HA-BE Gehäusebau GmbH

HA-BE Gehäusebau specializes in industrial sheet metal processing and manufactures customized housings, assemblies, and systems for industries such as the electrical industry, mechanical engineering, and medical technology. The company employs over 200 people and operates worldwide with production sites in Europe, the US, and Asia.

Challenge

In housing assembly, HA-BE faced the challenge of ensuring error-free production with a high degree of variety and changing quantities—including complete traceability of all components. The company was looking for an intuitive solution that could be flexibly integrated into existing processes.

Solved by PG

- Significantly reduced rework rate
- Automatic serial number assignment
- Visual step-by-step instructions
- Traceability ensured
- Shorter setup and production times

The rework rate has fallen significantly since the introduction of the assembly assistance system – error-free products have been the standard ever since.

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In order to make our end products as safe as possible and to make production as efficient as possible, we at HA-BE have decided to use assembly assistance software. This makes it easy to display production processes for large series on monitors for our colleagues in manufacturing.

OLIVER HAMPE
Production Manager at HA-BE

Do you have any questions?
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Assembly assistance system at HA-BE: Assembling sheets of metal with assistance

Like a navigation system, the IT-based assembly assistant guides the workers of HA-BE Gehäusebau GmbH through the processes of metal sheet processing. The application helps to avoid errors and to always be able to trace installed parts. After more than a year of usage of the system, it is very obvious that rework of components needs to be done a lot less frequently.

HA-BE Gehäusebau GmbH, located in the Lower Bavarian town of Altheim near Landshut, is specialized in industrial processing of sheets of metal. In order to meet the requirements of the purchasers world-wide, from automation engineering, electrical industries, mechanical and medical engineering, highest possible quality needs to be produced. In order to achieve this goal, the manufacturer has been using the assembly assistance system PG of CSP GmbH & Co. KG for over a year now. The software accompanies the worker in the assembly much like a navigation system accompanies the driver in road traffic, and presets the exact job for each work step. To do so, the software visualizes even the most complex work processes step by step with images on a screen. The basic idea behind the introduction of the assembly assistance system was to stop producing rejects and to establish a zero-error production.

“In order to make our final product as safe as possible and to get production to be as efficient as possible, we at HA-BE have decided to implement a software for assembly assistance. This way, especially high-volume production processes can be easily illustrated on screen for our colleagues in assembly“, says Oliver Hampe, production manager at HA-BE.

In addition, usage of the assembly assistance system was to increase process security, from which officials expected to save time and money.

Rework ratio decreases significantly

HA-BE manufactures individually and upon customers’ orders. This requires high flexibility. The first work station on which cases for machine controllers are being produced was equipped with PG in March 2016. At this workstation, a wrench control, a label printer and an electronically monitored component holder were additionally connected via the already existing interfaces. Since every individual process is displayed by the system in detail and acknowledged by the respective worker, the rework ratio has dropped significantly since then, says Hampe. Rework is also accompanied by the application. This way, the manufacturing company is able to always deliver flawless products in the end.

Optimizing set-up times

Only a few months later, additional work stations for module assembly for offshore wind power plants were equipped. Here, the manufacturer has special process requirements for the administration of serial numbers of individual parts. For one thing, serial numbers were to generate themselves independently via the assembly assistance system during production of individual parts. For another thing, e.g. for frame parts welded together, a new, common serial number was to be automatically generated and thus, traceability of parts and products was to be increased.

To this end, the developers around PG have included a needle marker which engraves the corresponding data matrix code into the component in order for the components to be identified more quickly if necessary. “Since we often produce large volumes of components with our orders, we focus especially on process times”, illustrates Hampe. “This is why, when selecting an assembly assistance system, it was important to us to be able to optimize our set-up and manufacturing times with the solution.” Once it has generated a serial number and the respective part has been completed, the application asks automatically whether there is another part that needs generating of a serial number and therefore whether the serial production should be continued. “Our employees thus save the time of manually entering this information and generating a new serial number“, explains the production manager.

Monitoring of critical components

Cooling elements, for example, are among the critical components at HA-BE due to their central role in the cases. The reason for this is that failure of a cooling element might under certain circumstances lead to the defect of the entire device. This is why it is especially important to make sure that the correct parts are used for assembly of the cooling element and why the employee is notified if he has scanned a wrong part and wants to install it. In order to provide this possibility, the solution has an integrated plausibility check. By scanning the serial number of the parts to be installed, the software ensures that the right part type is used for assembly. Special, configurable attributes in the bar code show this information. On the other hand, parts that have been delivered from elsewhere can be traced with the software.

In case of a product recall of external parts, HA-BE knows immediately which cooling elements are affected.

Integrating large work stations

Wireless EC-tools are implemented to simplify the tasks at the often spacious work stations at HA-BE. Moreover, work stations were furnished with several switches in order to acknowledge work steps in PG. This is to shorten travel paths for the employees. Thus, optimization of their own production is all but completed at HA-BE, and the assembly assistance system has to reflect this change. In order for this to work, the cooperation with IT-partners has to go smoothly as well. „One thing we appreciate a lot in our cooperation with CSP is the proximity of place. Our points of contact were always here very quickly if we had new requirements.

In addition, we were also very satisfied with the quality of handling“, says Hampe. As a consequence, the worker guidance will be introduced into further additional production lines in the future.

About HA-BE Gehäusebau GmbH

HA-BE is a manufacturer of cases. As a system provider, the company is specialized in customer-specific production of sheets of metal, modules and mechanical systems for electrical and automotive industry, the energy sector and medical engineering. HA-BE is active world-wide and has its own production sites in Europe, Asia and the US.

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