With edbic, Blickle gains more transparency and faster reaction times

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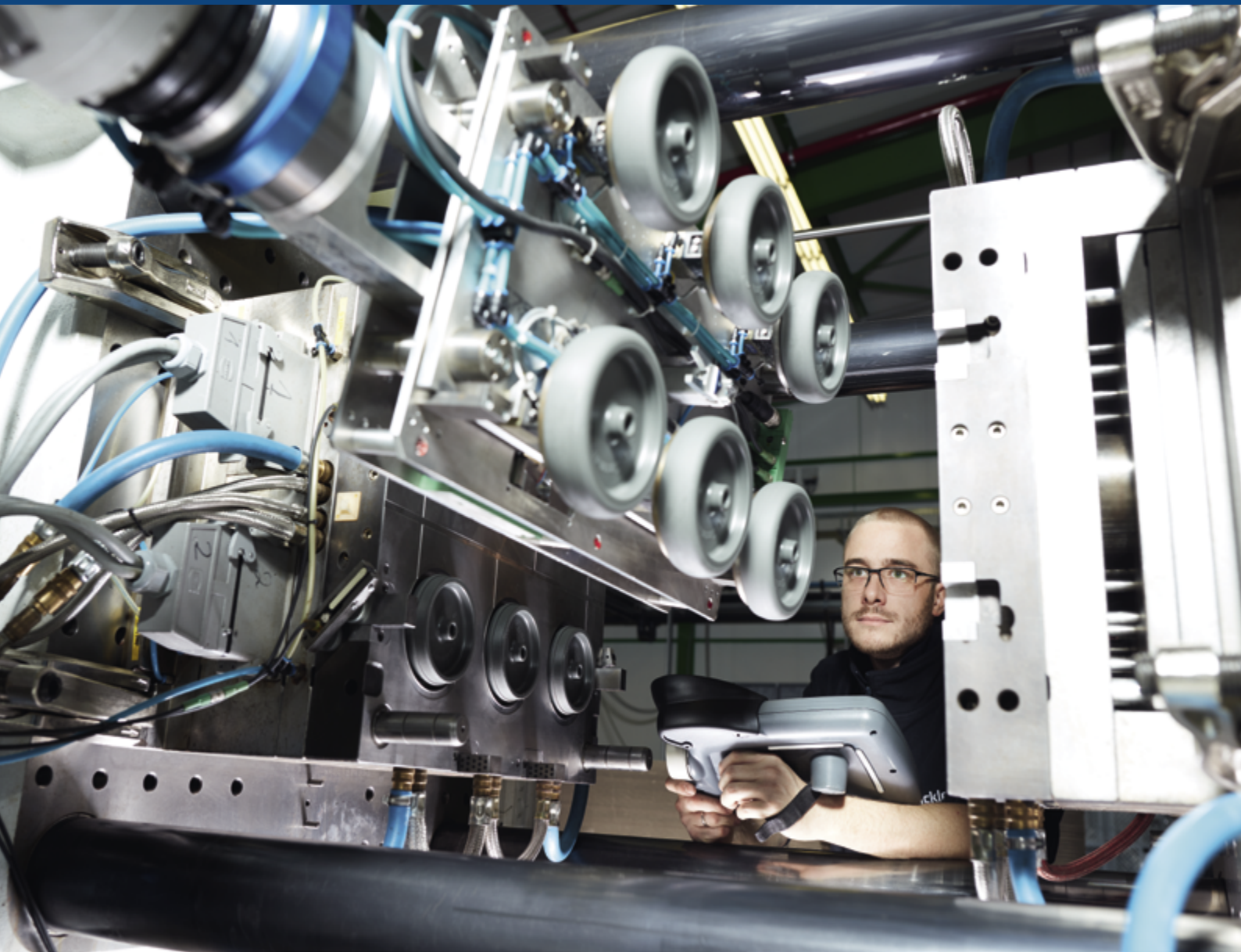
Condition monitoring as a prerequisite for Industry 4.0

If quality and reliability are the first pillar of success at Blickle, one of the world's leading wheel and castor manufacturers, being innovative and acting in a forward-looking manner is the second pillar. Accordingly, the company approaches the concept of Industry 4.0 in the spirit of the principle: "He who stops getting better has stopped being good". To ensure that the company can maintain its leading market position in future, Christian Bertels, Head of IT Cross Applications at Blickle, and his colleagues have developed a concept for making manufacturing workflows more effective through condition monitoring.

The first thing that caught Christian Bertels' eye during the initial evaluation was the number of Excel lists circulating in the company's production halls. They contained a wide variety of machine data on line assignments, calibrations and other information. It quickly became apparent that this workflow, with its complicated interplay with SAP, was highly ineffective. Christian Bertels, who had previously been more involved with digitalisation in the administrative area, was convinced: "I knew that we absolutely had to change the way we handle and value machine data – especially with regard to Industry 4.0." Thus, he defined a plan for how Blickle could first introduce the live monitoring of machines, then a predictive maintenance concept and finally the Industry 4.0 standard.

Christian Bertels, Head of IT Cross Applications

On the wish list: live data analysis and a smart changeover.

The general conditions were tough, though: the most important demand on condition monitoring was that the three-shift operation in production would remain as unaffected as possible. Additionally, the condition monitoring was to go live at the push of a button. And another requirement was that the new system should work as a central data hub between Blickle's production environment and the leading ERP system, SAP. Also, management defined that the condition monitoring needed track all machine data and make it available in real time. For IT, on the other hand, it was critical that the system be expandable and future-proof. "The condition monitoring solution we were looking for was expected to provide the broadest portfolio possible and at the same time allow us to program additional functions, for example for authentication", Christian Bertels sums it up.

Serendipity

At the time these considerations were made, two students were gaining their first practical experience of

condition monitoring as a prerequisite for Industry 4.0 at Blickle's IT department. They learned about edbic as part of a university lecture: edbic is compacer's data and process integration platform and also provides condition monitoring capabilities. They were enthusiastic about their Industry 4.0 approach and were allowed to develop a concept for the implementation of compacer's condition monitoring. Bertels recalls: "Our contact was excellent right from the start. We had their full support and could thoroughly test the system. This helped us a lot in the decision-making process and ultimately supported the introduction of edbic."

> "Since using compacer, it has become much easier to integrate new machines into our production. Once they are integrated into the machine landscape, they can communicate with all other systems."
>
> Christian Bertels,
> Head of IT Cross Applications

At this point, it was already clear that Blickle's set of requirements matched compacer's service portfolio almost perfectly. The fact that edbic can be quietly set up in the background and will go live at the push of a button without interrupting operations impressed Christian Bertels and his team. Another big plus of edbic is that the on-premise solution can be switched to the cloud-based variant at any time – without much effort or any significant risk.

Noticeable improvements and satisfied manufacturing specialists

After Blickle made its decision to go with compacer's condition monitoring solution, everything went rather quickly: IT prepared everything for going live in the background. Shift operation was not affected during go-live, as required. One positive effect was observed right away: both the IT specialists as well as the production staff noticed the accelerated and automated access to real-time machine data. "We could immediately see that we had more transparency with fewer Excel overviews", Bertels was pleased to say.

Now, edbic passes the machine data to SAP directly. Previously, machine data had been logged to CSV files, which were subsequently analysed in Excel to derive appropriate action, but now, the specialist department and plant management are being informed extremely promptly about the status of every machine and the current production. Even the risk of errors has been

minimised. Since the changeover had gone so smoothly, feedback from management and all machine operators at Blickle was highly positive.

The first interim results of two projects support this appreciation: One deals with monitoring automatic punching presses, where data such as their punch rate, number of pieces, etc. are recorded automatically. The other project concerns the new polyurethane production. The goal was and is to design the future process in such a way that the staff can control everything directly from the machine terminal. Christian Bertels adds: "We are very pleased that we are now able to integrate new machines into our production process much more easily. Once a machine is integrated into edbic, our central data hub, it is automatically integrated into all other systems."

A future-proof partnership

Based on this experience, Blickle can very well imagine expanding the collaboration with compacer. The initial focus is on implementing a predictive maintenance concept. While machine data are currently only analysed to correct errors and fix failures, the company plans to use the data more extensively in the future. The aim is to identify malfunctions in advance so that appropriate preventive measures can be taken.

> "We are recognising problems much earlier now and can therefore fix them more quickly. In the past, the time between when a problem emerged and when we could detect it was much greater. By the time we at IT got wind of a problem, a huge effort was necessary to determine its root cause. Now, operations and IT are seeing everything live and can respond immediately."
>
> Christian Bertels,
> Head of IT Cross Applications

Blickle also considers introducing compacer's IoT gateway. Bertels' idea is to further automate the entire communication between the machines themselves and their communication with the SAP system, thus elevating automation to the next level. He not only expects a continual improvement in product quality from this, but also sees it as an important step towards further modernising the company and making it more digital.

The project

Blickle, an internationally active wheel and castor manufacturer, wants to optimise its manufacturing processes by means of digital machine monitoring and move forward towards Industry 4.0.

The implementation

Without interrupting the three-shift operation, the company has introduced edbic, the solution to enable the condition monitoring of its machinery.

The result

For the first time, Blickle can access live data from its machines and automatically transfer this information to SAP. More transparency, fewer data format and media discontinuities, a smaller risk of errors and a reduced workload are among the main advantages.

The outlook

In the future, machine data will be evaluated even more extensively so that the findings can be used for predictive maintenance activities..

„It fits perfectly that compacer is offering edbic both as an on-premise and a cloud solution. We are starting on-premise, but we can be confident that we are free to move to the cloud at any time."

Christian Bertels,
Head of IT Cross Applications

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