Precision for a moving world
The vision of a leading precision forging group with a global footprint was the basis for the creation of SONA BLW GROUP in 2008. Through the merger, the Sona Group became a truly global player and the SONA BLW GROUP moved to one of the leading groups in the precision forging business with production sites in three regions.

We are using the global partnership to align our business activities to meet the requirements of our customers. The three operating regions are SONA BLW GROUP’s strength, in terms of production as well as culturally. The group combines the great heritage of European technology and market leadership with the dynamics of a quality leader in the Indian automotive industry. We are prepared to respond to the increasingly global market environment. “Precision for a moving world” is not only our motto, it is also a synonym for our commitment to our customers under continually changing conditions.

SONA BLW GROUP’s strategy is to continue to be one of the leading precision forge worldwide, to take an active part in our customers’ globalization strategies and to offer first class worldwide supply. We are pleased to have the opportunity to guide you through the world of precision forging on the following pages. Please read on to find out more about the origins of our automobile products!
Organisation SONA GROUP
SONA HOLDING

Automotive Components

- SONA KOYO STEERING SYSTEMS LTD.
- SONA SOMIC LEMFORDER COMPONENTS LTD.
- JTEKT SONA AUTOMOTIVE INDIA LTD.
- SONA FUJI KIKO INDIA LTD.
- AMERICAN AXLE-SONA PVT. LTD.
- Arjan Stampings PVT. LTD.
- Fuji Autotech Europe
- SONA OKEGAWA PRECISION FORGINGS LTD.
- SONA BLW GMBH Germany
- SONA BLW Inc. USA
- MAHINDRA SONA LTD.
- SONY MOBILITY SERVICE (SIXT)
- SONY E-DESIGN & Technology
- Koyo-Sona Electronics Ltd.

Support

- Sona Autocomp USA
- Sona Autocomp France
Our Strength is the Group

In six plants 2,000 employees manufacture precision forged gears and axle components and even parts for heavy-duty vehicles. The plants are located in Remscheid, Munich and Duisburg (Germany), in Selma (US) and also in Gurgaon and Pune (India). Our strength is the Group and our core competence of precision forging according to customers requirements.

Our most important goal is to ensure our customers’ satisfaction by delivering high-quality, reliable products with innovative features. Our continuous efforts are geared towards increasing productivity, quality, and reliability. This fact, coupled with ongoing innovations and system integration activities, and the strength of the SONA BLW GROUP enable us to offer to the customers the ideal solution for their projects.

The performance of our development and manufacturing engineers in the area of precision forging sets us apart. As the inventor of the precision forging technology we have followed the process till the end. Our expertise is based on the development of transmission and axle components, and the high quality of our tool and die manufacture. The precision forging process is gaining worldwide importance in machinery, controls, and technology. Our components link the demands of modern high-performance construction in component design and operational safety on the one hand with cost effectiveness and quality of production on the other. We are also expanding these core areas of expertise into mechanical processing, following the trend of pre-finished, ready-to-assemble components.

In all, we are investing an immense amount of energy to link novel production processes with future developments – such as our light differential programme, which works to transfer ever-higher dynamic loads with ever-lighter construction techniques.

The heavy demand for precision automobile components provides SONA BLW PRÄZISIONSSCHMIEDE – an automobile component supplier with worldwide operations – an excellent opportunity for further growth. In addition to important business with well-known customers in Western Europe, we participate in the rapidly growing mobility markets of Central and Eastern Europe and Asia. We can offer our global thinking to customers local solutions.

Sophisticated forgings for the heavy-duty vehicle industry supplement our wide range of products. We use automated forging equipment to manufacture steering knuckles and precision-forged components for the commercial truck industry. These products complete our profile in order to fulfill the demands of the market.

The millions of axle and transmission components that we have already delivered to our customers serve as evidence of our competency and competitiveness.
Our main goals consist of more than just the serial production of transmission components. Component design and optimization with regard to function and costs are also essential for fulfilling our customers’ needs. The highly motivated engineering team of SONA BLW PRAZISIONSSCHMIEDE tackles continually increasing demands and uses this motivation to develop and implement the optimum solutions for individual customers.

We are constantly searching for new, more efficient techniques. These techniques have been implemented in the design and production of complex, high-strength forgings. Individual solutions and method development in component and process engineering are further elements in our ongoing mission for higher efficiency.
Precision Forgings
Development and Engineering

We are continually reducing our development times and improving our simulation and calculation techniques. Our experienced engineers make this possible with continuous preparation for even shorter development times, increased system integration, new materials, reduced weight at higher load requirements, and even more efficient production techniques.

We keep the "moving targets" in our sights: including cost reduction, improvements in quality, and weight reduction.

Simulation of material flow to determine the theoretical production process of a transmission gear with dog teeth.

Speed gears

Synchroniser rings
Precision Forgings

Bevel gear

Helical gear
The independent operation “Zentrale Werkzeug- und Gesenkbau” supplies all Präzisionsschmiede production transmissions and machining operations. We moved into a newly erected, high-tech manufacturing facility. Tools are planned, manufactured, and tested for all of the production techniques used in-house. These include precision, Hatebur, and crankshaft forging tools, as well as machining devices, tool and die holders, and the necessary measurement equipment. The corporate-wide cooperation in this area creates synergies and competitive advantages.

As a result of our ongoing work in research and development, we have been able to implement our ideas using cutting-edge technology and tools such as CAD/CAM.

The latest machine tools are used to manufacture highly complex tools and equipment.
Precision Forgings

Technologies
- HSC molding cutters
- CNC and conventional molding cutters
- CNC turning
- Wire-cut EDM, die sinking
- NC-grinding / non-circular grinding
- Starthole erosion
- Engraving
- Measurement
- Jigmaking
- Bracket and tool assembly
- Welding

Quality control

Future Products
- Tools for sheet metal forming
- EDM electrodes
- Prototype construction
- Plastic mold construction
- Die casting molds
- Jigmaking incl. construction
- Measuring equipment
- Tools for the forging industry
SONA BLW PRÄZISIONSSCHMIEDE GmbH designs and manufactures transmission, axle, and engine components for passenger cars, commercial vehicles, and rail systems.

Differential components for passenger cars are an important part of the Präzisionsschmiede product portfolio. Präzisionsschmiede customers in this area include virtually all of the well-known automotive manufacturers.
The Precision Forging Process Chain

Warm forging

Cold forging

Processing on fully automatic machining centers

Heat treatment precisely adjusted to match the product and the product requirements

Finish machining of precision forged parts

We ensure that our factories have cutting-edge technology and equipment for these demanding tasks. There are separate departments for gear calculation, dimensioning, design, research, and product optimization.
Forming

SONA BLW PRÄZISIONSSCHMIEDE has stood for innovative, cutting-edge forming technology for more than 50 years. A wide spectrum of presses ranging from 630 to 2,500 metric tons (in combination up to 5,000 tons) are used to manufacture our components.

We are able to master all small and large series production with component weights ranging from 0.2 kg up to 25 kg using various levels of automation. Warm (900 to 1280 °C), semi-warm, and cold forging processes are used for this purpose.

We selectively combine these techniques to provide the highest level of precision and cost-effectiveness.
Forging process

Cam lobes

Speed gear
We are one of today’s leading providers of precision forged, finished differential bevel gears for passenger cars and commercial vehicles, and service virtually all of the well-known automotive manufacturers. This is due to more than just our formidable expansion in capacity over the past few years. It is also due to advanced techniques like finish rolling, hard broaching and hard turning.

We have stayed ahead of market challenges by mastering the entire precision forming processing chain. State-of-the-art machining and our continuous search for new methods ensure that we stay at the cutting edge. A central focus of our work is to ensure that our customers’ processes function smoothly.

With our innovative team we guarantee that the further development of our production methods will allow us and our customers to continue to set market standards well into the future.
All our plants are certified according to ISO/TS 16949 and DIN EN ISO 14001. Continuous improvement is our motto. We work intensively to further increase the quality of our processes and products with Six Sigma programs.
The SONA GROUP entered the complete differential business on request of our customers 18 years ago. This was a logical step through our expertise in developing differential bevel gears. Today the SONA GROUP supplies 1 million differential modules per year. Our success in the segment is the result of a customer based organisational philosophy and investment. This as well as our technological competencies enables us to constantly meet the exact standards set by our customers.

As an automotive supplier we actively take part in the development of future technologies. For this purpose we have a dedicated testing rig for complete differentials at the SONA BLW plant in Munich. Our test facilities enable us to guarantee product quality.

Within the SONA BLW GROUP we are constantly looking into new materials and technologies as in case of our light weight differentials. We currently work with several customers on advanced development projects in this area.
Precision Forgings

Complete differential assembly

Light-weight differential concept: Aluminium
The Duisburg plant produces high-quality, highly sophisticated forgings in a weight range from 5 to 250 kg with a specific focus on high-strength applications. The forgings are manufactured using five partly or completely automated forging press lines and a counter-blow hammer.

Our international clients include many well-known utility vehicle manufacturers, producers of large engine components, construction and agricultural equipment companies, and customers in rail and traffic engineering.

Our world-class tool shop ensures that we can respond quickly and flexibly to the wide variety of requests from our customers. We have the ability to supply our parts from small to mid-sized production runs, as well as provide parts that are heat-treated, mechanically rough or fully machined, or ready-for-assembly.

We use state-of-the-art CAD/CAM techniques supported by computer-based Quality Control systems during the entire production process. As a result, these techniques ensure that we continue to supply first-class forged products to match our customer’s exact specifications.
Heavy-Duty Vehicle Components

Tooth segments

Steering knuckle

Mechanical Processing
Development and Engineering

Our sophisticated product portfolio is recognized globally and includes complex fully-finished parts, with a particular focus on the “Heavy-Duty Vehicle Industry.”

We increasingly develop components in close cooperation with our customers and as a result of continued investment and development, are able to integrate functional elements into the forging design. Our latest design and manufacturing techniques also allow us to offer component weight optimization centred around carefully considered material selection as well as the capabilities of the forging process.

Ongoing process improvement is a way of life for us. Once a new process or technique is fully developed and proven, it is incorporated into our production activities at the earliest opportunity in order to maximize the benefits to our customers.
Heavy-Duty Vehicle Components

Steering knuckle

Piston upper sections

Hub shaft
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