPLOYER

Our corporate culture is characterized by open, proactive communication. It thrives on flat hierarchies and cooperation in international teams. Our employees provide creative ideas and expert input, and benefit from a wide range of training and development opportunities, appropriate levels of pay, flexible working time models, and first-class development opportunities.

Whether regionally, nationally, Europe-wide or across all national borders, we offer people the chance to take on exciting tasks and make a career for themselves. Our aim: to grow together through challenges and shape the future.



### “Making things move.”

Four out of around 9,000 people in the ElringKlinger Group, who continue to write our success story with their commitment, ideas, and actions.



## OUR PORTFOLIO. FOR YOUR SUCCESS:

- + Battery technology
- + Fuel cell technology
- + E-mobility components
- + Lightweighting and elastomer technology
- + Sealing systems
- + Shielding systems
- + Components made of high-performance plastics
- + Dynamic precision parts
- + Tooling technology
- + Elring™ spare parts

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