



The Productivity Multiplier:

How Leading Mittelstand Company SW is using Predix* Platform to Disrupt the Automotive Supply Chain

When an automotive company faces a quality issue, they pull out all the stops to fix it. It's easy to understand why. An issue in one vehicle can lead to them having to recall thousands – or millions – of vehicles to ensure passenger safety – all at great cost to the company and to their brand.

It's no surprise that a recent report from Deloitte suggests that improving quality management is one of the top three business priorities for senior executives within the industry. Manufacturers need confidence that each part of the huge supply chain underpinning the industry is providing the best quality parts – at a volume that will satisfy the world's growing demand for cars.

In turn, this supply chain relies on machines that can produce great quality at high volume, and automotive suppliers cannot afford for unplanned downtime to impact delivery schedules. Companies at every part of the supply chain have to trust that the machines on their production lines will work as expected every hour of every day.

As one of the leading manufacturers of horizontal machining centers for automotive suppliers, German manufacturing systems supplier **Schwäbische Werkzeugmaschinen GmbH (SW)** therefore has a huge responsibility for consistent quality and productivity.



SW Technology
People

Machines that make machines

SW horizontal machining centers help the automotive supply chain manufacture parts for brakes, valve blocks, engine heads, parts for power train, gearbox housings (or more). Known as innovators in the field, SW always has the productivity of their customers as a focus – whether through the way their milling machines are designed or through the software they use to help maintain them.

The company helps their customers boost productivity through leveraging multi-spindle machining centers that product up to four machine parts simultaneously – where competitors can only product one part. Customers

Making more of data to boost productivity

For many years this solution has helped SW to improve quality and productivity but, as the costs of storing and hosting data increased, they needed to find a more sustainable solution that would let them scale across their 1600 connected machines worldwide. **Jochen Heinz, Head of Industrial Data Services at SW**, elaborated:

“Initially, – SW wanted to continue with the Siemens relationship, but before doing so, we discovered GE’s Predix Platform as the platform for the

save money and space because they only need one SW machine to produce more output, therefore increasing it. But, it is not just the hardware that makes SW a force for productivity – software plays an important role, too.

Since 2003, SW has been using a Siemens-based application to monitor the operational health of their machines in the field. Data from this solution has been stored ‘on-premises’ at their German servers in Waldmössingen, and customers required extensive training to benefit from the data that each machine collected.

Industrial Internet of Things. After studying the market, we decided to go with a platform as a service solution. That was when Predix Platform finally came into the game. The platform offered the most mature industrial PaaS system on the market. At the same time we decided to hire more development engineers for our IDS (Industrial Data Services) department to improve our own expertise. After the release of our Predix-based cloud platform in May, more and more machines are continuously getting connected.”

Avoiding unplanned downtime is good for productivity

The solution that SW is now deploying allows its customers to optimize their maintenance schedules, mainly to anticipate potential downtime before it happens and to minimize the customers total cost of ownership. This is helping their customers to become more competitive – and makes SW’s machines more attractive to use.

By using machine data more effectively, SW also sees an opportunity to greatly improve their customer services. Today, their business model works like software services work on a Tesla car. While each machine is fundamentally the same, customers are given the choice to purchase different digital services they want to use. These services boost performance, which is typically not available without a digital service contract. And, as SW uses this digital solution as part of their internal QA process, they benefit from economies of scale at the machines installation phase, as well as the productivity boosts inherent in Predix Platform’s analytic capabilities.



But, SW is convinced that they can take things further. Most customers they sell to have a production line with many machines – not all manufactured by SW.

Jochen Heinz concludes:

“Customers do not have one SW machine only – they also have lines of our machines integrated into an automation concept. Typically, we provide 60% of the equipment onto a plant, including several machines at the end of the line, like washing machines, pressure testing equipment, etc.

We have access to around 70% of the data from our lines. Our goal is to hook up not only SW machines but also to connect the complete line, including the third-party machines. Our target is to provide digital services of the complete line to our customers, as well as valuable insights from the data and we already have started to develop and deploy this continuously. This will be the future.”





About SW

Schwäbische Werkzeugmaschinen GmbH (SW) with headquarters in Schramberg-Waldmössingen in the German state of Baden-Württemberg is an expanding manufacturer of internationally successful manufacturing systems. SW currently has more than 900 employees worldwide and generated sales of about €305 million in 2017.

The SW portfolio features one, two, three and four-spindle horizontal machining centers as well as multi-spindle machines. The different series allow for four and five-axis, as well as five-axis simultaneous machining of complex metal workpieces. The range extends from precision machining of very small parts to automated loading and unloading of workpieces with maximum dimensions of 1500 x 950 x 650 mm. As a solution supplier, SW automates complete manufacturing lines and assumes responsibility for complete process planning – from blank to finished part. The focus at SW is on people – the Technology People – who develop and build processes and manufacturing solutions and successfully place them in operation.

SW is a world market leader in multi-spindle machining centers. The company's energy-efficient manufacturing solutions are used in the automotive and automobile supplier industries as well as aerospace, hydraulics, pneumatics, and in medical and precision engineering. In addition to SW Automation in Tettnang, Germany, which specializes in automation, SW also has subsidiaries in Detroit, USA; Suzhou, China; and San Luis Potosí, Mexico.

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