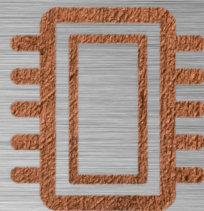
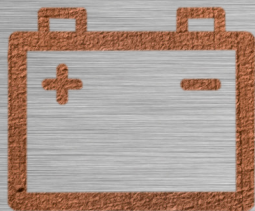
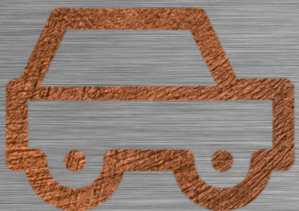




Sonosystems®

Schunk Sonosystems

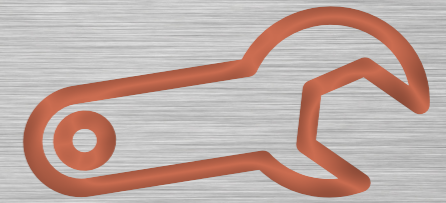
ultra fast. ultra strong. ultrasonic.



Welcome to Schunk Sonosystems!

Schunk Sonosystems is market and innovation leader for ultrasonic metal welding

We offer our comprehensive service - worldwide. This includes all Schunk system solutions from commercially available ultrasonic welding machines to complex automation systems with and without ultrasound. This includes our training centers and machine acceptance centers for effective handling of the equipment, as well as customer-friendly online diagnostics, for example for optimising welding parameters.

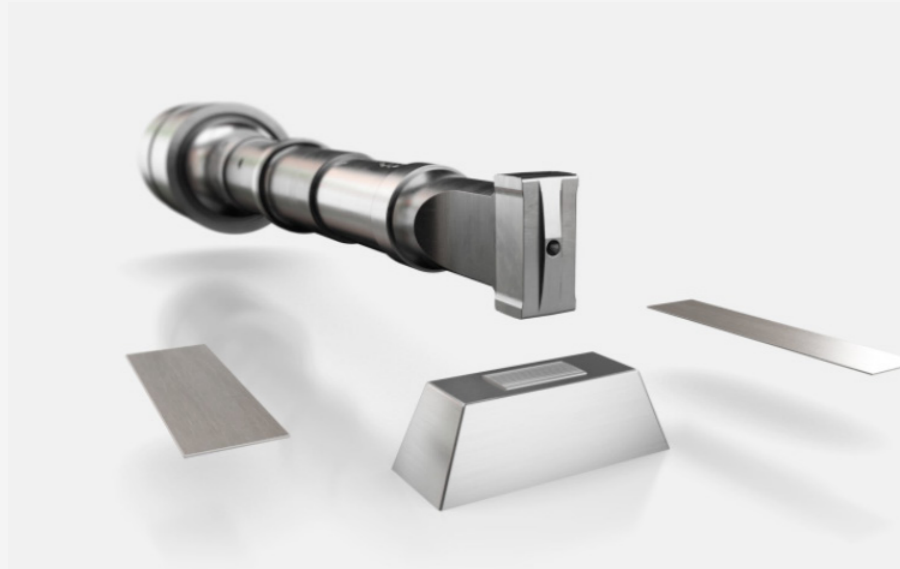


Our 300 employees worldwide develop and produce our innovative ultrasonic welding equipment - and together with our representatives we are always close to our customers. In addition to our headquarters in Wettenberg (Germany), we have locations in Boston (USA), Moscow (Russia), Kenitra (Morocco) and Taicang (Jiangsu Province, China). Furthermore, we have a worldwide sales and service network.

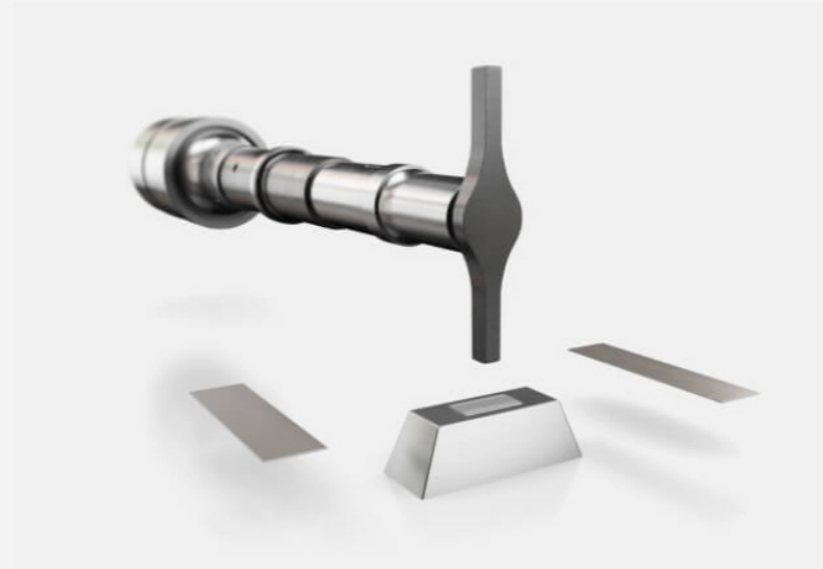
Our technology

Ultrasonic welding is a future-oriented process that combines metals by means of ultrasound. In addition to copper and aluminium connections, metal-glass connections are also possible.

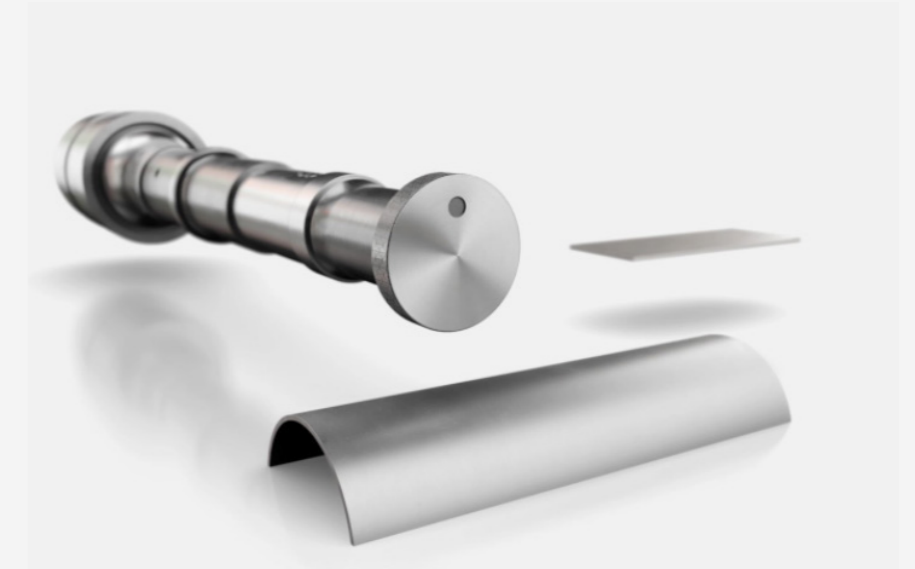
The materials are placed on top of each other and moved against each other at low pressure and high-frequency mechanical vibrations. In a fraction of a second, a permanent, strong and metallurgically pure bond with excellent physical properties is created.



The most common application for ultrasonic metal welding is the so-called **spot welding**. The size of the welding spot can range between a few square millimeters up to 100 square millimeters.



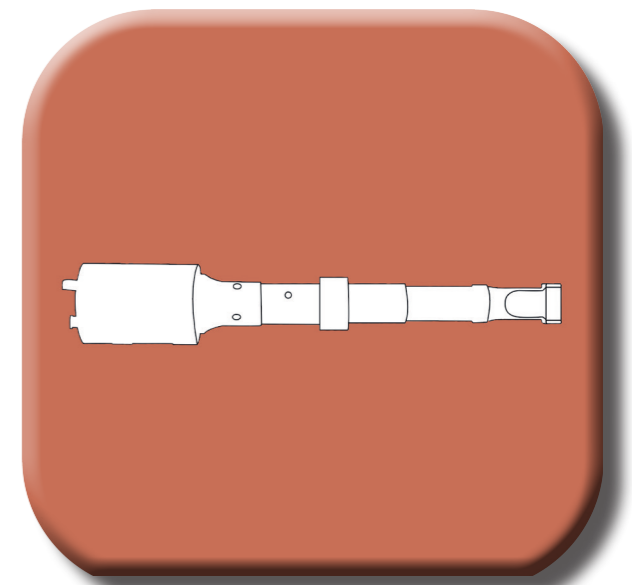
Bending horns are often used for welding spots difficult to reach. In contrast to a standard sonotrode producing longitudinal oscillation, the bending sonotrode is induced to generate flexural oscillation in the center by the vibration oscillator system.



Roll seam welding produces a linear continuous metallic seam weld. Common applications include solar thermal power, photovoltaics and composite pipe production.

The advantages:

- ✓ without thermal load of the components
- ✓ high-quality and economically superior alternative to other welding processes
- ✓ no additional materials necessary
- ✓ very good electronic monitoring of the welding process possible
- ✓ complete system solutions from a single source



Applications

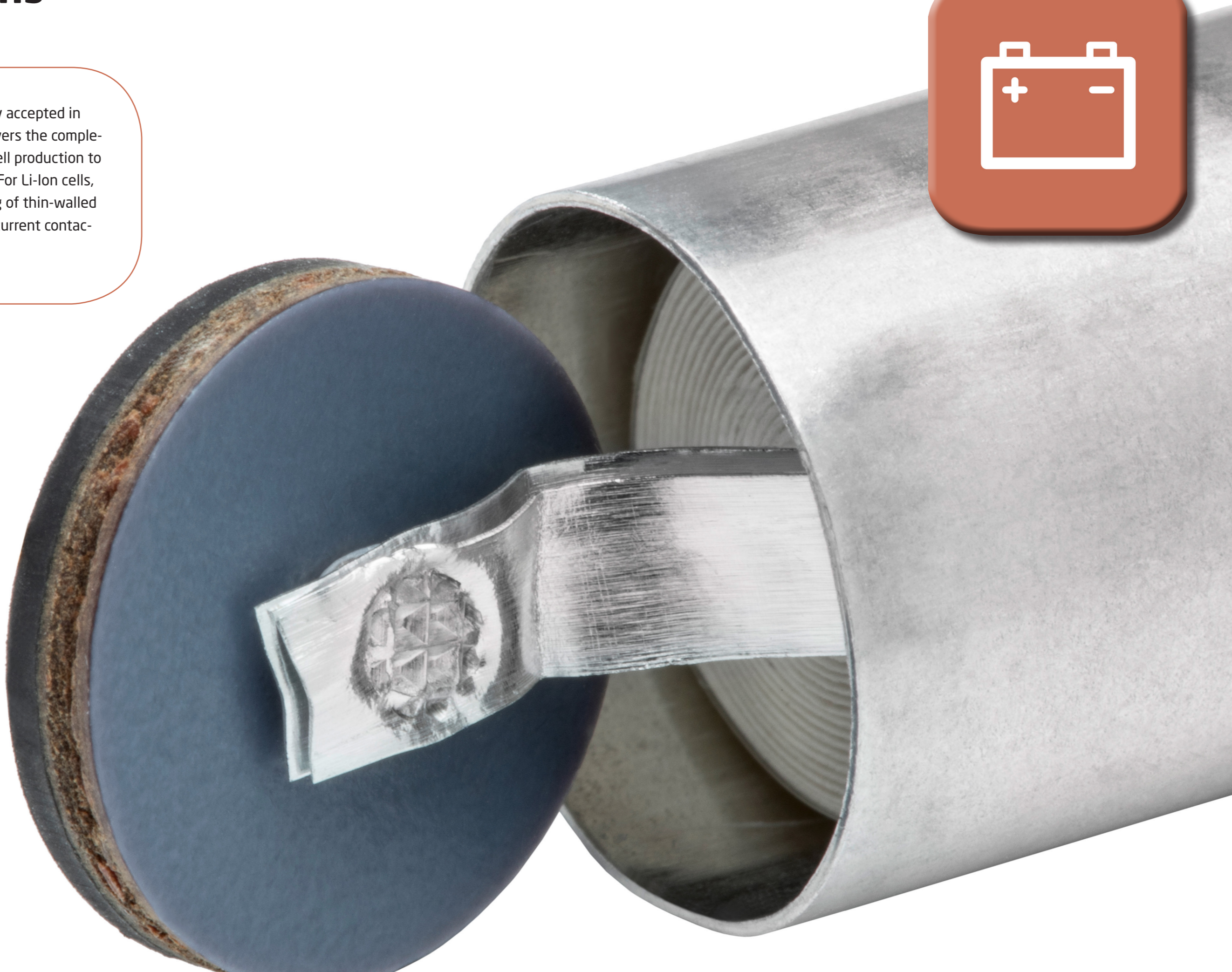
Our products are complete system solutions from a single source. In addition to the standard machine program, Schunk offers a modular system concept. It enables the integration of ultrasonic systems into complex assembly lines.

Ultrasonic metal welding is probably the most important joining technology in the manufacture of **wire harnesses** for the automotive, construction machinery and household appliance industries. Among other things, the process is used for welding several wires together and for connecting strands with ground or high current contacts. We cover a cross-section range from 0,13 mm² to 200 mm².



Applications

Li-Ion cells have become widely accepted in **battery technology**. Schunk covers the complete range of applications from cell production to wiring and battery contacting. For Li-Ion cells, this includes ultrasonic welding of thin-walled Al and Cu foils as well as high-current contacting and cable elements.



Applications



In **power electronics**, high-performance modules such as IGBTs (Insulated-Gate Bipolar Transistors) or IPMs (Intelligent Power Modules) are increasingly produced by ultrasonic welding. The material-locking connection leads to a significantly reduced power dissipation at the contact points, which increases the electrical efficiency and minimizes the cooling effort. Tests have shown that ultrasonic welding joints significantly increase the service life of the modules.



Applications

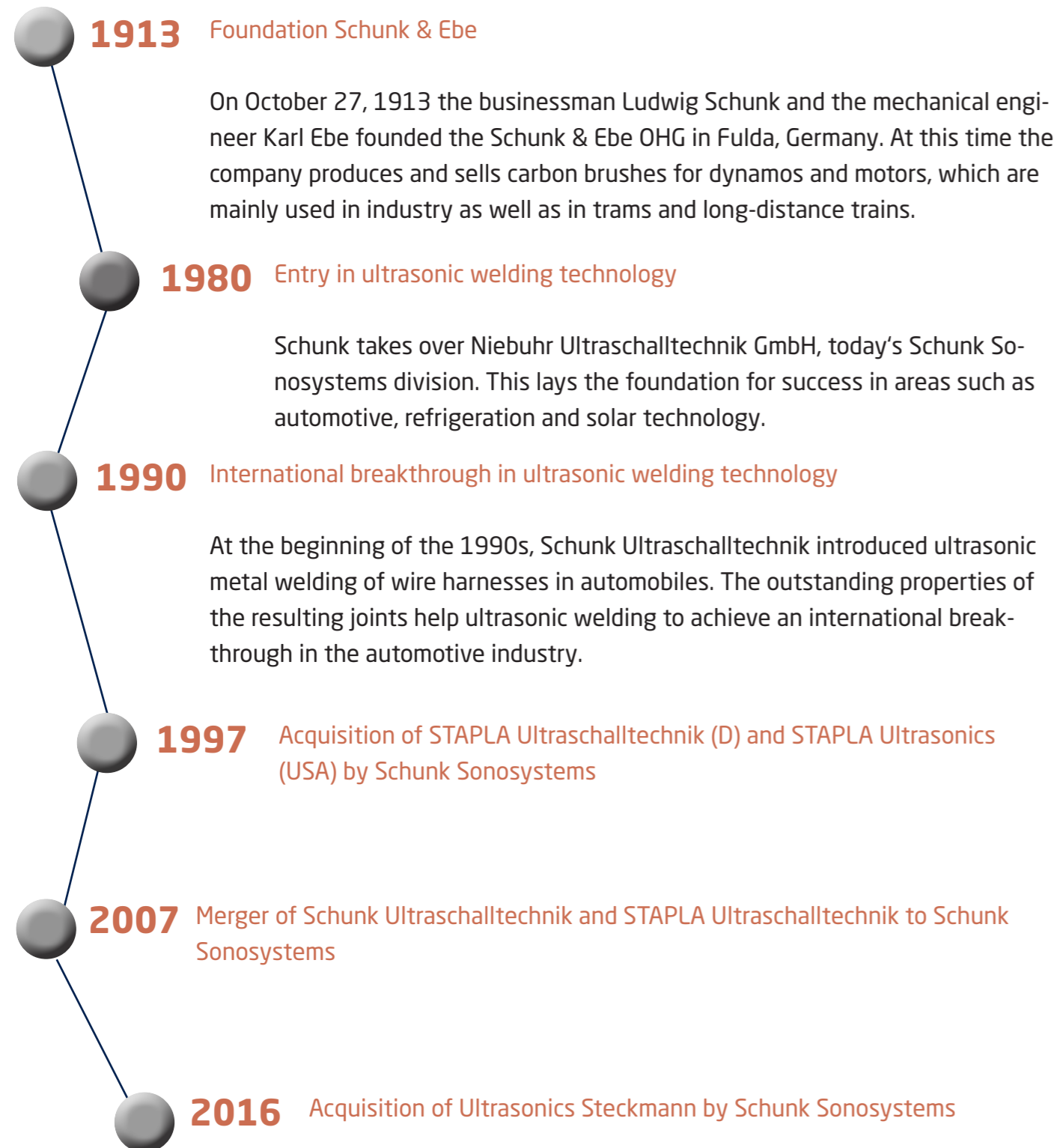
In the field of **cooling technology**, refrigerators and air conditioning systems are equipped with refrigeration circuits made of copper tubes in which a refrigerant circulates. These tubes are cut with the aid of an ultrasonic welding machine and welded gas-tight at the same time so that the refrigeration circuit is hermetically sealed.



Our experience

We have many years of experience in the field of ultrasonic welding. Through continuous cooperation with our customers and partners in the automotive industry, we know their needs very well. From the very first day, our goal has been the perfect connection. Millions of times. Worldwide.

Notes

[illegible]

Schunk Sonosystems GmbH
Hauptstraße 95
35435 Wettenberg
Germany



+49 641 803 0



sonosystems@schunk-group.com



www.schunk-sonosystems.com

