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cc: A. Kirsch, R. Patzke

Subject: NA 060 30-0503, MES Tasks and content considering requirements of ISO 9000:2001, meeting Frankfurt 2008-07-23

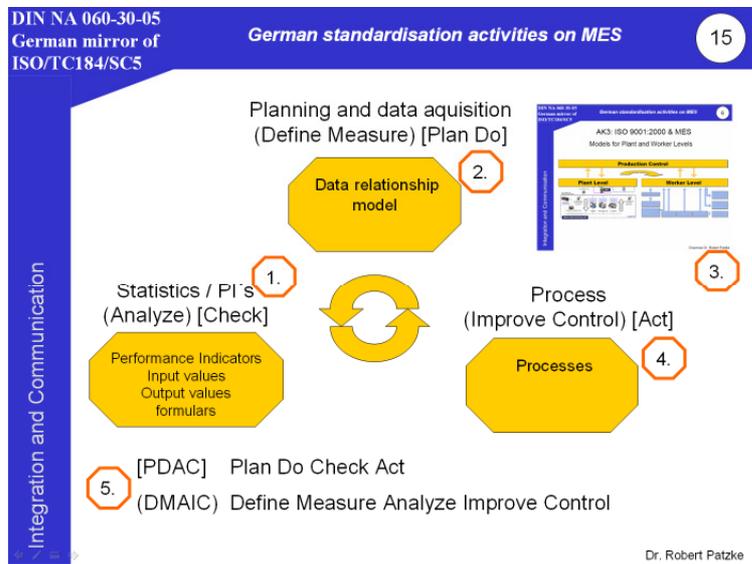
Dear Colleagues,
the following is a short report on the above meeting.
Regards,

Manufacturing Execution Systems (MES) is a way to capture the interoperation between system components. The meeting with eleven participants representing the end users, developers, system providers, integrators of from SMEs and large enterprises was held at the premises of the German Machine Tool Builders Association (VDMA)

Objective and Background

This initiative on Manufacturing Execution Systems (MES), NA 060 30-0503, created by the VDMA and the DIN intends to bring together developers, providers and end users of MES to establish a roadmap relating Performance Indicators (PIs) and their parameters with the corresponding data models and enterprise processes and hence to resolve enterprise integration issues. The roadmap has been proposed as a New Work Item in ISO TC 184 SC5. Initial contacts with ISO members outside of Germany have been made and found a positive resonance to collaborate.

The basic mechanism of the performance improvement cycle is shown the figure below, created by R.



Patzke. The cycle is following the steps 1 to 5 with feedback between the steps in the reverse direction. It starts with identifying PIs in a typical manufacturing enterprise environment (Step 1). Based on these PI's, an information model will be defined, which describes the relationship of the input data and their parameters (Step 2). The next step will be to define the corresponding data acquisition process to get the input data for the PI's (Step 3). The benefit of MES will be the improvement of processes. For this reason it is necessary to define the processes (Step 4) and then to support the improvement based on PDCA or DMAIC methods. Simulating and analysing the model, one can derive the potential improvements, which will lead to improved PIs (Step5).

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Modelling both, the plant floor and the enterprise functions, the target is to improve overall productivity of the enterprise as well as the process control within the MES. The performance improvement cycle shall take into consideration both, the content and terminology of ISO 9000-2001 as well as the model framework and the interface structure defined in IEC 62264

Meeting results

Categories of PIs have been established during two sessions before. To capture the content of PIs, a reference template from VDMA 66412 has been used. This template contains functionality of KPI and several attributes and relationships within a relational information model.

To date, a total of 32 PIs have been proposed and documented with the above mentioned template and have been grouped in the categories Personal (7), Production (15) and Quality (10). During the session on July 8, 2008, the proposed PIs were reviewed leading to a common understanding and an improved definition. With the intent to relate to the model structure of IEC 62264, specific PIs for equipment maintenance and material inventory may be required. Further work will focus on establishing a suitable enterprise model, containing aspects of information, process, resources, which can be used for simulation and control of the operation.

Next meeting: September 5, 2008 in Frankfurt.