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SUCCESS STORY

WEBASTO ROLLS OUT GLOBAL MES TEMPLATE

Fully integrated processes from planning through to production have become an important factor of success, particularly in the automotive industry. There is a good reason for this development:

Across-the-board integration of commercial and technical processes is indispensable to the continual compression of product life cycles. This requires integrated IT solutions between the planning and the execution level. Which is why Webasto AG relies on an SAP system for the planning level and the Adicom® Software Suite MES solution for the execution level.

The Challenge

In the age of globalization in the highly competitive automotive supply industry, Webasto AG is one of many suppliers that needs to keep innovation, quality, and costs constantly in balance. In observing the maxim of "fast time to market", it is necessary to continuously place new products on the international market with a reasonable cost structure. Webasto is a leading international automotive supplier that delivers its products both to OEMs directly and to the aftermarket through a global network of 56 sites. The company was looking for an appropriate corporate strategy as a way to counter the steadily increasing pressure of globalization. It found the answer in the global SAP project GENESIS.

Harmonized ERP Processes – Integrated Production Processes

"The starting point for GENESIS was the harmonization and optimization of our business processes on a global scale. At the same time, the ultimate goal was to continually increase our competitiveness by increasing efficiency and productivity," says Peter Domes, Head of Logistics Systems and Organizational Development and GENESIS Project Manager at Webasto, explaining the challenges faced by automotive supply firms in the age of globalization. Consequently, the management decided to introduce a central company-wide SAP system using a global template. In this way, all core business processes and functionalities should be mapped uniformly and the entire IT landscape optimized and harmonized as a result by reducing the number of difficult-to-maintain and (over the long term) cost-intensive

legacy systems. GENESIS provides for the global operation of mySAP ERP 2005 (ECC 6.0). The ERP (Enterprise Resource Planning) system maps the business processes for the Financial Accounting/Controlling (FI/CO), Human Resources (HR), Production Planning and Control (PP), Warehouse Management (WM), Materials Management (MM), Project System (PS), Quality Management (QM), Sales and Distribution (SD), and SAP Business Intelligence (BW/BI) applications across all sites.

High Level of Integration Ensures High Level of Data Exchange

Besides the introduction of a central ERP system, an integral component of GENESIS is the mapping of production-related functionalities in local MES (Manufacturing Execution System) systems.

These will then be successively rolled out at the production sites using a global MES template. From the very start of the project, it was clear to all those responsible that the production-related data would be difficult to display within the SAP system, so would have to be professionally managed using a MES system and integrated into the lead an ERP system in aggregated form.



"In the course of the project, we opted the Adicom® Software Suite. Because integration was a key factor in our decision, online-capable, certified, and comprehensive SAP interfaces were a strong argument in favor of the MES system," comments Piero Sciotto, MES Project Manager for Webasto's global SAP project GENESIS, on the choice of IT service provider. Using these interfaces, Webasto is able to provide the desired high level of integration between central SAP systems and local MES systems and ensure a consistent flow of data between the SAP applications and production.

Development of the global MES template commenced with a pilot project at the Neubrandenburg production site in Mecklenburg-Western Pomerania, Germany. This was followed by a stand-alone MES solution at the Palmela site near Lisbon, Portugal, which has been operated separately from the SAP system up to now.

Roll-out of the global MES template took place for the first time at the start of June 2007 at the Neubrandenburg facility. Roll-outs at other sites in Europe, Asia, and the US are scheduled. The roll-out strategy envisages adapting the template to the individual circumstances and processes of the various production facilities. *"We designed a very complex MES template on the basis of our Neubrandenburg plant's requirements. This template will however be put together in modular fashion according to the functions needed and then rolled out at our sites,"* explains Sciotto. Thus, for example, at the German sites, determining the level of performance and possible bonuses for workers in the MES system is a vital component of the roll-out. Functions of this kind are not required at the production sites abroad due to different labor law requirements. The clear division between planning processes in the ERP system and the production-relevant processes at the production level is a basic requirement for all sites during the roll-out, to avoid redundant functions. All processes which are crucial for production are to be mapped exclusively in the MES systems close to the execution level.

The MES systems exchange the required data in both directions with the centrally hosted SAP system via an online interface, however, and are thus highly integrated into this system. As a result, the partly self-developed legacy systems for shop floor data collection and isolated applications at the individual production sites will be replaced and Webasto's IT landscape entirely harmonized and standardized.

Full Functionality in the MES System Required

The clear division between production-level processes in the MES system and management-level processes in the SAP system has a significant advantage for Webasto: Complete management of the master data takes place in the central SAP system, the lead system where all master data (such as material and personnel master data, packaging specifications, customer material info records, and transaction data such as production orders) is managed and transferred to the MES system online via a standardized IDoc (Intermediate Document) interface. This ensures a high quality of data. Aggregate quality data, correct and not correct quantities (OK/not OK quantities), times and other completion confirmation data for production orders are exported from the MES system to the SAP system via an analog interface. All detailed data from machine, quality, and shop floor data collection is stored in the MES system and consequently does not put a strain on the SAP system's database. This leads to improvements in technical and organizational process workflows. The Adicom Software Suite's high level of integration enables Webasto's management to perform accurate data analysis across all sites. This operative reporting allows a better assessment of the behavior of the highly automated production level.



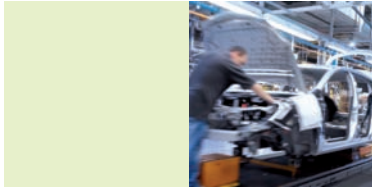
“By linking machine, quality, and shop floor data collection, we are able to minimize machine downtimes before they occur, permanently improve the quality of business processes and products, and thereby optimize our production as a whole,” says Sciotto.

Determining Efficiency Ensures Consistently High Quality

To guarantee a consistently high level of quality in production, as well as a high level of performance in the entire production process, performance level determination and complete traceability are important requirements for Webasto, in addition to the MES systems’ high level of integration, in the overall project. To determine the level of performance of employees in production, the relevant data at all German sites will be processed in relation to the factors of time and activity performed, and the overall levels of performance will then be reported to the SAP HR module for each employee. A feature of the MES system is that employees log their working hours using touch-screen terminals. Furthermore, they use the terminal to record all work steps identified by SAP control keys, check in and out production orders, and transfer this data to the SAP system. Accurate evaluation of the data means that it is then possible to determine how many parts were manufactured by a specific employee at a given time, which production order was involved, and the time that was required. The information gathered in this way is subsequently used to determine the level of performance (gross wage calculation) of each individual worker. *“For one thing, using the gross wage calculation means that we are able to provide our employees with the level of support they require. They are able to develop their skills independently and are encouraged to take on responsibility. They thus make a significant contribution to the company’s success. For another thing, this functionality means that we are able to provide IT support for group remuneration concepts, which allow significant gains in productivity,”* concludes Sciotto.

Higher Quality as a Result of Transparent Production Processes

A further significant feature of the MES solution for Webasto is the complete traceability of products and partial products using serial numbers. These serial numbers are then packed both physically and digitally into so-called handling units (HUs), the properties of which – such as package size and content – are determined by packaging guidelines. In this way, the MES systems drastically reduce the risk of liability in the event of a product recall. Using production order data, unique labels with the product’s material number, consecutive serial number, and barcode are generated prior to the start of production and are attached to the product when the production process is commenced. The data required for this is determined via the MES–SAP interface from the SAP material master and the material master classification and transferred to the MES system. Over the course of the production process, all product features of the assemblies are attributed or determined using this barcode. *“This is carried out using a separate PC, our so-called HU PC. This PC controls all production lines, safeguards the production process, and also ensures that the serial numbers of the components for a production order are assigned to handling units,”* says Sciotto. The data is then transferred to the SAP system via an interface and combined with the box number of the packing unit in which the finished products will eventually be packed for delivery. In this way, all serialized semi-finished goods and end products can be traced continuously throughout the entire production process.



In quality assurance, it is possible to trace which preliminary product serial numbers were used in which end products and which containers they were packed in. Webasto follows the zero-defect principle. Only products which have clearly been classified by the MES system as being free from defects and reported back to the SAP system are allowed to leave Webasto's production halls. *"The transparency we achieve in this way means that we can use our local expertise in international networks when working with our customers and suppliers, minimize risks, and ensure high quality,"* explains Sciotto.

Modern IT Systems Provide Stable Network

The GENESIS project shows how the combination of rough planning and controlling of company resources on the one hand, with the detailed planning in production on the other, can give the company a strategic competitive edge. The newly created, integrated IT infrastructure puts Webasto in a position to be able to increase efficiency, productivity, and transparency within production, which in turn leads to improved stability and quality. By introducing a modern IT system landscape, the innovative company has strengthened its key role in the constantly changing global economy.

By integrating decentralized and powerful production control into the central SAP system, the automotive supplier has found an efficient solution that is completely in tune with the company's international focus. *"In this way we are able to keep our processes transparent, increase production margins, reduce costs, and react to changes in the market quickly and flexibly at any time,"* says Peter Domes, Project Manager for the GENESIS project at Webasto AG.

About Webasto AG

As a leading manufacturer of convertible, sunroof, and temperature management systems, Webasto stands for hands-on vehicle comfort. Its motto "feel the drive" is both a promise and a requirement at the same time. As a global supplier to the automotive industry, Webasto is an international market leader and is represented in 46 countries around the world by its own subsidiaries and through sales partners. The company's roots are in Germany, however: since 1908, the company's headquarters have been located in Stockdorf, south of Munich.

To this day, Stockdorf is the source of the creative solutions that have made Webasto one of the most innovative partners for automobile manufacturers. The company employs more than 6,000 workers worldwide and generated a turnover of 1.6 billion euros in the 2006 fiscal year.