Virtual production intelligence - Evaluating the factory planning process

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In the last years, production in low-wage countries became popular with many companies by reason of low production costs. To slow down the development of shifting production to low-wage countries, new concepts for the production in high-wage countries have to be created. One approach for managing this task that has gained prominence in recent years is the use of simulation applications in production technology, to decrease the effort for planning processes. According to the VDI-Guideline 4499 the planning process should be initiated by modeling the production process following the idea of the "Digital Factory". Using the approach of "Virtual Production", factory planning scenarios can be evaluated in advance by simulation. A new integrative concept called *Virtual Production Intelligence* (VPI) has been developed that applies solutions of different intelligence approaches to the field of virtual production. This concept provides for the integration, analysis and visualization of the data that are aggregated along the simulated process chains of production engineering. In this presentation, performance indicators are presented for monitoring factory planning processes using the VPI approach. An information model of the whole factory planning process provides the ability to analyze data of different planning tools, identify new correlations and present the gained information to the user based on performance indicators. Hence, critical stages of the factory planning process can be simulated in virtual production to support factory planners in their decision-making.

Biography

Daniel Schilberg is Ph.D. with a distinction in mechanical engineering from RWTH Aachen University.

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