

Integration SAP S/4HANA & SAP MII/ME

Introduction

SAP offers a stand-alone software solution for manufacturing execution (SAP MII/ME). The purpose of SAP MES is to increase visibility and track KPIs of the manufacturing process, adapt to meet individualization requirements and increase asset utilization. SAP S/4HANA on the other hand is an enterprise resource planning (ERP) system with built in functionalities and best practice processes. Commonly the master data for production operations like material, bill of materials and routings are maintained in the S/4HANA system. If a company is using both software solutions the integration of both is the best way to harness the benefits of the MES & ERP system. To do so SAP offers SAP Manufacturing Integration and Intelligence (MII) which is a comprehensive platform for integration of ME. MII cannot only be used to integrate S/4HANA and ME but any other ERP solution. It offers a variety and flexibility for different integration scenarios.

For further information see:

<https://www.sap.com/products/execution-mes.html>

<https://www.sap.com/products/manufacturing-intelligence-integration.html>

<https://www.sap.com/products/s4hana-erp.html>

Overview

In this show case we would like to demonstrate the benefits of the integration of SAP ERP & SAP ME as well as possible artificial intelligent use case ideas. To make the show case more interactive and appealing we will be demonstrating the whole set up based on the production of coffee cups with different colors that the user can keep in the end.

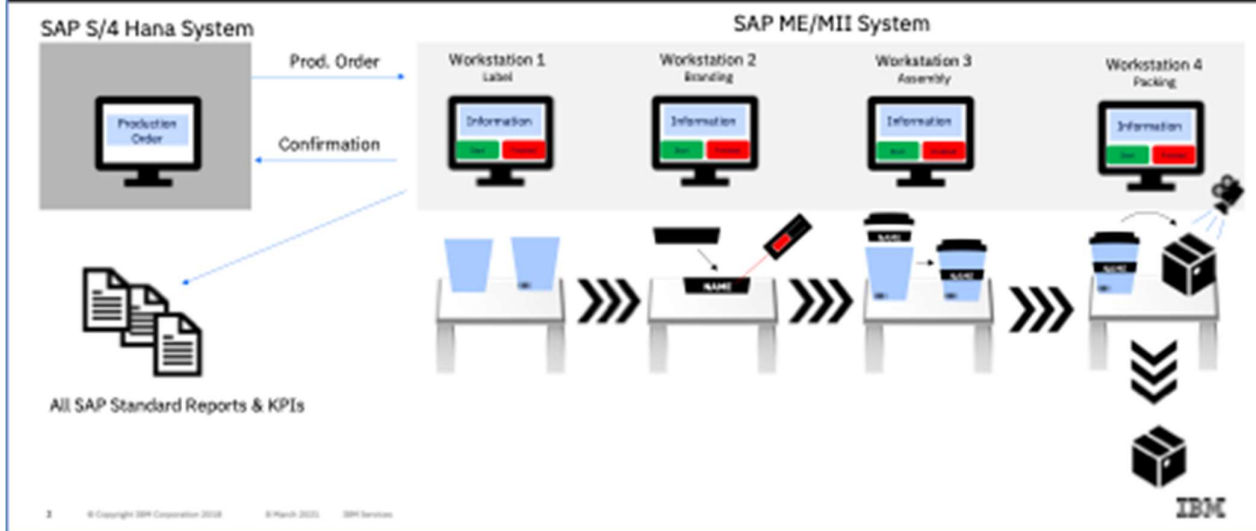
We have an SAP S/4HANA system with the latest release installed connected to a MII and ME System. In the SAP S/4HANA System the master data for the materials, bills-of-material, work center and routings are maintained. This master data is transferred to the MII and ME system for the later processing of production orders. In the ME System we have set-up four work centers and one rework center. Additionally, we have created production operator dashboards (POD) for each work station to execute the production step. Once the processing operations for the material are complete, a confirmation is sent back to the S/4HANA system.

Details of production show case

The production show case is equipped with a simplified production island consisting of 4 tables, 4 monitors and some handling equipment. This simulates a production for the assembly of coffee cups in various manufacturing scenarios. The production is controlled by two systems. Overall, the show case includes four operation steps for manufacturing coffee cups. A production order is specifying the required quantity & variant that is sent to the ME/MII system. The first workstation demonstrates the labelling operation. The second workstation covers the individualization of the heat cover. The third workstation is the assembly of the components of the coffee cup (in the correct colors). Finally, the last workstation includes the packing of the assembled coffee cup(s) and confirms this to the S/4HANA system.

Different kind of scenarios will be developed over time to cover multiple client scenarios and increase the client experience. For instance, a basic scenario shows the working integration between the latest SAP S/4HANA system release & ME/MII system. We are aiming to integrate our current show case with AI use cases, SAP S/4HANA Best Practices Processes e.g. Order-to-Cash or Purchase-to-Pay. For instance, an AI driven visual recognition will support and automate the packing process. We may also integrate real-time quality inspection of our coffee cups.

Big Picture



Benefits

IBM cross-business unit technologies are combined with SAP solutions. Interested parties and potential customers from production industry can see for themselves how an SAP ME/MII system can be integrated into an SAP S/4HANA system or how new technologies such as AI and Cloud can be combined with an SAP manufacturing execution system.

- Hands-on experience during show case
- Explaining integration of S/4HANA & ME/MII systems
- Demonstrating IBM's capabilities as a system integrator
- Real-life examples of AI & cloud application

Contacts

Thilo Gros, SAP Project Manager - Senior Consultant, Thilo.Gros@ibm.com