

Quality culture in transition

From a functioning system to a comprehensive application solution

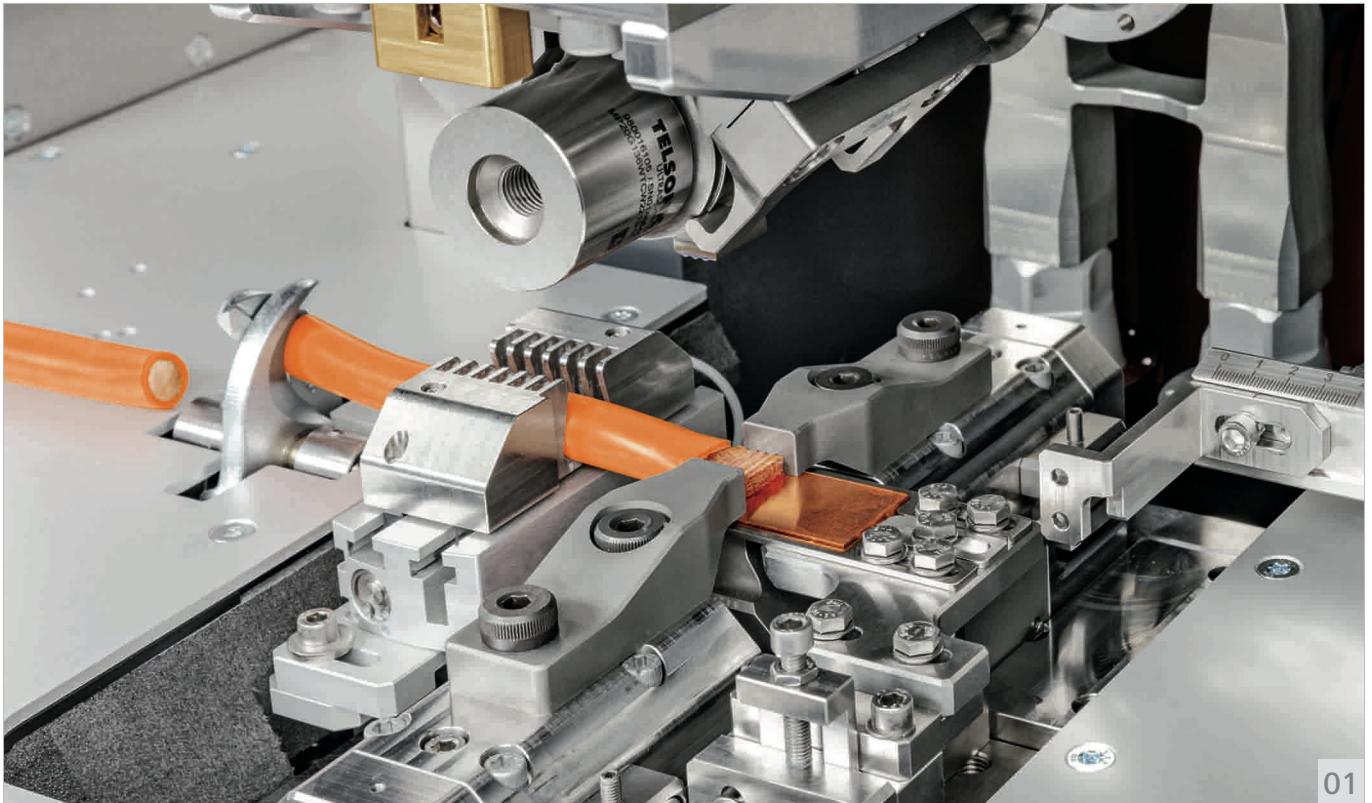
PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SIEVING



01 The ultrasonic metal welding system can be used for a broad range of tasks, including cable assembly and battery production. The welding process control monitors the welding process and, if necessary, destroys the welded application using a wire cutter. (Author: Telsonic)

Bronschhofen (CH), 05/2024

Quality is one of the most important success factors for companies. However, what is meant by this has changed over time. Whereas a number of years ago it was sufficient in automation technology to develop technically sophisticated, durable products that reliably fulfilled their function, today companies have to think and live quality more comprehensively. The quality concept must be consistently implemented not only during the manufacturing process, but also before and after. If this is successful, this "new" quality culture will become an important competitive factor for companies, as the example described above shows.

The Swiss Telsonic Group has been represented with industrial ultrasonic systems in Europe, America and Asia since 1966. Continuous innovation and high-quality products "Made in Switzerland" have helped the ultrasonic experts to gain a technical edge in many applications. "To ensure that this remains the

case in the future, however, it is no longer enough to adhere to the familiar quality standards," reports Daniel Schmid, Head of Management System at Telsonic (Fig. 1). And this despite the fact that the company has continuously invested in quality. The ultrasound specialist's quality management system has once again been certified in accordance with DIN EN ISO 9001:2015, the core objective of which is to create trust in the products and services and thereby increase customer satisfaction. "However, the requirements continue to increase, and quality today needs to be considered in many different ways and extended to all areas, from development concepts to topics such as sustainability, production conditions at our suppliers' premises and the environmentally friendly recycling of systems," Daniel Schmid continues. The established quality and process management systems, as well as methods such as Kanban and 6S Lean, create an important basis for this, but are not enough.

Quality starts in development

At Telsonic, quality awareness begins at a very early stage of development, i.e. when the idea for a new system is born and is still in its infancy. Agile concepts with all the tools available for this purpose support a situation-dependent, flexible approach, which means that current and future market requirements can be implemented better than a few years ago and often even faster. One example is the Telso®Terminal TT7 ultrasonic metal welding system, the latest development from the ultrasonic specialists (Fig. 1, see technology box). Daniel Schmid recalls: "This is a completely new system, for which we dealt intensively with customer requirements from the outset in order to develop not just a product, but a comprehensive application solution."

The developers therefore looked at the upstream and downstream processes, for example how the pieces of equipment are fed in and how they are handled after processing. The focus was on the question of how integration into the user's process can be optimized and simplified at the same time, and how the mechanics, communication interfaces and operating software can be designed accordingly (Fig. 2). The effort has paid off, because today the ultrasonic welding system can be easily and smoothly integrated into a wide variety of production lines, especially in the automotive industry, a quality feature from which the user benefits decisively, because he can in turn better implement his own quality standards.



02 The Telso®Flex operating software enables perfect interaction between the operator and machine and provides constant feedback on the welding process. In this way, the high quality requirements can be met by means of comprehensive process monitoring. (Author: Telsonic)

Behind it are people

"However, this only works if the employees in the specialist departments identify with such a situation-specific approach and understand what this has to do with our company's quality standards," continues Daniel Schmid. He sees himself as a coach who conveys the complex idea of quality and continuously improves the structures, procedures and workflows with the teams. Communication with employees, mutual respect, suitable working conditions and the opportunity for further training are key issues in this context (Fig. 3). Only then can a continuous improvement process be realized. "Digitalization also plays an important role here, as it is the only way to guarantee traceability in the production process of an ultrasonic system, for example," adds Daniel Schmid.

Sustainability is another focal point of a company's quality culture. Here, the ultrasound experts rely on a standardized sustainability report. Daniel Schmid adds: "It is to be expected that the topic of sustainability will become more concrete with the revisions of the ISO 9001 and ISO 14001 standards. However, standards alone should not be the only motivation to address this issue, but it should be the DNA of every company to make a contribution within the scope of its possibilities."



03 Quality is also a matter of the mind: communication with employees, mutual respect, suitable working conditions and the opportunity for further training are key issues in this context. (Author: Telsonic)

CO₂ footprint

Last but not least, the continuous reduction of a company's own CO₂ footprint is now also part of its quality culture. The environment is also a high priority for Telsonic, which is why the company recently underwent a voluntary environmental audit in compliance with the strict requirements of the ISO 14001 certification. All operational procedures and concepts in the company are extensively reviewed and periodically checked. "We invest in sustainability at all our sites," Daniel Schmid explains. "At our site in Fürth, for example, we use geothermal and solar energy to generate power. And our lighting has been completely converted to LED technology." Environmental protection and sustainability are firmly anchored in the corporate culture; after all, this is also one of the requirements that customers have of manufacturers today. Companies that want to continue to use quality as a competitive factor in the future must therefore face up to the associated challenges.

Technology box: Digital system solution for ultrasonic metal welding

With the development of the new Telso®Terminal TT7 for ultrasonic metal welding, Telsonic AG has demonstrated its commitment to product development and innovation. The new system is designed to simplify and expand the application possibilities of ultrasonic metal welding in a variety of areas, particularly in the fast-growing Electromobility Sector, where there is increasing demand for the highest levels of quality and process control in cable assembly, contact part assembly and battery production.

The Telso®Terminal TT7 works with the proven PowerWheel® welding technology, which ensures maximum reliability and process control for welding metal cable cross sections up to 200 mm². Additional benefits include the ability to change tools in under five minutes, thanks to the TT7's new quick-change system. The system also features standardized interfaces for digital networking and ease of integration into production systems.

04 Daniel Schmid, Head of Management System at Telsonic: "Today, quality needs to be considered in many different ways and extended to all areas, from development concepts to topics such as sustainability, production conditions at our suppliers' premises and the environmentally friendly recycling of systems."



Authors:

Ellen-Christine Reiff, M.A., Editorial Office Stutensee (<http://www.rbsonline.de>)

Dipl.-Wirt. Ing. (FH) Alex Homburg, Editorial Office Stutensee (<http://www.rbsonline.de>)