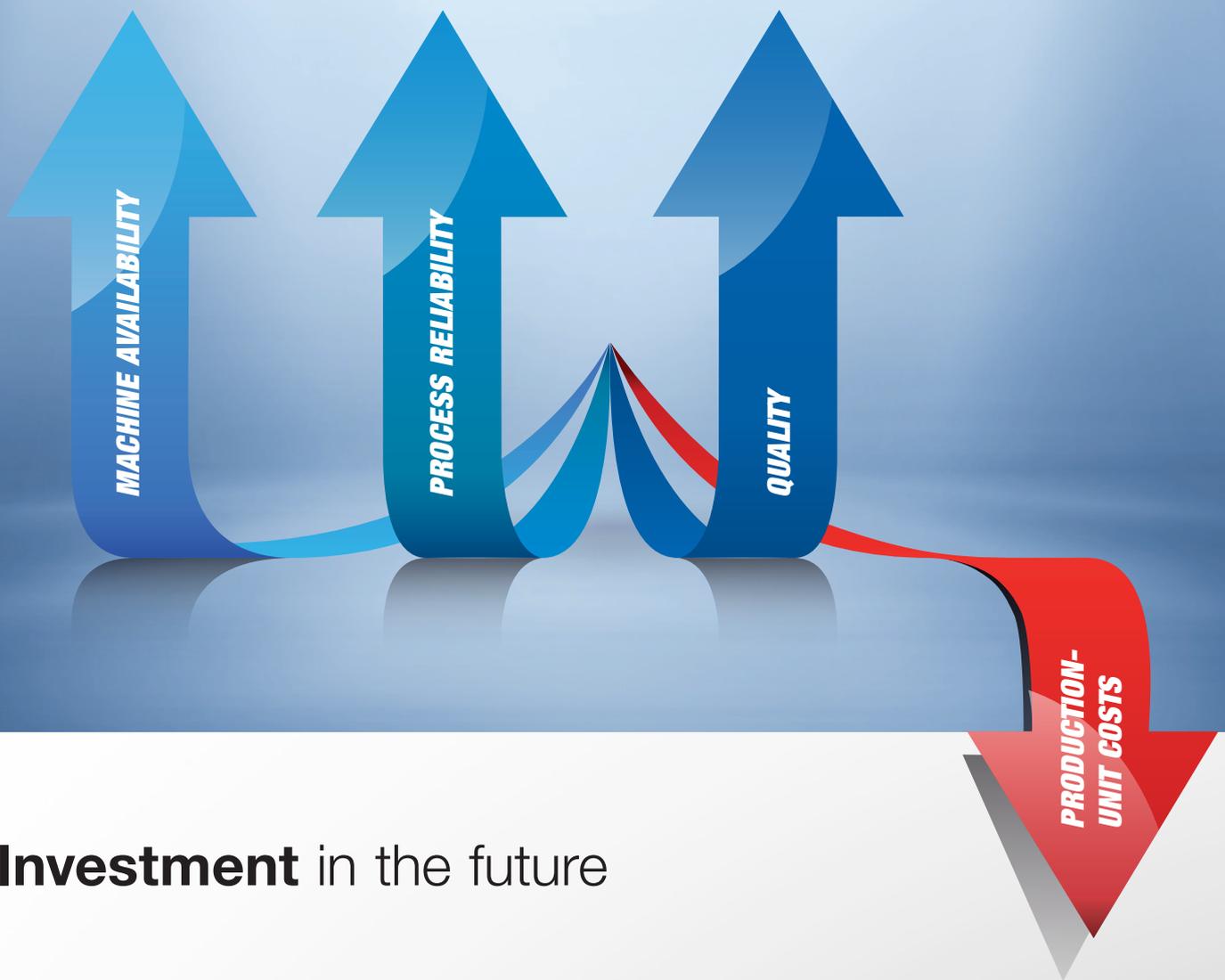


# **INFOTECH**

NEWS OF THE AUTOMATION DIVISION



## **Investment** in the future

**STACKmaster  
Active Layer  
Recognition**

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**«For me, this is  
the priority»**

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**Tool costs de-  
creased by 50%,  
more process  
reliability**

5

**Greater productiv-  
ity with a modest  
investment**

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# Editorial



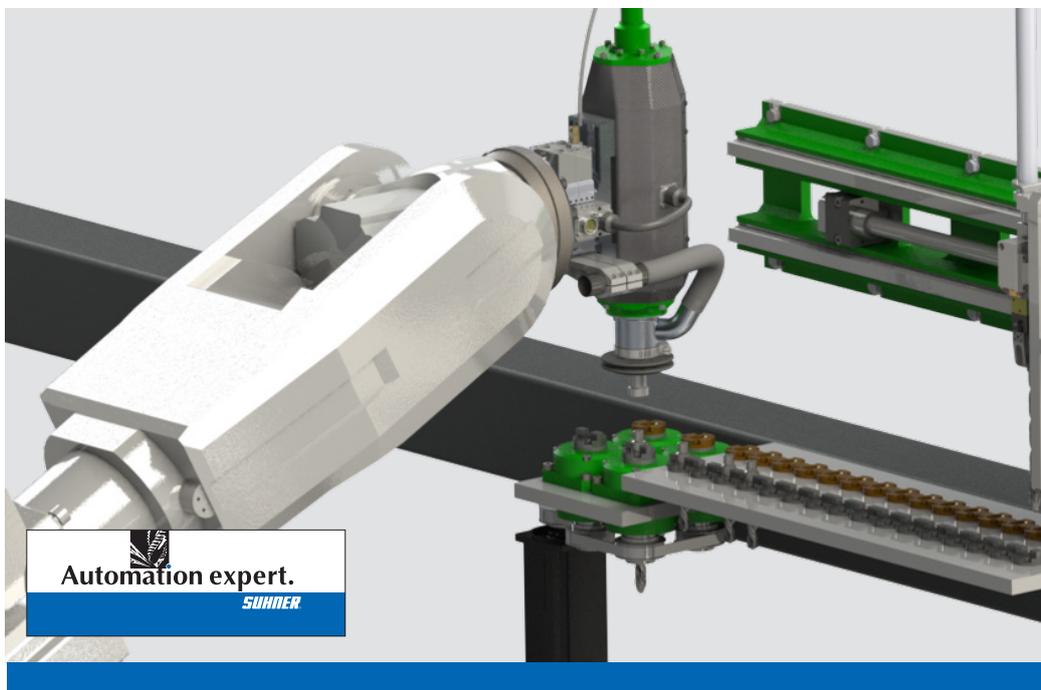
Who doesn't know the big, dark jungle of process optimization methods: Re-engineering, TQM, Kaizen, CIP, Lean Management, Six Sigma ... But no matter how complicated the system is, the cornerstones are still the same: system availability, product quality, process reliability and the continuous pressure to reduce production costs.

This Infotech edition is dedicated to the subject of Investment. We'll provide examples of customers who were able to achieve a lot of output with only a little input, thus remaining competitive. Have a look at the processing of bicycle rims or cylinder head housings, at deep hole drilling and the automated loading and unloading of CNC machining centers for producing small and medium lots.

Here we're adjusting really simple set screws for production processes: we're increasing the machine availability by allowing you to minimize the changeover and set-up times. We know that quality and process reliability standards keep getting higher. This is why we offer you the highest possible product quality made in Europe as well as new products for active system monitoring and data recording.

I hope you enjoy learning all about it!

Christian Jermann  
Head of SUHNER Automation



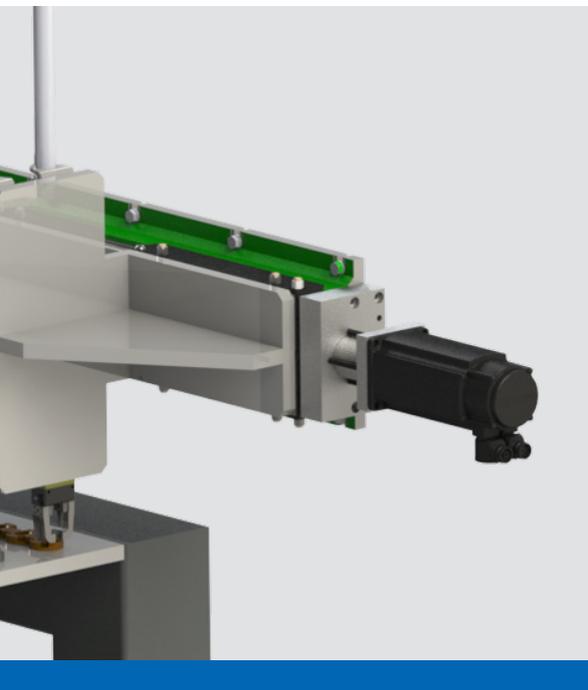
## Drilling unit with active layer recognition: STACKmaster

**Be it in the field of engineering, automotive or aerospace, the Suhner STACKmaster supplements the Suhner drilling units with active system monitoring and data recording.**

This is how the fully automatic, electric STACKmaster drilling unit of the SUHNER Automation enables you to read production data relating to the process and maintenance

optimization. Furthermore, it offers extraordinary product quality and efficiency when processing one-layer and multi-layer materials.

Version	User	Power Drill motor (Feed motor)	Stroke	RPM	Torque	Weight
A1	Human	1.1 kW (0.7 kW)	90 mm	0 – 6,000	20 Nm	9.5 kg
A2	Human	0.7 kW (0.7 kW)	45 mm	0 – 6,000	12 Nm	8.5 kg
A3	Human	0.7 kW (0.7 kW)	45 mm	0 – 6,000	20 Nm	9 kg
C1	Robot	1.1 kW (0.7 kW)	90 mm	0 – 12,000	20 Nm	15 kg
C2	Robot	4.0 kW (4 kW)	125 mm	0 – 30,000	40 Nm	25 kg



### Engineered by SUHNER

The specially developed Adaptive Stack Drilling (ASD) method offers active layer recognition for multi-layer light construction materials by means of torque measurement when drilling in real time. Result: Every layer is machined at the optimum speed and feed. The STACKmaster is driven by two motors and controlled with the help of Suhner software, allowing the operator to perform drilling of aluminum, titanium, GFRP and CFRP stacks.

STACKmaster models are available for manually operated and robot-guided drilling units (see table).



Automation expert

## Klasand representing SUHNER in Slovenia

**For over 20 years, Klasand is representing SUHNER Automation and SUHNER Abrasive in Slovenia.**

In April, Slovenia's largest industrial trade fair for toolmaking and machine manufacturing, FORMA TOOL, took place in Celje. Klasand had a significant increase in visitors compared to FORMA TOOL 2015.

During the show, Klasand experienced a very positive customer feedback. This is due to their deep understanding of the Slovenian market, of the customers' application needs and, last but not least, of the Suhner products. You are welcome to feel Klasand's technical expertise!

[www.klasand.si](http://www.klasand.si)

Automation expert

## SUHNER presence at ITM Polska / MACH-TOOL

**In June, SUHNER's representative in Poland, Integrator RHC presented SUHNER Automation products at MACH-TOOL, part of ITM Polska, in Poznan.**

ITM Polska is one of the largest and most established trade fairs in Central and Eastern Europe. MACH-TOOL focuses

on machines and tools, including maintenance, automation, robotics and CAD/CAM. Integrator RHC had many interesting opportunities with either long-term key customers or potential customers for Suhner products.

[www.integrator-rhc.pl](http://www.integrator-rhc.pl)

## «For me, this is the Priority»

### What would the ideal automation solution for Swiss contract manufacturers look like?

For the past two years, Samuel Werder AG has been producing milled parts using a Suhner loading and unloading system. The RoboJob Mill-Assist manufactured by SUHNER Automation AG principally consists of a robot with a replaceable gripper, a configurable workpiece unloading system and specially designed software.



*The unit does not require a great deal of space and offers good accessibility to the CNC machining center.*



*The workpieces are positioned over a structured delivery table using pins; however, their own structural plates can also be used.*



*Simple, quick and flexible: Suhner's solution, the RoboJob Mill-Assist, is the ideal answer for Werder AG for automating lot sizes from 10 to 500 pieces.*

### Competitive thanks to Swiss production

Just as he wanted, Claude Werder, owner of Samuel Werder AG, came very close to having an ideal automation solution. Investing in the Mill-Assist was worth it: «The spindle has to be in operation day and night in order for the unit cost price to remain competitive. When I think about all our rotationally symmetric and cubic parts, this is the best system that I know.» Whereas machines used to produce 60 to 70 workpieces of a certain type, today, the machine produces over 200 workpieces a day.

Beat Bütler, CEO of SUHNER Automation AG, adds: «Thanks to the RoboJob Mill-Assist, we have an ideal CNC milling solution for small and medium quantities, from 10 to 500 parts per production batch.» The counterpart of CNC turning is just as popular among customers: the RoboJob Turn-Assist.

### Three other optimal solutions

More praise for SUHNER, high expectations placed in the experts of SUHNER Automation AG: Samuel Werder AG has ordered three more units to automate their machining centers.

### Changeover in less than 20 minutes

But what is it that makes the Suhner solution so unique? Claude Werder was won over by the simplicity of the system: «The re-programming, including changeover time, takes no more than 20 minutes; after that, I can start machining new parts.»

The touch screen guides the user through the changeover process in a matter of minutes. Claude Werder adds: «You only need to enter the material and the weight of the blanks in order to calculate the final weight; after that, the control system determines the further action with screen prompts.»

Another important reason for the quick changeover time is the simplicity of the workpiece holder system: no more than three pins in the drilled work surface determine the position of the workpiece. The pins are set manually, which is why it is the longest step during the changeover (appr. 10 minutes). The robot-aided control determines the position of the pins. Even changing the gripper is really simple thanks to the quick-release system.

The installation of the Mill-Assist only took a couple of days. Training the employees was a matter of half a day.

### Compact and easily accessible

Another advantage of the Mill-Assist and the Turn-Assist is the accessibility – both to the loading unit and to the machine tool. At Werder, the system is docked to one side of the machine.

The robot is readily accessible and has no protective fence. A laser scanner ensures the necessary safety by slowing down or stopping the movement of the robot, depending on the safety zone. Claude Werder is really excited: «The closer I come to the robot, the slower it gets. If I enter its immediate vicinity, it stops. It can be reactivated by simply pressing a button. This is brilliant!»

His decision to purchase three new Mill-Assists will secure the future of Samuel Werder AG: «Suhner's solutions will help us achieve additional capacities, secure our competitiveness, the company's technological standards and thus our jobs at our production site in Switzerland.»



## A new angle head decreases tool costs by 50% and increases process reliability

**High-performance bicycle rims made in Switzerland. Since 2004, DT Swiss, based in Biel/BE, has been producing innovative and highly complex system wheels for bicycles of all disciplines. An important supplier in this process: The Jakob Müller AG in Frick, which carries out rim machining.**

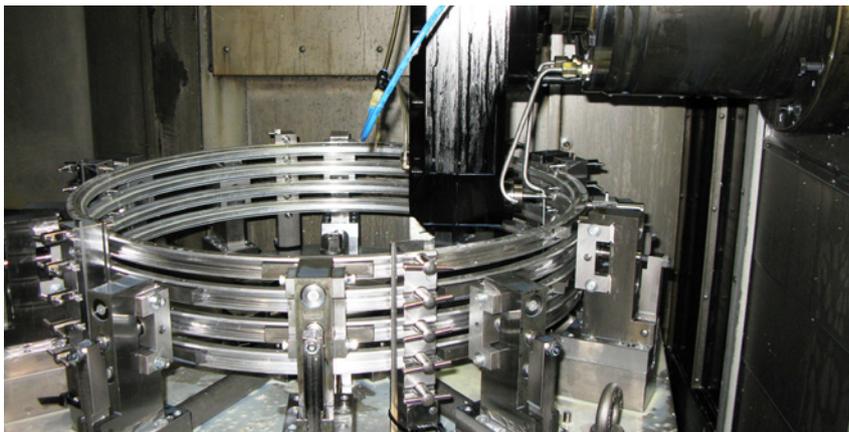
SUHNER's subsidiary, SU-matic, joined in, as well: The Jakob Müller AG wanted to optimize their horizontal milling machine for machining

bicycle rims with regards to the performance, production quality and reliability.

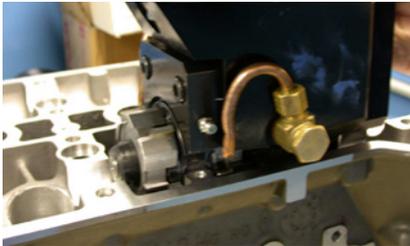
A process analysis quickly showed that the requirement «should take up less space» led to the idea of drilling the holes for the spokes from the inside to the outside. The design engineers from SU-matic developed an inner milling angle head with a multiple support. This massive connection ensured an extremely strong increase in the stability of the angle heads, which led to a noticeable

bly reduced production noise and decreased vibrations during the drilling. Thus, the lifetime of the cutting tools was doubled, which in turn slashed the tool costs by half.

After the changeover to minimum quantity lubrication (MQL), a further customer requirement was fulfilled: In this way, the angle head components can be lubricated, which almost completely eliminates the need to carry out maintenance work, as well as the resulting disruptions in the production process.



The machining center can use the time saved from the tool change and maintenance and apply it to production purposes. The resulting reliability, performance and cost savings was a deciding factor for Jakob Müller AG: thanks to the new inner milling angle head from SU-matic, the company can machine many more bicycle rims to the required standard and in the required time for the same fleet.



## More production capacity thanks to process optimization

**REGE Motorenteile GmbH produces cylinder housings for a German car manufacturer. When housings are manufactured, the bearing points for the camshaft require some additional milling. Until recently, these machining processes only allowed REGE operators to perform the additional milling for one bearing point for the camshaft per setting.**

REGE was in need of more production capacity and invited the SU-matic engineers to join them. The mission: To develop a new angle

head that would eliminate the need for these repeated settings. Furthermore, that head was supposed to be exchanged automatically with the help of a tool changer.

### Compact, lightweight and very robust

The first challenge was to design the milling angle head in such a compact way that the head could immerse itself in the individual cylinder spaces. The new angle head also needed to be very robust and, at the same time, very lightweight in order to automate

the exchange process, so that the machining process could be performed without human interference.

In close coordination with Starrag-Heckert, the supplier of the machining center, SU-matic developed a customer-specific solution. The compact, lightweight, but very stable solution allowed REGE to increase their production capacity by more than 10%. Furthermore, the company now saves approx. 15% of tool costs daily in comparison to the previous solution.



## Greater Productivity with a Modest Investment

**Renowned for the quality of its customized solutions, SOMEX was contacted by a Tier 1 automotive supplier from Germany seeking to increase the productivity of its mold vent hole drilling operation.**

### Bulky Items

With the molds up to several tonnes and six meters in length, the customer drilled injec-

tion vent holes using a fixed-pillar drilling rig, then maneuvered the molds until they were positioned at the right angle for pre-drilling followed by deep-hole drilling.

### Robotic Solution with Deep Drilling Unit

The customer's goal was to increase productivity on a limited budget. SOMEX suggested integrating a deep hole drilling unit with a

tool changer on the spindle head. All of this equipment was then mounted on the robot already owned by the customer.

Due to the complexity of the mold geometry, a robot maneuvers each one into position in front of the drilling points and towards a drill-changing magazine to enable drill bits to be swapped out as necessary. In response to the weight constraints and way cables were routed on the robot (axis no. 6), SOMEX developed its concept solution by integrating the main control units on axis no. 1 of the robot, and by placing the distributor PCBs (e.g. for air) on axis no. 3.

### The Benefit

With the SOMEX solution, the customer was able to complete two molds per day. An operation that used to take a whole week! Furthermore, they were able to achieve a return on investment in less than six months while at the same time optimizing their production operation and improving profitability.

## Production expert



# It's always a good time to outperform customers' expectations!

A meeting of all European representatives takes place every three months at one of the units of the SUHNER Automation division, SOMEX was in charge of organizing the European Sales Meeting on June 29 and 30, 2017. This quarterly event enables us to learn about, and to gain a better understanding of, the needs of our European customers.

## Taking Things to the Next Level

The goal was to facilitate an inter-cultural exchange between people in an environment perhaps slightly outside their respective comfort zones, to enable them all to think outside the box. To accomplish this, the decision was taken to organize a two-hour introduction to the game of golf. Under the guidance of a professional, the group embarked on this activity, which involved a series of exercises on the practice green followed by a little tournament.

## Learning about Customers' Challenges

The following day everyone was soon back in their comfort zone as results were presented for each geographic area. Each businessman

described current projects and passed on the lessons learned about customer satisfaction. In this respect, SOMEX provided a special focus on positive feedback relating to special applications implemented on behalf of the Renault Group. After building a drilling gantry for brake discs and studying the production lines on site, Renault confirmed its confidence in SOMEX by commissioning a solution for the milling of automotive chassis units. All of which was accomplished by creating a dedicated team.



# Trade Fair Calendar

3 – 5 October 2017

## MRO EUROPE

London, United Kingdom

OTTO SUHNER AG

[mroeuropa.aviationweek.com](http://mroeuropa.aviationweek.com)

9 – 12 October 2017

## MOTEK

Stuttgart, Germany

SUHNER Automation AG

[www.motek-messe.de](http://www.motek-messe.de)

9 – 13 October 2017

## MSV

Brno, Czech Republic

Rupet International s.r.o.

24 – 26 October 2017

## SOUTH-TEC

Greenville, USA

SUHNER Industrial Products Corp.

[www.southteconline.com](http://www.southteconline.com)

6 – 9 November 2017

## FABTECH

Chicago, USA

SUHNER Industrial Products Corp.

[www.fabtechexpo.com](http://www.fabtechexpo.com)

13 – 16 November 2017

## CCIMT

Chongqing, P.R.C.

SUHNER (Suzhou) Industrial

[www.ccimtshow.com](http://www.ccimtshow.com)

6 – 10 December 2017

## ENGIMACH

Gandhinagar, India

OTTO SUHNER AG, SOMEX SAS

[www.kdclglobal.com/](http://www.kdclglobal.com/)

[engimach-2017-over-view.php](http://engimach-2017-over-view.php)

6 – 8 February 2018

## MD&M WEST

Anaheim, CA, USA

SUHNER Industrial Products Corp.

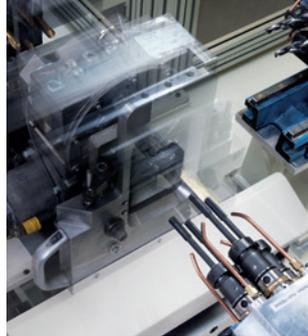
[mdmwest.mddionline.com](http://mdmwest.mddionline.com)

# SUHNER®

## EXPERTS. SINCE 1914.



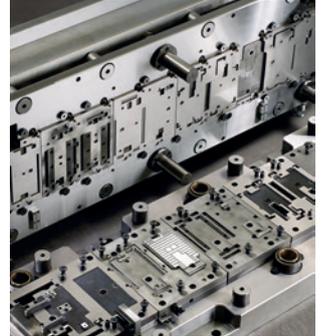
### ABRASIVE



### AUTOMATION



### TRANSMISSION



### STAMPING



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