TOBIAS REUTHER

Industry 4.0 and digitalization are making production faster

Some people think machines just need to work faster – but its not that simple. The problems lie elsewhere. Anyone who wants to speed up their production line needs to digitalize their entire process.

How can we produce things faster? That's a question many companies ask themselves. Their search for an answer typically leads them to their machines and the products themselves. How can we make our machines work even faster? And how can we design our products in a way that minimizes the number of production steps? But what many people fail to take into account is that the time spent producing a product on a machine only makes up some 20 percent of the overall manufacturing process. The remaining 80 percent of the time is spent on indirect processes such as ordering, storage and transportation. And the trend towards smaller batch sizes is steadily making these non-value-adding processes even more complicated.

The whole business needs to become intelligent

The solution is to handle the whole business intelligently, in other words digitally. That starts from the moment you draw up an offer. It often takes several days for a customer to receive a quotation, yet this step can be automated with a web shop. The customer is given an account where they can upload their specifications and get a quotation within just a few seconds. When they click confirm, the job data is processed immediately. Another big issue is the time spent searching for things: knowing what stage a job has reached, for example, or where the parts are located that are next in line to be laser-welded. Trackers can be used to keep track of parts wherever they are and – with an additional code on the workpiece – staff can use scanners to immediately call up all the details of a specific job.

A tablet can be used to closely monitor the production process of the machine.

In TRUMPF's Smart Factory in Chicago, people, machines, automation and software are already working together perfectly.

With digitalization, the employee can monitor and control the machine and the work process at anytime and anywhere via a tablet.

Less downtime, faster production

Digital solutions can also minimize downtime or even eliminate it altogether. For example, a machine can call attention to itself by sending a message to a technician's smartphone if it stops working. This can be made even more efficient by getting machines to notify the technician before the problem even arises. Many machines from TRUMPF can already do this by using statistical data to announce when a component may fail, including an estimate of how likely it is to happen. That enables workers to order and replace the component in good time. We are working hard to extend this option to all our machines. The potential for connectivity also applies to intralogistics, in other words the flow of goods within a company. The right software can help automate stock levels and material orders and ensure that blanks always reach the right machine at the right time.

In 2017, TRUMPF opened a smart factory in Chicago to show customers the potential of connected manufacturing. Experience has shown that, in some cases, companies that connect up their entire process chain can achieve a 50 percent reduction in production times.

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