Investment Planning for the Factory of the Future - Analysis, Strategy and Tool Support

Keywords: factory as product, factory design process, investment planning, performance planning

Abstract
In the context of designing the factory of the future, it is important to plan the investment to be made as early as possible in the design process, which in turn requires a suitable investment planning approach. This work will provide the basis for the definition of such an approach by an in-depth analysis of its interfaces to related planning phases and planning objects.

Background Information
Today, manufacturing enterprises have to meet the increasing global consumer demands for greener, more customized and higher quality products. This causes the development of the corresponding production processes and facilities to be more complex and challenging.

One of first steps in designing a new factory is an investment and performance planning for the new facility, which has to take the future product into account. Thus, investment planning is dependent on a draft layout for the new factory which takes the processes into account that are needed for manufacturing. Additionally, the investment to be made is only profitable if the factory shows a certain level of performance.

This student work focuses on a profound examination in the context of investment planning and aims at clear interfaces to the future product, the needed processes and impacts on the succeeding performance planning phase.

Workpackages
• Get familiar with the topic of the factory design and investment planning and the tool Process Designer
• Consult relevant literature and make an in-depth review with focus on investment planning
• Analyze the interplay between products, investment for the production and the expected performance
• Evaluate how investment planning is applicable within the given context
• Masters thesis: Define/specify the changeover and the impacts on the subsequent performance planning
• Documentation, mid-term and final presentation

1 [Constantinescu C, Eichelberger H, Westkämper E. Durchgängige und integrierte Fabrik- und Prozessplanung. wt Werkstattechnik online, Jahrgang 99, Heft 3, 2009]