

SimuProd

Data integration, simulation-based virtual commissioning and maintenance of production

CHALLENGE

The increasing complexity in industrial design and manufacturing processes in conjunction with increasing time and cost pressures always requires efficient strategies in commissioning and maintenance of production facilities. There are already programs and frameworks to simplify automation and reproduction of any parts of the production process chain. Even if there are already many tools in use, there are also a number of less automated industries, as well as many small and medium enterprises which, for various reasons (cost, level of training of staff, lack of support in the selection of appropriate tools), do not use or only partially use computerized instruments. Another gap often results in the lack of integration of various software components. A common framework for data collection, data analysis, management, planning, visualization and simulation is often not realized, and a combination of different results requires additional effort.

GOALS

Objectives of the project SimuProd are the integration of simulation methods (discrete event simulation) and tools (Matlab SimEvents, arena, etc.) in systems for planning, control and visualization of production (SCADA) and the development of strategies for use in maintenance, troubleshooting and optimization. The description of efficient methods and models for inclusive development and process modeling for mapping complex manufacturing processes should simplify the re-planning, the construction and maintenance of production equipment. The use of a scalable framework for the integration of ERP, SCADA and simulations in the entire development and production process should allow companies to gradually bridge the gap between product and production system development. A guide to the gradual integration of digital tools for these processes supports decision makers in merging technology and with the expansion of previously unused methods and tools in a company. The development of criteria and a training plan should support other decision-makers in selecting, suitable tools for the company.

PROJECT OVERVIEW

INSTITUTION

University of Applied Sciences Salzburg
Information Technology & Systems Management
Ing. Punzenberger COPA-DATA GmbH



TYPE OF PROJECT

Research project in the framework of the BRIDGE program, supported by the Austrian Research Promotion Agency (Österreichische Forschungsförderungsgesellschaft mbH)
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WANT TO KNOW MORE

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