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PRÜM
Türen die zu Ihnen passen

Process mining in the door factory

Support production and identify potential
with process transparency & real-time
information

An overview

Process mining was used to create a digital image of the entire production process and thus generate transparency about the process sequences. The real-time analyses generated - including in the areas of system performance, master data, rejects and idle times - were used to identify weak points and highlight the potential for optimisation.

Services

- Development of a process mining pilot in the production environment

- Customised analyses to increase transparency and exploit optimisation potential

- Identification of fields of application for EMS functionalities in terms of automation and alerting

Prüm Türwerke

- Prüm Türenwerke GmbH, part of the Swiss company Arbonia AG, is a manufacturer of interior doors and door frames.

- 840 employees generate a turnover of over 150 million euros.

- Up to 25 thousand doors per week are manufactured and packaged in its production facility in Weinsheim.

Results

- Development of production performance dashboards and master data comparison

- Analysis of idle and transport times with development of a use case for automatic prioritisation of time-critical orders

- Scrap monitoring in preparation for automatic scrap increase detection in order to identify machine problems at an early stage

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Project description

Prüm operates a very complex, multi-stage production process in order to fulfil the requirements of product diversity. Although the processing steps on the machines are largely automated, all other steps are manual. The idle and transport times significantly exceed the pure processing times. Prüm stores the feedback data from the machines in a separate system in order to answer queries and carry out analyses. Due to the high level of complexity, classic analysability is limited. The possible applications of process mining should therefore be investigated in a pilot project.

Procedure

Rothbaum created a Celonis data model in close collaboration with experts from production. In joint walkthroughs, weak points in the process were identified and use cases developed. Finally, the results were summarised. Based on these, the decision was made to introduce the software.
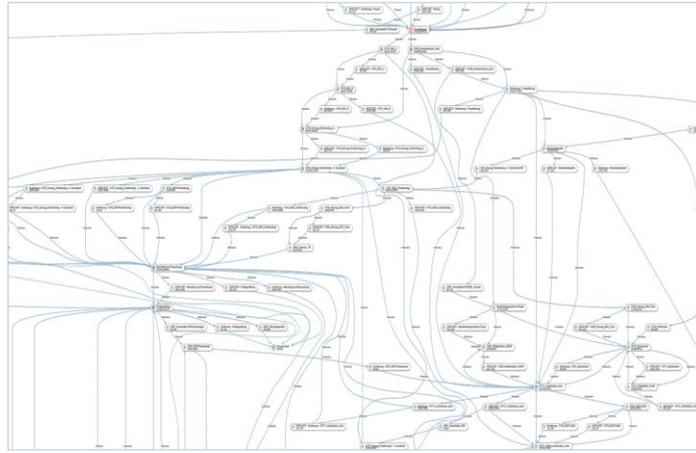
Results

Despite major data challenges, together we succeeded in creating a valid digital image of the production process. Based on this data model, it was possible to develop analyses in the areas of plant performance, target/actual path comparison and the review of replenishment times. These analyses form the basis for answering the most important recurring questions quickly and effectively.

In the further course of the project, new findings with enormous potential were generated with the loss analysis for each system and a downtime analysis. This can be used in the future, for example, to reduce the idle times of time-critical orders determined in real time by means of rule- or AI-based prioritisation - and thus better meet delivery deadlines.
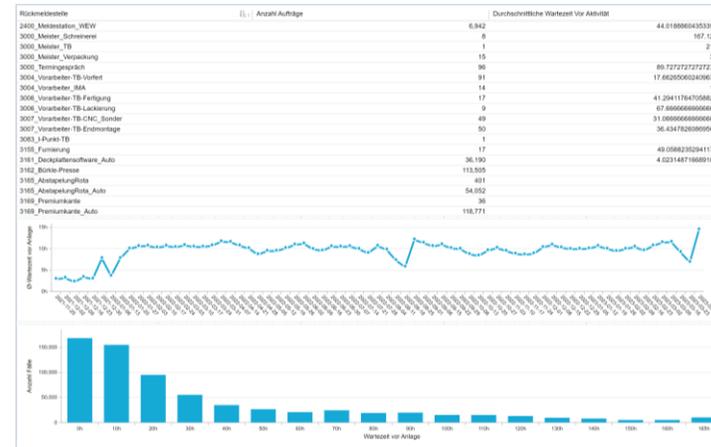
'Thanks to Rothbaum's process mining and operations expertise, we quickly created the process transparency that helps us to optimise waiting and throughput times.'

Harald Valentin,
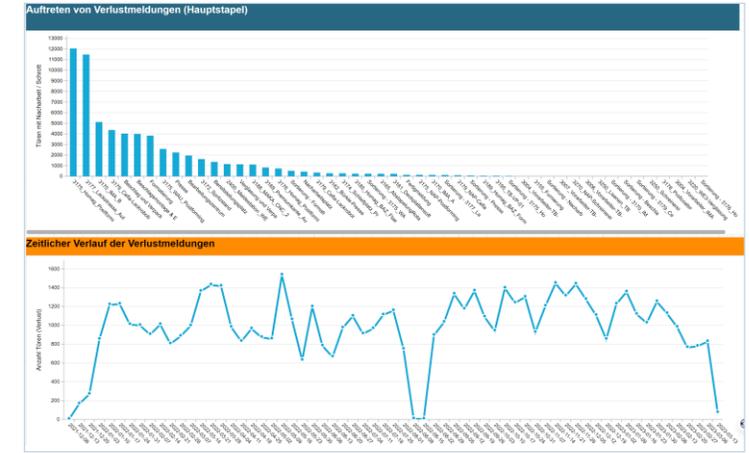Leitung Produktionsplanung

Exemplary insights

Due to the very complex product requirements, there are over 50 different feedback points in the production process, which makes manual analysis of questions lengthy and sometimes impossible.

The evaluation of the idle time enables the effects of changes in production planning and organisation to be observed in real time and AI-supported prioritisation of time-critical orders to be carried out.

By monitoring scrap per system, even the smallest increases can be recognised in future and action taken at an early stage to proactively prevent scrap.

Reduction in the amount of work involved in analyses from days to minutes

Identification of significant potential in the area of idle times and rejects through automatic prioritisation/alerting

I look forward to your questions!

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