INDUSTRIAL MANUFACTURING 4.0

END-TO-END TRANSPARENCY IN YOUR PRODUCTION WITH LEGATO SAPIENT

In the age of digitalisation, efficiency is not only a matter of productivity, but also of appropriately managing various forms of disruption. The best way to prepare for change is to implement transparent manufacturing processes and identify the potential performance reserves lying dormant in every production facility.

Our MES solution Legato Sapient connects all production-relevant systems for uninterrupted data exchange. This results in uninterrupted transparency in real time, reduces downtimes and losses and thus increases your OEE.

Our MES solution Legato Sapient at a glance:

→ Use of the user frontend via standard web browsers thanks to the HTML5 architecture

→ No need to install additional client software

→ Location-independent use thanks to the use of mobile devices

→ Numerous standard functions included with every installation: evaluation, visualisation, reporting, data acquisition in real time, target values, switching commands, key figures and action management

→ Various additional function modules depending on individual needs

Use your production facilities more efficiently with the help of intelligent facility monitoring!

Unplanned downtimes are just as detrimental to production companies as recalls. By taking an integrated approach to digitalisation, not only will you create a new level of transparency, but you will also increase availability and your production efficiency while simultaneously reducing downtimes – thanks to our TPM and Track&Trace modules with correspondingly intelligent analysis and documentation features.

TPM

The coordination of maintenance activities is often still based on manual processes that lack automation. Implementing needs-based maintenance is therefore very difficult and can lead to excess and insufficient maintenance. Excess maintenance unnecessarily wastes maintenance capacity, consumes expensive spare parts and operating materials, and wastes valuable production time. Insufficient maintenance results in unplanned wear and tear and hence unplanned production downtimes with time-consuming and expensive ad hoc repair work, which in turn distrupts the entire production plan and causes heavy costs.

Data analytics & reporting

Maintenance costs often skyrocket because the root causes of downtimes are not eliminated and the downtime losses have to be made up for by overtime work or by keeping additional reserve capacity on standby. In order for you to be able to effectively tackle the actual causes of downtime, Legato Sapient analyses every process step in real time, systematically evaluates machine and production data and aggregates these into meaningful key figures, such as for OEE, system availability, MTTR and MTBF. TopX evaluations of machine downtimes and their causes reveal potential for improvement, which can then be successively implemented.

Track & Trace

A tracking & tracing system is vital in component production, body shops and paint shops on account of the legal requirements for product liability and product safety. Many production companies, however, only use tracking & tracing in a rudimentary way; harnessing its full potential is only possible when combined with MDC and PDA. With Legato Sapient, you are prepared for the worst-case scenario: A faulty batch can be quickly identified and consequently a targeted recall action can be initiated.
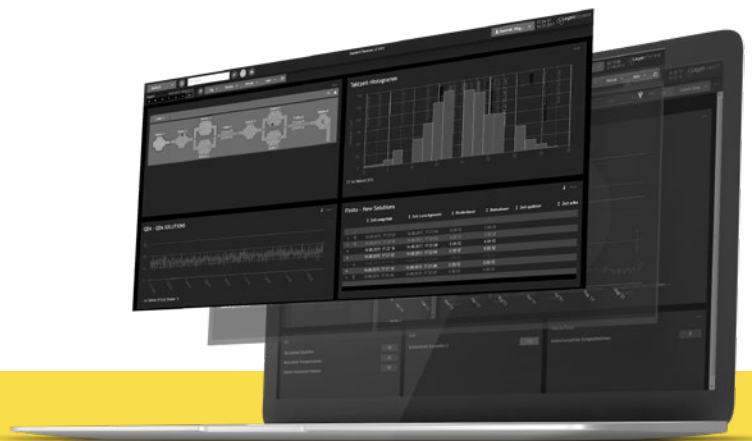
Legato Sapient enables:

→ Digitalisation of maintenance processes and necessary transparency

→ Efficient performance of maintenance activities thanks to maintenance plans and the maintenance orders automatically generated from them

→ TÜV-compliant documentation and archiving of maintenance activities

→ Seamless tracking & tracing of products including all product-relevant data throughout the entire manufacturing process

→ Automatic due date calculation based on both time and value using the prescribed, maintenance-relevant criteria, such as operating hours or stroke counter

→ Data exchange across system boundaries (shop floor, MES, ERP) through vertical data integration

→ Wide range of analysis and reporting options for problem identification and solution finding

Benefits of using Legato Sapient:

→ **Efficiency increases of at least 5% through:**
   • Increase in system availability (avoidance of unproductive times) by 2–5%.
   • Increased output (avoidance of idle time and cycle time overruns) of 1–2%.
   • Increased quality rate (avoidance of scrap and post processing) by 1–2%.

→ **Optimisation of maintenance by at least 10% through:**
   • Increased planned occupancy time thanks to targeted maintenance (reduction of planned downtimes through predictive maintenance, condition monitoring, etc.) and avoidance of insufficient maintenance (unplanned downtimes).
   • Reduction of maintenance costs (consumption of spare parts and auxiliary materials)

→ **Reduction of hardware costs for data carriers**
   • Comprehensive data storage of all product/workpiece data in the central database → Savings of >200k€ p.a.

→ **Reduction of energy costs for hall lighting and PCs by at least 20% thanks to automatic control during breaks**
   • Hall lighting dimmed/switched off during breaks → Saving of 10–20%
   • Switching the computers (terminals, control centre, etc.) to the "Wake-on-LAN" state when not in use → Saving of 30–40%

HMI: connect your shop floor with the control level

Many companies are still working with a very heterogeneous system landscape. The drawback of this is that there can be discrepancies in information that result in two sets of truths. The traditional separation between the control system level (MES) and the HMI is common practice, similar to the classic automation pyramid. System breaks and a discontinuous flow of information are commonplace, as important information from the HMI is only available at a specific location, usually as fat client solutions, despite the fact that it would also be necessary elsewhere.

The HMI module enables visualisations that are available anytime and anywhere via the web, without the need for expensive hardware and middleware. The local operating terminal with plant-related visualisation simplifies daily work, while also providing insights into plant data from upstream and downstream operations. Legato Sapient with the HMI module can support several hundred individual stations, offers low latency (< 1 second) and allows user-specific functions to be controlled via a rights system, e.g. for safety-critical processes that are only to be carried out within the visual range of the system.

The HMI designer is operated as a service in the cloud, providing reliable support and easy updates. It also enables quick and easy pre-commissioning of the facilities for the supplier as well as shorter rollout times for the end customer through simple transfer to the customer's system.

Legato Sapient with the web-based HMI module:

→ closes the gap between control level and HMI

→ ensures a seamless flow of information with no losses as a single point of truth

→ significantly reduces the costs for terminal hardware and middleware – common computer hardware with a web browser is sufficient

→ avoids time-consuming changes between different systems

→ increases the reaction speed in the event of a malfunction

Benefits of using Legato Sapient with the HMI module:

→ **Reduction of the cost of terminal hardware and middleware by more than 50%** – Cheaper hardware and middleware thanks to web-based HMI module

→ **Reduction of terminal maintenance costs by 30%** – Updates can be carried out at a central location (server) in the event of version changes or backups, and hardware replacement is made easier

→ **Reduction of operating costs by more than 30%** – Fewer key users and no duplication of graphics thanks to lower training requirements

Do you have specific questions about how you can optimise your production?

Get in touch →

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