LGTB is shifting towards digitalisation

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Surface treatment of materials has been LGTB's area of expertise for more than fifty years. In order to maintain the quality of the services and total solutions it offers, the company has decided to digitalise its production.

LGTB in Kuringen offers both services and total solutions in the area of surface treatments. It processes parts of different materials, sizes... The company attaches great importance to customer satisfaction and is regarded as a reliable partner who responds very flexibly to customer requests. To be able to continue to offer this service, LGTB wants to innovate continuously.

Digitisation of quality control

Sirris guided LGTB through the digitalisation of its production. There are several steps for the post-treatment of workpieces. An operator typically hangs the materials to be processed on hooks on a bar, after which they undergo the various treatments fully automatically. After these treatments, the bar and its materials return to the operator, who subjects them to a thorough quality check. Until recently, the operator noted down all the necessary quality data on paper, which made further processing cumbersome and time-consuming.

Sirris and the company investigated how to make this process faster and more efficient. Digitalisation of these steps was an obvious choice. The aim was to achieve digital input of quality data, directly at the production lines, in order to save time (1), to reduce errors (2) and to exploit this data for optimising the processes (3).

Specific parameters

However, a number of specific parameters needed to be taken into account. As the environment at LGTB is highly corrosive, it was decided to enter the data using an industrial PC without active cooling, contained in a completely sealed enclosure. A resistive touch screen was chosen as input device. This set-up allows operators to enter data directly on the line, even with their safety gloves on, using a web-based input screen, specially developed for this application.

The application framework is based on Python with FastAPI for the back-end side, and Javascript with vue.js for the front-end side. Both frameworks are open source, modern and considered state of the art.

The Proof of Concept (PoC) started on one workstation but, if successful, it had to be able to be quickly and easily extended to multiple workstations. For this reason, we initially worked with a local database (SQLite) on the PC, but it was also planned to connect to a central database (MySQL) system instead of connecting to the local database. This would then allow various workstations/PCs to be connected and managed.

The necessary data collected per workstation per day (e.g. operator identification, order numbers, customers, etc.) were pushed to the stations on a daily basis. Pre-filled fields were used as much as possible to enter the quality data, in order to reduce both the workload and the risk of error for the operator. In the event of an erroneous entry, the entered data could be quickly retrieved and corrected. Ease of use was central to the development of a solution.

The system makes it possible to generate an automatic overview at the end of each working day, in order to process the post-calculation of all pieces and optimise the production.

Successful PoC

The PoC is only a first step in further optimisation. The main objective was to evaluate the feasibility and to find out to what extent the operators consider these tools to be supportive, and to what extent they allow production to be optimised (based on the available data). The operators who worked with this tool had to adapt, of course, but after a while they were very enthusiastic and came up with improvement suggestions themselves.

The entire process of recording data, getting it to the right employee and processing it has been greatly simplified in this way and offers further potential for expansion in the future. So it was a successful PoC.

LGTB is now further exploring how this way of working can be extended to multiple workstations and operators.

Do you also have questions or challenges regarding the digitisation of your production? Make sure to contact us!

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