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MES software Legato Sapient and web-based HMI

CONNECTION BETWEEN CONTROL LEVEL AND SHOPFLOOR

The separation between the control system level (MES) and the HMI (Human Machine Interface) analogous to the classic automation pyramid is often still common practice in manufacturing companies. However, heterogeneous IT system landscapes are not competitive in the long run. Here, digitalization opens up new opportunities: A move away from existing, local fat-client installations in the area of HMI is now possible, assuming a fail-safe network as a production-critical medium.

An HMI addresses two areas: First, the clear display of information, and second, the ease of machine operation. The web-based HMI is an expansion module from Legato Sapient. The integration of the web-based variant of the HMI into the control level (MES) is the logical consequence - and brings with it a multitude of advantages:

- → **Real-time transparency across all levels**, better data quality, quantity and consistency through the combination of shopfloor and MES level.
- → **Significant cost reduction for hardware and middleware** by using the application in the web browser - performance-intensive calculations via the central server.
- → **Lower operating costs** due to central version updates and other changes; regular, local backups are no longer necessary.
- → **Ideal solution for heterogeneous machine parks** through independent software manufacturer.

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MES Legato Sapient with HMI module – a combination with added value

The increasing complexity in manufacturing requires a full overview of the entire process. This requires data with different levels of detail depending on the application. Legato Sapient with its web-based HMI module combines the decentralized view of the machine with the overall view of the shop floor, thus ensuring a seamless flow of information and system consistency.

This information must be displayed in an ergonomically meaningful way for the worker so that he can quickly understand it and react accordingly. Legato Sapient with HMI enables system consistency from different perspectives:

From the user's perspective

→ no time-consuming changes between different systems

→ greater transparency, resulting in faster reactions and less machine downtime

From a technical perspective

→ **Project planning:** Graphical overviews only have to be created once via the integrated, web-based designer and can be used both on HMI terminals and directly in Legato Sapient

→ **Software maintenance/operation:** Two systems (even from two manufacturers) merge into one (application support and IT integration)

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THE HMI MODULE AT A GLANCE

- → Device-independent, web-based solution: Visualizations always and everywhere available without expensive hardware and middleware
- → Decentralized perspective: Local operator terminal with machine-related visualization and operation
- → Insight into machine data from upstream and downstream areas and holistic overviews from Legato Sapient
- → Server-based solution for graphical process visualization and process-related operation and control
- → Support of several hundred individual stations
- → Low latency (< 1 second) for production critical interactions: Data stream without detours via database
- → Regulation of user-specific functions by means of a rights concept, e.g. for the execution of safety-critical actions only within the visual range of the system

THE HMI DESIGNER AT A GLANCE

- → HMI-Designer as a Service: operation in the cloud and thus reliable support and simple updates
- → Fast and easy pre-commissioning of the machines at the supplier's site through visualization creation (web-based) in the cloud incl. live connection of the machine
- → Shorter rollout times at the end customer through simple transfer to the customer's system
- → Automatic standardization through general and customer-specific libraries for graphical elements and their links (e.g. DIN EN ISO 10628 process engineering)
- → Simple dynamization through low-code approach similar to Excel formulas

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Germanedge is a leading provider of Manufacturing Operation Management (MOM) software that brings Industry 4.0 into the perfect flow. Together with its four product providers (GEFASOFT, New Solutions, ORSOFT and QDA SOLUTIONS) the brand offers a complete solution portfolio for the manufacturing industry: international, cross-plant, maximum efficiency.