



## Industrial ultrasonic solutions

Expertise and partnership

## Profile

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Plastic welding  
Metal welding  
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Screening  
Cleaning  
Components for automation integration

# "Welcome"



For 50 years now, TELSONIC has been one of the leading industrial ultrasonics suppliers worldwide.

We have in-depth knowledge experience in all aspects of ultrasonics including plastic and metal welding, cleaning and screening.

Our employees continually work to develop our products and services and, set new standards in ultrasonic technology.

For our clients this means quality, innovation and excellent productivity.

Dr Axel Vietze  
CEO and Chairman of the TELSONIC Group

## Short profile

The TELSONIC Group – successful worldwide



1966 | Founding of TELSONIC AG in Bronschhofen, Switzerland

1966 | CLEANING

1970 | PLASTIC WELDING

1977 | Founding of TELSONIC UK Ltd. in Poole, England

1978 | METAL WELDING

1984 | CUTTING, CUT'N'SEAL

1989 | Founding of TELSONIC GmbH in Erlangen, Germany

1989 | FOOD-CUTTING

1992 | PACKAGING

1993 | SCREENING

2004 | Founding of TELSONIC doo in Kac, Serbia

2005 | Founding of TELSONIC Ultrasonic Inc. in Michigan, USA

2007 | Founding of TELSONIC Ultrasonic Equipment Co. Ltd. in Shanghai, China

2010 | Acquisition of Sonic Solution Systems USA in Boston, USA

2013 | Strategic cooperation with the Schleuniger Group, Switzerland

2015 | Strategic cooperation with F & E Ultraschall Akademie GmbH, Germany

2016 | TELSONIC's 50th anniversary



**TELSONIC AG**  
**Registered office of the group**  
 Bronschhofen  
 Switzerland

**TELSONIC UK Ltd.**  
 Poole Dorset  
 Great Britain

**TELSONIC GmbH**  
 Erlangen  
 Germany

**TELSONIC doo**  
 Kac  
 Serbia

**TELSONIC Ultrasonic Equipment Co. Ltd.**  
 Shanghai/Shenzhen  
 China

**TELSONIC Ultrasonic Inc.**  
 Shelby Township, MI  
 USA

**TELSONIC Solutions Inc.**  
 Newton Upper Falls, MA  
 USA

The registered office of the TELSONIC Group is in Bronschhofen, Switzerland.

More than 200 highly-qualified employees, individual affiliates in Germany, England, America, Serbia, China and specialised distributors support our clients in developing and implementing ultrasonic-controlled applications and processes.

TELSONIC works closely with institutions of higher education in Switzerland and Germany and promotes research and basic teaching on the use of ultrasonic technology. Quality and progress are our motivation.

Ultrasonic technology can no longer be ignored in the production of plastic and metal goods or their final assembly. TELSONIC are ultrasonics specialists in this field.

We are certified in accordance with ISO and ATEX and apply lean production principles. The technical documentation of our products corresponds to the DIN EN 15038 standard and countless patents in the field of industrial ultrasonic applications prove our innovative power.

## TELSONIC values

"We have the same values"

Although TELSONIC employees service different regions, their work is based on the same core values worldwide: Appreciation, trust, and excellent performances.

We stand for quality, progress and maximum benefits for our customers.





## Our employees

"I was happy to work at TELSONIC as the company culture won me over and I was treated as an individual"

*Ralf Müller, Team Leader Application Engineering – TELSONIC AG*

TELSONIC places a great deal of value on performance and responsibility. Our employees are our greatest asset – it is very important to us to have satisfied employees, open communication, honest dealing and respectful interaction.

With our comprehensive training, we support young people and therefore give them the best possible introduction to the business world.



# Innovations

"We live progress"

The industrial use of ultrasonics is continually opening up interesting new application possibilities. Today, they are found everywhere in modern production processes. We have the highest competence in acoustics through FEM-support (Finite-Elements-Method).

Where conventional methods reach their limits, our additional torsional welding processes offer greater potential. This is to guarantee the best possible quality for our clients. Icon-based UI design and machine control with OPC-UA interface compliment our expertise.

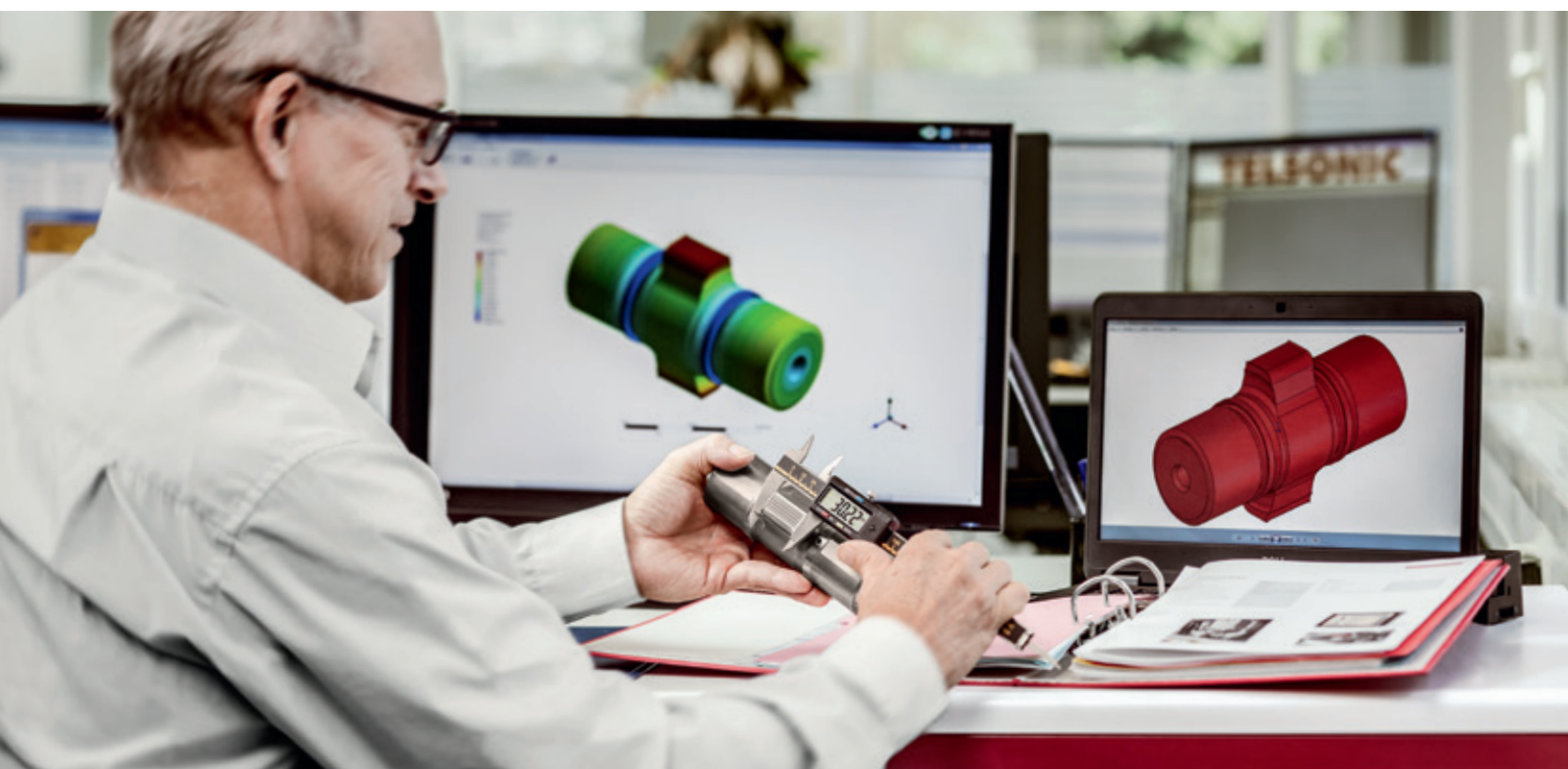


MAG generator with bus module



MPX HD with PowerWheel® technology





### Innovative peak performance

- » SONIQTWIST®: Torsional welding of metal and plastic
- » PowerWheel®: Torsional welding with optimised force transmission
- » Digital ultrasonic generators with multiple optional bus systems
- » High performance ultrasonic systems

# Production

"Competitive due to efficient manufacturing processes"

Our production organisation follows the actual principles of the lean manufacturing philosophy. Our clients and their needs are at the very heart of our daily work. We are able to achieve short delivery times and faultless products due

to an efficiently structured value-added chain, which is constantly being optimised. We are certified in accordance with ISO 9001 (SQS).





# Markets

"Our clients have faith in reliable TELSONIC systems"

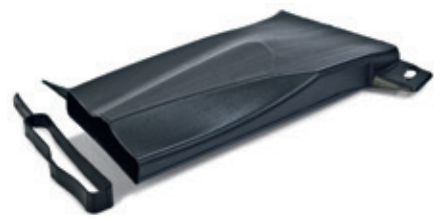
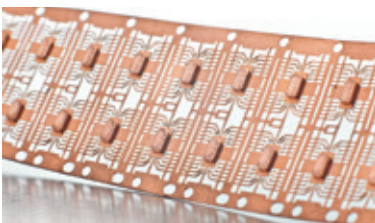
Many years of experience and constant technological improvement, means that TELSONIC offers advances ultrasonic generators, resonance systems and system solutions. Application fields cover practically all areas of the industrial use of ultrasonics, and within this sector, we follow the requirements of our globally active customers.

Our experienced sales engineers and application specialists seek optimised system concepts for individual application according to precisely defined requirements.

The technical possibilities of our laboratories are also of central significance in this. In the process, our clients receive information that is important for the design of their parts.

Our highly trained and experienced service team offers support in the long-term operation of ultrasonic systems and are available to offer expert advise and support.

## Example applications of industrial ultrasonics



# Our technical fields

## Plastic welding

Ultrasonic plastic welding is suitable for virtually all thermoplastics. When planning welds between semi-crystalline plastic mouldings it is important to remember that the weld behaviour of these plastics differs considerably from that of amorphous plastics. Alongside the proven longitudinal welding process we exclusively offer the torsional ultrasonic welding SONIQTWIST®, which is characterised by the lowest component load.

## Metal welding

TELSONIC takes an innovative path to new solutions in ultrasonic metal welding. Our high-performance systems and the unique torsional technologies PowerWheel® and SONIQTWIST® extend the performance spectrum in metal welding and enable the welding of a variety of materials, shapes and dimensions that previously lay outside the possibilities of ultrasonic metal welding.

## Cutting, cut'n'seal

An ultrasonically vibrating knife blade penetrates the materials to be cut without resistance and separates them precisely. Today, nonwovens and wovens, particularly for filters, must be manufactured in an economical and process-safe way. With our ultrasonic-technology, we separate cleanly and quickly, and weld edges aesthetically and reliably. Sonotrodes and anvils designed especially for the application enable the manufacture of almost every type of shape, something our customers in the medical technology, cosmetics, packaging, and mechanical engineering fields appreciate greatly.

## Screening

The requirements in the industrial screening process have become more complex, the powders finer, the throughput times shorter and the selectivity narrower. Our ultrasonic methods offer efficient solutions. Ultrasonic systems stimulate the finest screen fabric, increase throughput rates and improve, due to the permanent cleaning of the screen, the degree of selectivity of the screened product.

## Cleaning

Ultrasonic cleaning has become an integral part of industrial production processes. The elimination of fouling is important for process reliability, prepares for further process steps and is suitable for the final cleaning of products. The versatile ultrasonic components from TELSONIC fulfil the requirements of our clients' increasingly complex applications as effectively as possible. They can be flexibly integrated into automated cleaning installations, even in the toughest environments.

# Wide range of application areas for ultrasonics

## Automotive industry

In the automotive industry ultrasonics are mostly used for the welding of plastics and wires on cable looms, metal welding battery terminals, cleaning parts in the production process, for the screening of powder coatings etc.

## Medical industry

The high quality requirements in the medical industry are fulfilled perfectly through plastic welding, cut'n'seal, cleaning and screening with ultrasonics.

## Textiles industry

Cut'n'seal and the process of separating with ultrasonics are used mostly when handling textiles, foams and faux leather. Clean and soft cut edges are created.

## Food industry

The food industry is characterised by applications such as cutting and packaging with the help of ultrasonics. Procedures of this type are particularly good, because of compliance with strict hygiene requirements.

## Plastics industry

Everywhere where plastics are processed you will find ultrasonic procedures, which are used to combine two components, to punch burr-free cavities or to seal packages.

## Packaging industry

In packaging, ultrasonics are used in vacuum formed items from containers in a seal-tight manner. Endless packages, like tubular bags, can also be sealed in an air-tight manner using ultrasonics.

## Battery industry

During battery production, ultrasonic welding techniques are often used to achieve a reliable connection between the basic components: foils, connectors, terminals.



## Plastic welding



**«Reliable connection technology  
with ultrasonics»**

- » More than 50 years' experience in a wide range of application areas
- » Versatile application solutions in thermoplastics
- » Longitudinal ultrasonic welding and the patented torsional welding process SONIQTWIST®, which TELSONIC developed, are available processes.
- » Advanced generator technology, developed in Switzerland



Sensor in plastic housing



Sensor support



## Metal welding



« Process control to the highest degree with ultrasonics »

- » Many years of in-depth application experience in the automotive and electronics industry
- » Strand welds of up to 160 mm<sup>2</sup> copper and 200 mm<sup>2</sup> aluminium
- » High welding power of up to 10kW
- » Linear welding and internally developed, patented torsional welding SONIQTWIST® and PowerWheel®



Aluminium wire on cable lug



Battery cell connector



## Cutting, cut'n'seal



« Simultaneous cutting & welding  
with ultrasonics »



- » Expertise aquired through multi-faceted industrial application experience
- » Simultaneous micro-fine welding and cutting of textiles
- » Cut food precisely without crushing



Breathing mask



Cutting food

## Screening



« Efficient screening  
with ultrasonics »



- » Ultrasonic process guarantees high throughput quantities
- » Customer-specific construction of screening frames
- » Products available in ATEX variants



Carbon powder



Powder coating

## Cleaning



« Perfect cleaning  
with ultrasonics »



- » Many years of application experience
- » High performance tube resonator systems
- » High process safety



Cleaning process with work piece



Cylinder head cleaning



# Automation integration

"TELSONIC components for system integration"

## Generators

Digital ultrasonic MAG generator

Compact dimensions for integration into switching cabinets



## Actuators

Ultrasonic systems for flexible use in machine construction



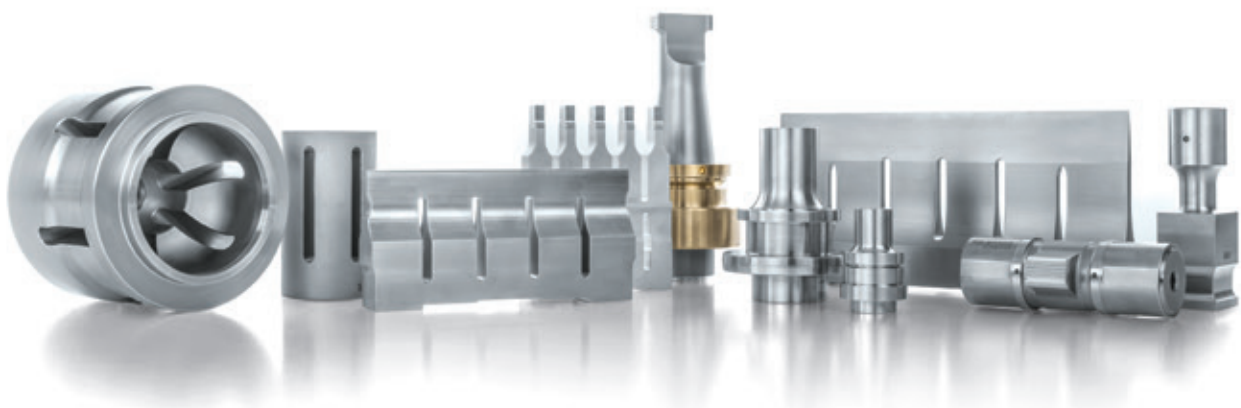
## Controller

TCS5 for generators



## Sonotrodes

Ultrasonic welding tools made from steel, titanium or aluminium are available for use in all applications.



- » Ultrasonic components for automation integration
- » Design and production of welding tools
- » Bus modules for EtherNet/IP, Sercos3, ProfiNet, Profibus, Modbus RTU

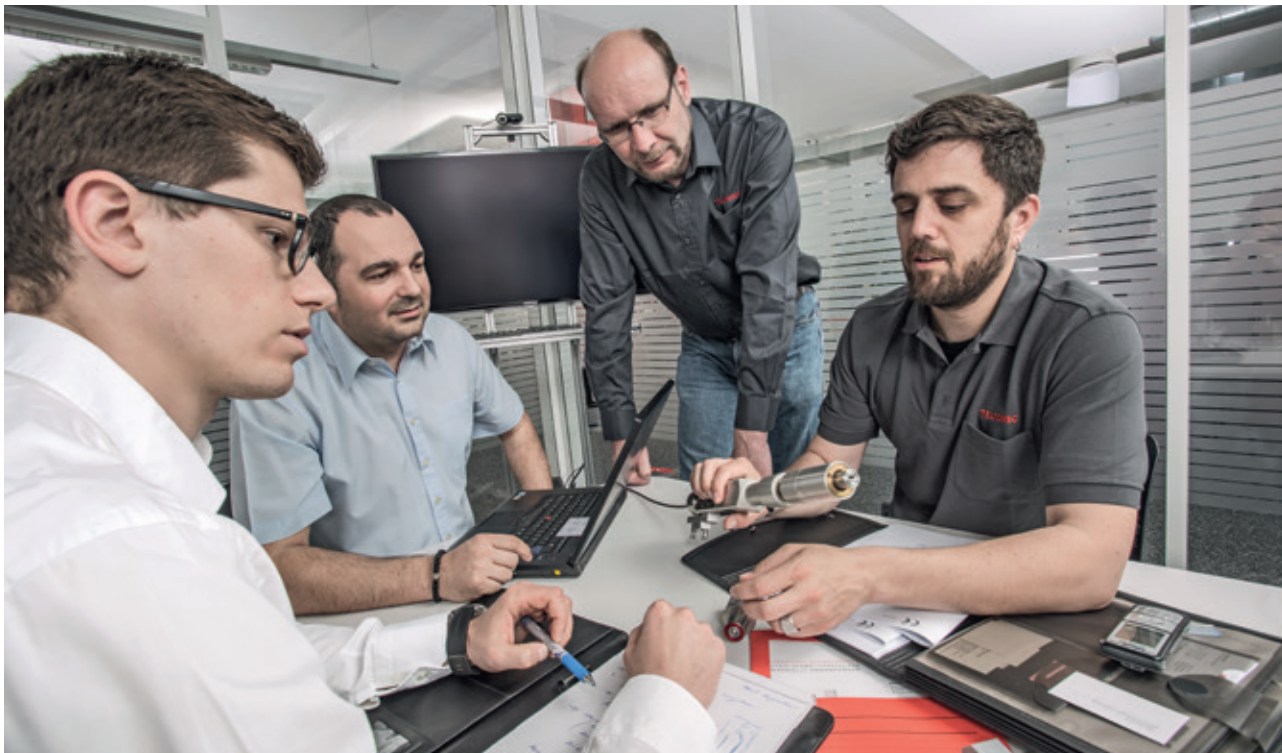




# The complete service for you

## Professional consultation

Our experienced sales engineers and application specialists develop ideal system concepts for individual applications.



## Comprehensive service

Our expert service team are available to answer your questions and support the continuous operation of your ultrasonic systems.





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