SUCCESS STORY

SCCH
Software Competence Center Hagenberg

Programme: COMET – Competence Centers for Excellent Technologies

Programme line: COMET-Centre (K1)

Type of project: REEDS, 2019 - 2022, multifirm

Machine assembly at ENGEL (Source: ENGEL)

WHEN MACHINES WORK DIRECTLY TOGETHER

THE "NODEDOC" TOOL ENABLES MANUFACTURER-INDEPENDENT DATA EXCHANGE FOR MACHINES

How do you connect a machine controller with other systems or other machines? How, for example, does an injection molding machine from one manufacturer interact with a robot from another?

OPC UA (Open Platform Communications Unified Architecture) is one of the most important communication protocols for Industry 4.0. OPC UA enables standardized communication between machines, devices and other systems in the industrial environment, regardless of manufacturer, system supplier, programming language or operating system.

Communication is defined in information models, which, however, are difficult for humans to read.

To be able to create easily understandable documents from the models, ENGEL AUSTRIA and the Software Competence Center Hagenberg (SCCH) are developing the documentation tool NodeDoc. Communication is based on OPC UA information models (data and process descriptions), which are individually designed depending on the context, industry, and system architecture.

Impact and effects

Complex information models are usually designed and specified in a team and created with special modeling tools. Frequently, information models are generated automatically while engineering, e.g., generated from PLC code. Stored as a file, the

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information model is available in a standardized format, but is difficult for human users to read and, depending on its complexity, also difficult to understand. The documentation tool "NodeDoc" was developed in order to convert this standardized format, which is also referred to as the Nodeset, into a more pleasing and easier to understand form.

With "NodeDoc", documentation can be generated fully automatically from information models. This saves developers time that they would otherwise need to manually create documentation and at the same time allows users and experts without developer knowledge to be involved in decisions quickly and easily. The top feature is the generation of tables and standards-compliant diagrams. Documentation texts can be edited and saved. A history is also kept for these changes. Furthermore, NodeDoc can embed the actual Nodeset documentation into a prefabricated document. At ENGEL Austria, various subject matter experts are already communicating with NodDoc. The automatically generated documentation is very easy to understand, which facilitates joint work enormously. What is now done automatically used to have to be written or drawn by hand. This tool makes everyday work at ENGEL Austria much easier.

ENGEL headquarters in Schwertberg (Source: ENGEL)

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Project partner

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