

**SENSOR-TECHNIK  
WIEDEMANN GMBH**  
INDUSTRY OF  
THINGS



**STW**

WE LEARN HOW THIS COMPANY IS BRINGING DIGITISATION TO A WIDE RANGE OF INDUSTRIES.

# INDUSTRY OF THINGS

PROJECT MANAGED BY: RASH UDDIN

**Sensor-Technik Wiedemann GmbH specialises in the automation and digitalisation of mobile machinery such as agricultural, construction or municipal machines.**

“Our main hardware products are controllers in a range of sizes and edge computers with integrated telematics, enabling all kinds of interfaces, both wireless and non-wireless,” explains Steffen Dieterle, CEO of the company. “What we are really known for is our reliable, flexible and robust electronic platform enabling long machine uptime for the end-user. In addition to our high-performance

hardware kit, we have a deep knowledge of the software. The result is a consistent solution that enables our customers to develop a proper machine architecture. Functional safety is one of the main aspects of the engineering of mobile machines that are driving and working increasingly autonomous.”

This is all part of 4IR, the Fourth Industrial Revolution, the Internet of Things, and it is changing every aspect of the industry. Of course, this means it is also a deeply competitive sector.



STW System Demonstrator SymonE.

“We stand out through our deep in-house value chain, from researching advanced technologies to engineering to production to application engineering, backed by an international sales and partner network,” Dieterle says. “We offer excellent flexibility. This results in an optimized hard- and software solution around each dedicated application, and since we also provide sensors in-house, we can enable a full automation and digitalisation system on any mobile machinery. We support our customers intensively through the engineering and programming of their machines, ensuring the best performance and user experience.”

In terms of how these solutions are used, they can be found in a wide range of industries.

“We enable smart and precision farming, smart construction sites or autonomous driven machines which are really of sustainable value to the world,” Dieterle points out. “This kind of farming needs less water, herbicides or pesticides, and offers better usage of fields. We allow machine-to-machine, machine-to-human and machine-to-cloud communication. With our technology and know-how, we contribute to a more sustainable farming and efficient construction sector.”

**SUPPLYING THE INTERNET OF THINGS**

Of course, these systems depend heavily on electronics, and in sectors from the automotive industry to videogames, electronics has been facing a new challenge over the last year.

Supply for the semiconductors that are essential for so many products is outstripping demand.

“A short-term challenge is the supply problems around electronic components on the market,” Dieterle says.

“So far we have successfully overcome any major supply chain challenges,” Dieterle says. “This was because we have a long-term material strategy, with good components purchased in large quantities to stay independent of volatile market situations.”

As well as taking a sensible approach to stocking components and materials, the company also benefits from a vertically integrated approach to production.

“We have a lot of the required production in-house, from automated SMD processes to electronic-device assembly and the final testing,” Dieterle explains. “The whole production process is in-house. It gives us a lot of flexibility and control regarding the quality of our products.”

As well as providing for its existing customers Sensor-Technik Wiedemann is also looking to further horizons.

“We want to grow internationally,” Dieterle points out. “We have a related company in North America that helps us with system integration and distribution in North and South America. We have an office in Shanghai, and another in Russia. In addition, more than thirty independent integrators help us to bring our systems to different markets and areas. We help manufacturers all around the globe to meet the increasing demand for smart machines.”

**USER FRIENDLY**

As well as sourcing the materials and components it needs, and getting its solutions to customers around the world,

Sensor-Technik Wiedemann is also putting a great deal of effort and investment into making sure its solutions are easy to use.

“We want to make our product portfolio more intuitive for users,” Dieterle admits. “An intuitive system kit is our goal for the next two to three years.”

For over five years the company has been developing a software tool called openSYDE that enables Sensor-Technik Wiedemann to build intuitive user interfaces with simple drag and drop options.



In-house Manufacturing.



Steffen Dieterle, CEO, Sensor-Technik Wiedemann GmbH

“Our openSYDE tool allows you to build your own machine architecture, program your applications, validate and maintain the system as a whole,” Dieterle says proudly. “We have C coded but also IEC coded support within this toolchain. Our STW (Sensor-Technik Wiedemann) approach is to provide an open and future-orientated system. Since we calculate ten to fifteen years of the product lifecycle for the machine, we can support

the integration of additional functionalities and maintenance of the system over its lifetime. This tool allows machine builders and users to manage that process on a software basis. We enable a user-friendly machine set-up and make it as easy as possible to add value to the machine in the field.”

Creating such an intuitive, flexible, user-friendly interface requires staff who find their jobs equally intuitive, flexible and user-friendly.

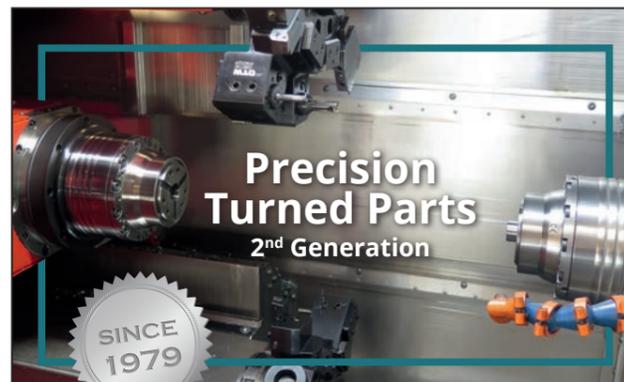
“We are in Bavaria, one of the main areas within Germany for highly educated staff. What we try to give them is a good way of life,” Dieterle tells us. “We provide flexible working, with a good work/life balance, allowing our people to work remotely wherever possible, with a mix of being on-site. We give a lot of trust and responsibility to the team.”

As well as giving them the flexibility and support to do their jobs well, Sensor-Technik-Wiedemann also invests in training and education to build and keep improving their skills.

“We have more than 40 trainees here and in addition to that we have a programme called ‘dual studying’, with people who are partly studying at university and partly here with STW,” explains Dieterle. “We want to bring our employees in and support them to train themselves on the job even with university degrees.”

Going forward, Sensor-Technik Wiedemann is set to introduce yet more innovation and new solutions to the market. Through cooperation with local universities, the company is investing heavily in research & development and early product development on a range of future trends including high-performance controller architecture for real-time processes, automated environment detection, flash connectivity capabilities, robotics, and further development of its open toolchain.

Of course, technology is moving fast, and nobody knows what the next big innovation will be, but whatever it is, we can be confident Sensor-Technik Wiedemann will be at the cutting edge.



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