

HEITEC AG Press Release

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**From planning and commissioning to operation,  
HEITEC 4.0 is digitalizing production plants**

- **HeiVM: As a virtual machine, shortens project duration and commissioning time through parallel, digital processes and improves software quality for problem-free production.**
- **HeiTPM: As a solution for IT integration, data monitoring, and analysis, creates high transparency in the production process.**
- **HeiMAX: As a mobile assistant system, ensures optimal, demand-oriented, and paperless workflow during the planning, coordination, and implementation of production.**

The digital “Heitec 4.0” framework forms the basis for modern engineering methods and provides the digital twin – the virtual counterpart of the real plant – for plant planning, commissioning, and optimization. “We detect planning, design, and software errors at an early stage. Because everything happens on the screen, no faulty plants are built,” says Richard Heindl, CEO of Heitec AG. “In the future, these digital technology modules will increasingly determine machine and plant planning. Heitec is one of the pioneers in this area and is pursuing a new development paradigm.”

The virtual models of a plant or machine are consolidated in **HeiVM**. For the programming of controllers and robots, these virtual models are identical to their physical counterparts in terms of the behavior of their kinematics and interfaces. Comprehensive libraries of virtual components, ranging from presses, robots, conveyor belts, and automation systems to sensors and actuators, make process modeling easier. The virtual models can be used to test automation strategies in terms of their functionality and behavior over time

as well as to optimize process sequences before the real plants and machines are available.

The concept of real commissioning on a virtual model enables the testing of all present and future operating sequences within the appropriate production environment in real time. For the functional sequences, the original automation software is used and qualified. This yields higher delivery quality of software solutions for automation and drives and allows plant operators to promptly detect design faults and process errors. Parallelized processes significantly minimize project duration and permit the combined testing of the functionality of a variety of interfaces. With HeiVM and the requisite technology objects, process owners can themselves implement the timely digital planning of their plants.

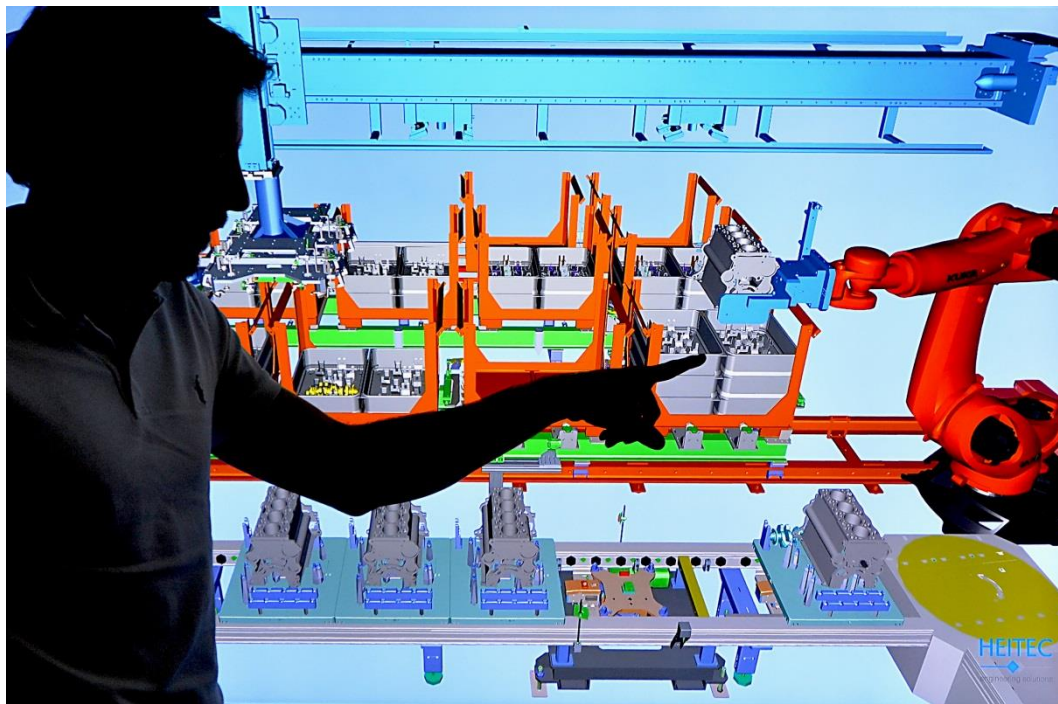
**HeiTPM** creates bridges between the object- and service-oriented IT world and the machines on the shop floor, whose environment is characterized by heterogeneous protocols, interfaces, and processes synchronously timed right up to real time in the millisecond range. HeiTPM adds semantic and structural information to the data gathered from the shop floor. The self-describing information objects thus created can be forwarded to systems for online visualization, long-term storage, further analysis using data mining methods, or machine learning via standard protocols based on, for example, OPC UA or MQTT (publishing/subscribe principle).

Using the information collected from the real equipment during production – such as order data, isochronous process data, error messages, etc. – combined with the digital twin of the plant, it is possible to analyze production in the office. In this way, optimization strategies for production workflows can be drawn up, causes of error can be researched, and quality data can be evaluated. Changes can be tested on the virtual model and, if successful, integrated into the plant. HeiTPM provides rapid integration into a wide variety of IT environments. The link is established – independent of manufacturer – to different platforms such as Acron and SAP, as well as various cloud solutions such as Mindsphere and AnyViz.

**HeiMAX** is a mobile assistant system that ensures optimal, demand-oriented, and paperless workflow during the planning, coordination, and implementation

of production. With electronic support from smart devices, it structures checklists and task lists in a collaborative and delay-tolerant manner and ruggedly resists interruptions. The web-based software communicates with all the higher-level ERP and CAD systems used in the company as well as with other systems and provides users with all the necessary information at the right time and in the right place.

HeiMAX can be used for all processes in which structured lists must be processed and evaluated, including quality assurance, qualification/validation, and acceptance protocols. A HeiMAX solution is currently being implemented that intelligently supports service and maintenance.



Caption

SPS IPC Drives 2017: Heitec 4.0 – on the fast track to networked production.

HEITEC AG company profile

HEITEC stands for industrial expertise in automation and electronics, offering solutions, products and services with a focus on software, mechanics and electronics. With high-tech, reliable and economical system solutions, HEITEC helps its more than 2,000 customers increase their productivity and optimize their products. More than 1,000 employees in many locations in Germany and abroad guarantee customer proximity and industry expertise. More than 60 percent of the employees are college graduates or have a technical background. HEITEC has reported growth rates far above 10 percent in recent years, doubling its revenue in five years.

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