Fachhochschule Salzburg University of Applied Sciences

research project

SimuProd

ABSTRACT

The increasing complexity of development and production processes in combination with rising time and cost pressure demands more and more efficient methods for commissioning and maintenance. The term “Software for digital Production” combines tools and frameworks to simplify, reproduce and automate specific parts of the process chain in production environments. Mainly large companies and companies in highly automated industrial sectors already use such tools heavily and successfully.

But for all that there are still some industrial sectors and small and mid-businesses which do not or only partly use systems for digital production. In addition most of that software is not integrated in an overall framework. This leads to a gap in information transfer and use of data in other systems. A concerted framework for data acquisition, data analyses, control, design, visualization and simulation using standard interfaces is not realized nowadays. The transformation of data stored in the different parts and the combination of all that information requires additional effort. Notably the integration of new components in an existing production environment creates the necessity to connect several data pools, as well to control the new part as to integrate data from sensors and software.

The goal of SimuProd is to explore and document models and methods for the integration of simulation tools or libraries in the process of planning, development and production. In addition SimuProd facilitates methods for a scalable use of all digital instruments in small and medium businesses. Development, construction and maintenance of industrial processes are guided by an expert system for the usage of tools. This leads to a reduction of production costs and development time and therefor increases quality of the resulting products. A training concept enables companies to introduce new digital systems and helps those integrating new data in a common data basis. This simplifies analyses an information retrieval in heterogeneous environments and supports the process of model creation for simulation.

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