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Euroblech 2018: TRUMPF ushers in new era of autonomous factories

Connected production environment gives rise to the smart factory // Heinz-Jürgen Prokop, CEO Machine Tools: “Artificial intelligence is the key to productivity gains” // Smart data analysis helps TRUMPF develop and enhance its machine tools

Ditzingen/Hanover, September 25, 2018 – TRUMPF will be showcasing numerous solutions for autonomous factories at Euroblech 2018 in Hannover. The company is set to present a range of digitally connected applications for sheet metal processing that are designed to make manufacturing processes simpler and more efficient. “As they become increasingly autonomous, our machines are taking on more tasks and making life easier for the people who work with them. But you can only unlock these benefits with a connected, intelligent production environment. That’s what enables us to achieve productivity gains and secure our customers’ competitive edge – and artificial intelligence is the key,” says Heinz-Jürgen Prokop, Chief Executive Officer Machine Tools at TRUMPF. Prokop notes that there is now little to be gained by striving for ever higher laser power. Instead, the focus should be on connected machines and the processes that occur upstream and downstream from the actual production process. Combined with intelligent data analysis, he argues that this is where the biggest productivity gains can be achieved.

Assistance systems makes processes more reliable

TRUMPF has already laid the foundations for the autonomous factory by including numerous assistance systems in its machines. One example that makes cutting processes more reliable is Smart Collision Prevention. This function’s programming already takes account of tilting parts and then develops a processing strategy in its calculations to avoid collisions with the cutting head. More and more machine functions now control processes autonomously. One example is Smart Nozzle Automation, a function that periodically inspects the nozzle and automatically replaces it if it is damaged. And that’s not the only



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milestone on the path toward autonomous laser cutting that TRUMPF is showcasing at this year's Euroblech in Hannover.

Self-learning machines

The fully automatic TruLaser Center 7030 laser system takes the whole concept of autonomous machines to the next level. From programming to part sorting, everything it does is completely automated. "We've already started using intelligent data analysis to improve the processes executed by this machine. By incorporating customer feedback in the form of data, our aim is to steadily perfect the entire system. Artificial intelligence is the next stage of Industry 4.0," says Thomas Schneider, who heads up machine tool development at TRUMPF. A good example is the machine's unloading unit. The pins that lift the sheet out of the scrap skeleton are designed to ensure efficient and reliable part removal using suction cups. If the pins fail to get it right the first time around, the machine initiates a new part removal cycle on its own, without requiring any intervention. It then repeats this cycle as many times as necessary until it works. The machine processes and assimilates each of these retry attempts and learns from them.

Smart factory, intelligent logistics

TRUMPF will also be presenting a connected intra-logistics solution at Euroblech, something that TRUMPF has already tested successfully at its Industry 4.0 showcase factory and at selected customer locations. The solution improves the logistics processes that run on the shop floor, for example the routing of parts from one processing station to the next. "Customers participating in our product testing program have sometimes made five-figure savings by deploying our indoor localization system," says Schneider. "It enables them to reduce search times and prioritize jobs in an intelligent fashion." This is steadily becoming more important because batch sizes are shrinking and sheet metal fabricators are increasingly struggling to keep track of jobs throughout the entire production process. At the same time, the sheet metal fabricators' customers want to know what stage their order has reached – a level of transparency they have come to expect from doing business online. The indoor localization system enables

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TRUMPF customers to manage their production processes more efficiently and satisfy their own customers' expectations.

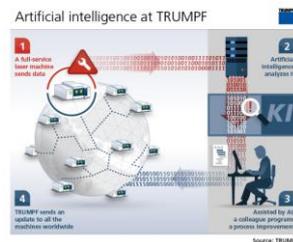
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Self-learning machines

The TruLaser Center 7030 repeats the removal cycle of the parts several times if necessary. The machine processes and assimilates each of these retry attempts and learns from them.

Source of image: TRUMPF, IW Medien/Gottfried Stoppel



Artificial intelligence at TRUMPF

From the data of a fully automatic laser machine, process improvements can be derived, which can be applied to all machines worldwide.

Source of image: TRUMPF



About TRUMPF

The high-technology company TRUMPF offers production solutions in the machine tool and laser sectors. It is driving digital connectivity in manufacturing industry through consulting, platform and software offers. TRUMPF is the world technological and market leader for machine tools used in flexible sheet metal processing, and also for industrial lasers.

In 2017/18 the company – which has about 13,500 employees – achieved sales of 3.6 billion euros (preliminary figures). With over 70 subsidiaries, it is represented in nearly all the countries of Europe, North and South America, and Asia. It has production facilities in Germany, France, Great Britain, Italy, Austria, Switzerland, Poland, the Czech Republic, the USA, Mexico, China and Japan.

For more information about TRUMPF go to www.trumpf.com



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