



Hameln (visitable at short notice)

ASSISTANCE SYSTEMS FOR CONTROL CABINET BUILDING WITH DISABLED EMPLOYEES

Application for the manufacturing industry - skilled work with mentally disabled people thanks to assistance systems

SUMMARY

Laborious assembly processes in control cabinet building can be carried out by disabled employees and optimized with the aid of assistance systems. It also enables efficient training of unskilled employees.

CURRENT SITUATION

Control cabinet building is a complex assembly process with strict obligations in terms of documentation. In addition to the mechanical installation of electrical components, cables have to be configured and wiring executed without errors and in a way that is economically efficient. The steps involved in control cabinet assembly are not usually automated. Using a bill of materials, an assembly drawing and a label sheet for the purpose of giving instructions and documentation is a time-consuming procedure, requiring skilled work and concentration.

PROJECT DESCRIPTION

A worker assistance system is being developed to simplify the job of control cabinet assembly, where components are scanned and their correct position for assembly on the mounting panel is then displayed. Manual work is still required and is integrated into partly automated processes by the visual support system, which guides employees through the assembly procedure.

REFERENCES

<https://youtu.be/U90M21FzD6A>

INDUSTRIE 4.0 – FEATURES

Worker assistance system for visual support in control cabinet assembly. Enabling the use of different groups of employees while optimizing performance and quality. Mapping of processes straight from ERP or MES systems



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SCHUBS
STEUERUNGSTECHNIK

SOLUTION

Industrie 4.0 approaches for control cabinet assembly:

- Connection of assembly workstation to order database
- Provision of digital information, e.g. picture and position of component
- Visualization suited to the context for executing orders
- Scanning of components using an EAN code
- Display of additional information (name of component, etc.)
- Printout of equipment identification label

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STANDARDIZATION APPROACHES

Currently available open standards provide the basis for the entire communication of the factory components and connection of the factory to the outside world. This enables integrated communication and replaceability. An administration shell would be desirable as it would reduce the equipment required for establishing a system network.