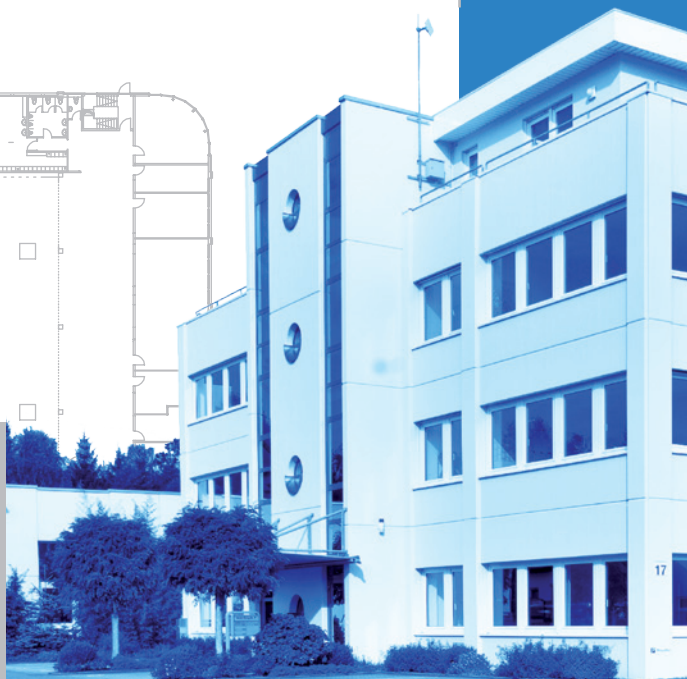
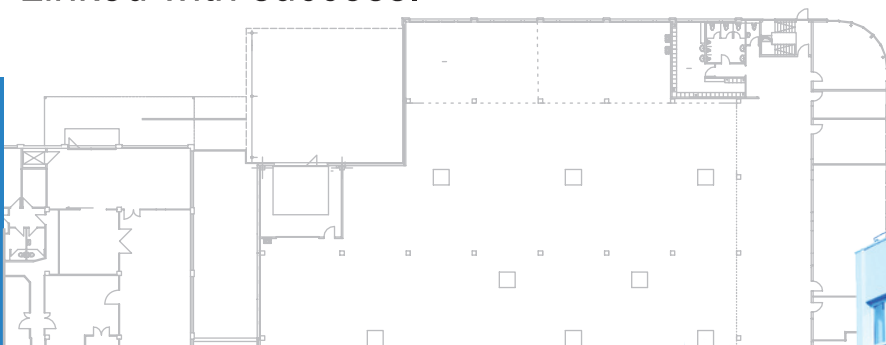


SONOTRONIC

Linked with success.



SONOTRONIC

A company with tradition and future



SONOTRONIC. Linked with success. We follow this guiding principle by constantly developing our technologies and products so that we can continue to produce optimum plastic connections. Our corporate history is also associated with success: continuous growth and investment in new technologies ensured that we were able constantly to expand our customer base and at the same time became an important employer in Karlsruhe Technology Region.

The beginnings

The success history began in 1974, when Dieter Nagel founded SONOTRONIC Nagel GmbH. From an idea and the will to be independent, one of the world's leading companies in ultrasonics was to develop over the coming years.

The first machines

In the beginning, SONOTRONIC produced standard ultrasonic machines. Production

of the first special machine in 1989 laid the foundation for the upturn in the family company, which then followed. In the meantime, the number of special machines produced has grown to well over 1000.

Growth

The rate of growth is reflected in the foundation of branch establishments and the constantly rising number of employees. In the meantime, the SONOTRONIC Group

employs more than 200 people. The company's headquarters has also been ex-

tended several times: in Karlsbad today we have our own development centre and more than 9,000m² of production, useful and office space. Our corporate achievements and our products have repeatedly been awarded industry prizes.

“Growth through innovation.”



We develop high-tech systems and components for joining plastics based on ultrasonic, hot plate and laser technologies. A significant aspect of the business is standard and special machines for ultrasonic welding and punching for the automotive and packaging industries. We have transferred the advantages of ultrasound to other applications as well, for example, for new processes in the textile industry or environmental engineering.

Our know-how

This versatility, coupled with our experience, reliability and innovative capacity, are the foundations of our success. We have obtained know-how in research, development and production, which sets standards on an international scale. Our

“High-tech from the Karlsruhe Technology Region.”

customer base is constantly expanding and now includes numerous well-known customers from Germany and abroad, some of whom have been customers for many years.

Central location

The headquarters of the SONOTRONIC Group are located in Karlsbad near Karlsruhe in one of the largest and most promising technology regions in Germany. Through our branches and agencies at central locations, we are accessible worldwide.

Your advantage

Benefit from the technical progress, intensive research, the intelligent solutions and the innovative products of SONOTRONIC, so that you can continue to stay active and competitive in the international high-tech market and in industrial sectors, which have a promising future.



Services

Know-how and state-of-the-art technology

As a manufacturer of standard and special machines for various industries, we offer professional support, starting from the idea through to the launch of your series production. We will exhaust all possibilities in order to find ideal, flexible solutions. Our products are produced on the basis of the tried and tested quality and environmental management standards to DIN EN ISO 9001 and DIN EN ISO 14001. With our skill and experience from more than 35 years in the ultrasonics industry and an efficient team of highly qualified employees, you are in the best hands with SONOTRONIC.

**“Successful together:
We will find the solution for
your applications”.**

Project Consulting

We look after you from when you come up with your idea and support you at the highest technical level, employing all our experience. In consultation meetings we examine your project requirements and



find solutions for your individual applications. Apart from conventional consultancy regarding application-specific component design and machine concepts, we offer you the tools of “simultaneous engineering” within your product development.

Application engineering

In our R&D laboratory, we develop new applications for the use of ultrasound and other technologies and continuously improve existing processes. We conduct experiments and customer-specific prototype work on your behalf and advise you until the ideal solution is found.

Training

At our training sessions, we qualify your employees to use our technologies and machines. In parallel with the project our specialists teach application-orientated knowledge about our technologies, as well as their principles, functions and possibilities, in theory-based training courses. You benefit from our many years' experience and special know-how in the field of plastics processing.

Service

Through our worldwide service and sales network, we are available for our customers at any time and can react quickly and flexibly to enquiries and requests. Our service staff is to hand to offer practical advice: we provide immediate assistance by telephone and attempt to find solutions in conjunction with the competent departments. If neces-



sary, our experienced service engineers will rectify the machine problems directly at the customer's premises.





Assembly and commissioning

At the Karlsbad headquarters we produce more than 120 customised special machines every year. We erect the machines at our customers, align them according to instructions and configure them for the production of series parts. We meet the demanding quality requirements of our customers using state-of-the-art technology. We produce the critical components of our machines ourselves in our own production facilities.

Pattern-making

In our in-house pattern-making department, we produce the workpiece supports for our special machines. Each support is unique and we produce it with extreme care and precision on the latest CNC machining centres. Precise measurement and adjustment ensures that the supports position the workpieces perfectly.

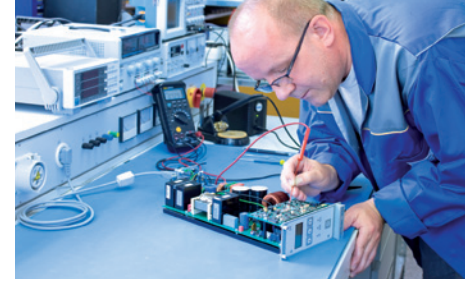


Tool construction

A further guarantee of the quality of our products are the ultrasonic tools. Tool design relies heavily on experience. Over the years, we have acquired special know-how, which enables us to find the correct shape and outline for the sonotrodes for every application. At the same time, we

“Core technologies at first hand.”

optimise our sonotrodes with FEM. We implement the scientific knowledge gained, such as vibration response, in production.



Generator and converter production

Generators and converters together form the centre-piece of ultrasonic technology. From development to quality testing, the critical processes are carried out at the company's head office in Karlsbad. Maximum precision and continuous development of these core technologies have

top priority in the company.

We also pay special attention to the performance and quality of our products. As

we manufacture the core technologies of our products ourselves, we are able to be flexible and innovative because we are independent.



Sectors

“Ultrasound – a fascinating technology that can be used in many industries”

Thanks to the outstanding innovative performance of SONOTRONIC, the company is today active in many sectors of the market. We deploy the technical advantages of ultrasound, compared with many established systems, in various different sectors and are therefore future-proof and at the same time unaffected by economic crises.



Textile industry

Using new technologies, such as ultrasound thermofixing or two-sided dyeing and finishing, we have developed market-orientated solutions, which set new standards in the textile industry. We offer various



Our products are used in the following industries:

- Automotive industry
- Packaging industry
- Food industry
- Textile industry
- Environmental sector
- Domestic appliances
- Electronics and electrical engineering
- Medical engineering
- Special applications

Automotive industry

In the automotive industry, in an international comparison, we are the market leaders in ultrasonic plastics processing. We offer individual, customised solutions to welding and punching problems, from standard machines for small series production and special machines for high-speed series production, through to fully automatic, flexible production lines. We

machines based on ultrasound or heating element technology for making-up work: elastic and non-elastic textile materials including, amongst others, PA, PES, PP, cotton, aramid, Dyneema®, glass silk, non-woven, films or mixed fabrics can, for example, be cut to size, punched, welded or embossed. A significant advantage of our machines is that, comparatively speaking, they are highly energy saving. Machines with ultrasound technology, in particular, are extremely efficient at maximum output and when producing optimum results.

rely on ultrasonic technologies for processing thermoplastics, such as PP, PP-EPDM, PC/ABS, PC/PBT or composite materials,

such as textile/PUR, slush/PUR/ABS. Ultrasound is marked by outstanding characteristics, such as short process

“Ultrasound – a fascinating technology that can be used in many industries.”

times, low energy consumption or the reproducibility of the punching and welding results. Moreover, with ultrasound, very high-quality plastics – as are frequently encountered in the automotive industry – can be efficiently and also very gently processed. If the application requires, we develop and produce additional special machines with heating element or laser technology for special tasks.





Packaging industry

In the packaging industry we are your skilled partner for solving packaging problems – starting with individual ultrasonic units through to complex special machines. Ultrasound technology is ideal for welding, sealing, cutting and stamping various packages, such as stand-up, flat and tubular bags, thermoplastically lined cartons, blister packs, beakers, trays and tubes, as well as for punching out and shaping flat folding boxes. The quality of the welds clearly meets the stringent demands of packaging technology. With ultrasound, it is possible



to process various thermoplastic materials, either on their own, or in combination, e.g. PP, PVC, PE, PET, composite materials, films (film thickness from 20 to 800 µm) and nonwovens.

“Ultrasound meets the most stringent demands of the packaging industry.”

Food industry

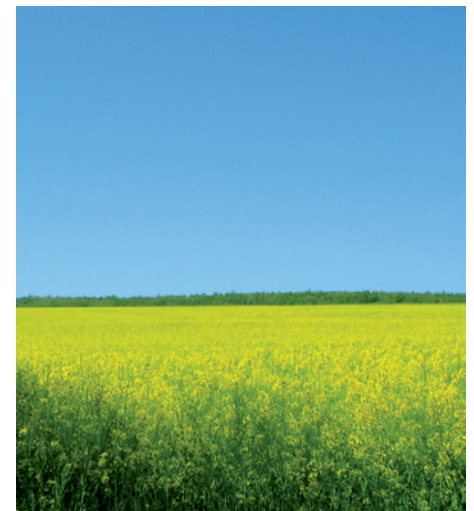
The use of ultrasonic technology enables tricky cutting and separation problems in the food industry to be solved. For this, we develop customised ultrasonic units and sub-assemblies, with which both very soft



and very solid products can be efficiently processed. Whilst the geometry and vibration response of the sonotrodes determine the cut, we match the sonotrodes individually to the respective applications and their requirements. As a result of the vibration and the Teflon® coating, wear and soiling of the cutting sonotrodes is very slight.

Environmental sector

By developing processes and applications for the ultrasonic treatment of bio-solids, waste water and water, we have developed another future-proof market: the environmental sector. Now, we are the lead manufacturers of ultrasonic systems in this field. The use of our ultrasonic systems significantly improves the efficiency of sewage treatment and digester plants. For local authority and industrial plant operators, we offer preliminary trials and feasibility studies in this area.



Sites

Global presence and proximity

A company with a 60% export share must have a global presence and be accessible to its customers. With its headquarters in Karlsbad and worldwide branches and agencies, we are well placed to operate in the international market. Our service and sales network is always available to you.

Headquarters

- Karlsbad, Germany
in the Karlsruhe Technology Region

Branches

- Barcelona, Spain
- Brighton, MI, USA

Agencies

- Hong Kong
- Johannesburg, South Africa
- London, UK
- Vallentuna, Sweden
- Sao Paulo, Brazil



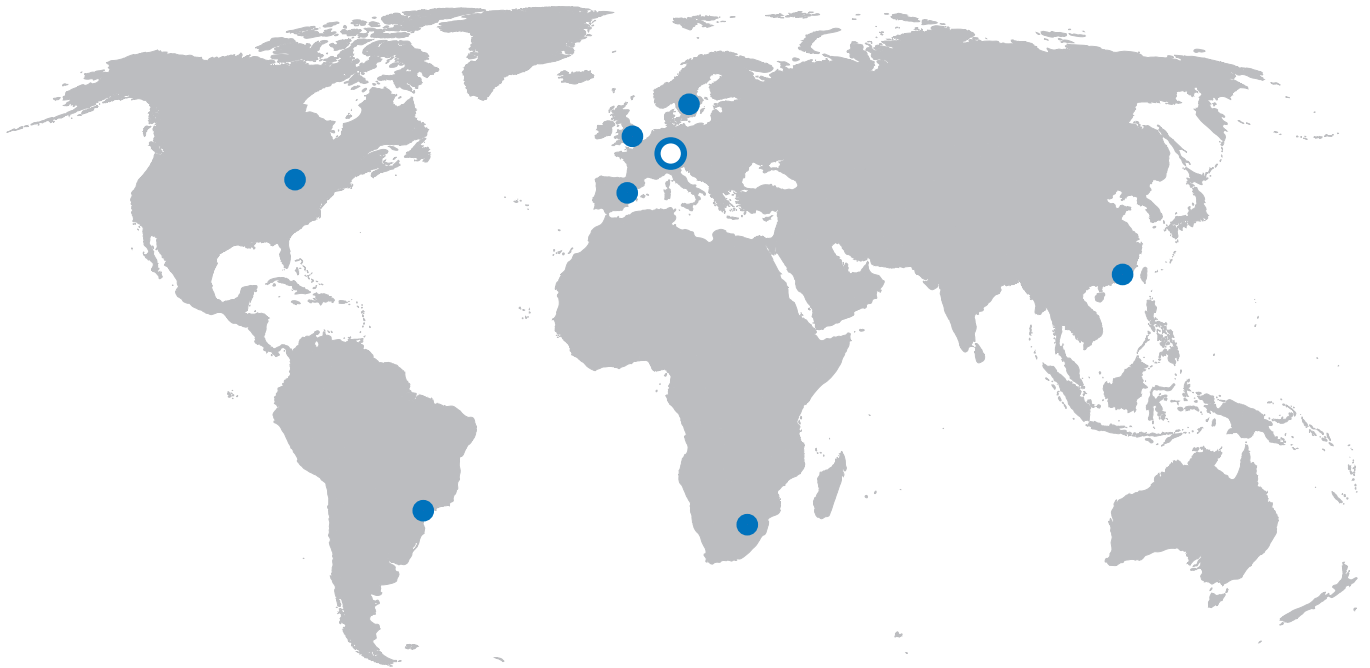
SONOTRONIC – Headquarters Karlsbad



SONOTRONIC – Branch Spain



SONOTRONIC –Branch USA



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