

## Meeting Minutes

### 2. Meeting of Working Group „Open Digital Factory“

**Date & Time:** 22nd of October 2003  
Start: 10:00  
Close: 16:30

**Location:** SDZ GmbH, Hauert 20, 44227 Dortmund, Germany

**Participants:** Masurat (TU-Clausthal)  
Grieger (Uni-Karlsruhe)  
Druyen (Uni-Duisburg/Essen)  
Housein (Uni-Duisburg/Essen)  
Aldarrat (Uni-Duisburg/Essen)  
Schnorpfeil (SDZ)  
Nadolski (SDZ)

### Agenda :

1. Welcome all participant
2. Short summary of the 1<sup>st</sup> meeting
3. Explaining of interfaces of different tools (participants)
4. Explaining which possibilities are existing to set up a research project
5. Possible Goals of a research project
6. Discussion
7. Fixing objectives

### Minutes:

Presentation of the interfaces of following tools:

- ProEngineer
- SimPro
- DOSIMIS-3
- SimAL
- Arena
- AutoMod
- EmPlant
- SDX Interface
- CAD Interface format

Comments:

- Simulation programming languages could be hint for Open Digital Factory
- Problems: data amount (especially layout & graphic data)
- Further working group which dealing with Digital Factory is a VDI Working group

Further interface

- Open GL
- HLA (Mr. Schnorpfeil has hold a presentation)

Definition of Digital Factory:

- Should support Product life cycle management and production planning process
- Operative use of the digital factory
- Product development is a iterative process which run to continuous development of the product and its production.

Because of the data amount we will not consider the product development process

## Minutes of the discussion

### Assumption/Question for using digital factory by SMEs

- Which software tool are needed for planning and operative usage by SMEs?
- Is it possible to build a model out of the existing data of the SMEs?

### Tasks and Requirement:

- Integration of the existing tools.
- Optimization of the production process
  
- Planning process in SME = Evolution
  - Development and optimization of strategies
- Construction tasks
- Definition of processes and runs
- Layout

### Problems:

- SMEs have rare complete data (CAD, item and machine master data)
- Which software tools are currently used by SMEs?
- Which advantage have the SMEs by using the digital factory?

### Tools and its data

#### Dynamic:

- Material flow and process simulation

#### Operative dynamic (for planning static tools)

- ERP System (operative production planning- und control)
  - Warehouse and production strategies
  - Pull- and Push Principe
- Optimization of process (e.g. scraps optimisation)
- Forecast tools
  - Forecast data / sales and production data
- Resources
  - Machine master data
  - Service and down times
  - Personal (qualification/number of employees /strategies (e.g. Jumper concept))
- Work list

#### Statistic:

- CAD Tools/Layout
- Working time measurement (MTM)
- Process modelling (e.g. ARIS)

### **Task & needed functionality**

Which key figure should be optimized?

By which actions are SMEs able to save money?

- Faster optimization and planning
- Buy and use of planning tools which optimize the production process

Work and part list are automatically exported and imported into the planning tool

### **Future & visions:**

More SME will use ERP tools



**Task for the working group:**

Define a questionnaire regarding the SMEs demands for digital factory

Which tools are currently used by SME?

Where are the gaps?

By which level have they integrated the different data?

Further the working group was not able to define requirements of the SMEs for Open Digital Factory philosophy. It will investigate the possible demand by questionnaire until the end of this year. During the final discussion the working group commit that SME will not invest on several planning tools. It is not possible and realistic to design software tools (supporting the planning process) which are as easy to use as e.g. MS-Excel.

Next Meeting is scheduled at the 11<sup>th</sup> of February 2004 if the working group could define or identity any demands for Open digital factory at the SMEs. All further detail information will be provide in December 2003. Otherwise it could be possible to close this working group.