

Process optimization thanks to "active closed-loop traceability"

High-end MES solution from iTAC Software AG in productive use by the automotive supplier Preh

Dernbach, 22 October 2007 – The automotive supplier Preh has chosen the standard MES software from iTAC Software AG (iTAC.MES.Suite) and now effectively meets the increasing quality standards demanded by automobile manufacturers for continuous traceability of production processes and product parts.

With the company's decision to begin manufacturing products which are used in safety-related areas of automobiles (controllers for chassis components), the use of an MES software product became a necessity.

"If a claim for damage is made for a vehicle, we must be able to demonstrate in the future that our products were produced fault-free in accordance with development specifications," explained Armin-Peter Six, Production Manager at Preh.

The expectations placed on the MES software were correspondingly high: The solution had to not only meet the requirements for accompanying the enterprise into new product segments, but – through active traceability – to also simultaneously increase the quality of all of the enterprise's products, enable better planning accuracy with faster delivery times and make production independent of human errors.

At the same time, an integrated, container-based material logistics system extending from the ERP system (SAP) to the system application was to be implemented in order to further optimize material stock management.

"It comes down to transparent processes, less scrap and more inspections – even extending to stopping the production line," said Six as he summarized the objectives.

Preh chose the standard MES software system from iTAC Software AG (iTAC.MES.Suite). The ERP system, SAP ERP, which has been used successfully for years, remained the primary system with regard to material

stock management and order administration. The systems already in place for automatically capturing machine and material data developed by diplan of Erlangen also remain the basis for continuous integration.

Standard integration of iTAC.MES.Suite with SAP's ERP, as well as the integration of the heterogeneous product landscape while ensuring 24/7 operation of the system, were the critical to Preh selecting iTAC.

An additional selection criteria was the ability to centrally host the solution. "The ability to use iTAC.MES.Suite independent of geographic location convinced us. Systems in other locations can be integrated without problem via Internet-based VPN connections. This is an aspect which is particularly interesting, especially with regard to a possible connection to our factories in Portugal and Mexico," continued Armin-Peter Six.

The integration of SAP's ERP with the iTAC.MES.Suite provides Preh with a continuous, standardized, "**closed-loop traceability**" solution, which allows every step of the production process to be inspected and maximum quality ensured.

(Abbreviated version)

Process interlocking thanks to active traceability

By interlocking the individual process and work steps, the iTAC.MES.Suite minimizes the production of faulty products.

A check is performed in each production step to determine whether the components specified by product development were deployed and whether the process parameters defined for production were adhered to. In the event of failures in a component or unit in the production process, the relevant unit is no longer processed but is instead directed to a defined escalation path (analysis-repair-retest or ejection of the unit). In this way, faulty states in the production process can be detected and rectified early and in real-time.

"It is process interlocking that makes the project so demanding," said Six.

The active traceability characterized by iTAC differs greatly from the conventional traceability method (passive traceability), which serve only to passively document production processes and installed material lots.

Six is pleased to have found a competent provider in this area, particularly as he knows that "most traceability systems offer no connection between the traceability of product parts and process steps, on the one hand, and process interruption on the other."

Material logistics enable better planning reliability

In order to be able to capture the actual use of material in the production sequence at any given point in time, iTAC, together with the system partner diplan*, has implemented its own material logistics solution. By means of system interfaces, this Material Logistics Service (MLS) captures the current consumption of raw materials as well as the consumption of additional materials and transfers this data in consolidated form via iTAC.MES.Suite to the SAP stock management system. This results in a considerable improvement in material and production planning; retrograde material removal in the ERP system is no longer necessary.

Thus, it is possible to follow in detail – from receiving through all production step steps to shipping – who processed which product (pre-product, semi-finished product, final product) when and on which machine and which materials were used.

This is made possible through bi-directional communication to the various production machines via standardized software functions (API service adapter) which have been integrated in the production machines, distributed control systems, inspection systems and PLCs.

Summary

Through the use of the iTAC.MES.Suite, it has been possible to succeed in making the production processes for Preh more transparent and thereby increase both productivity as well as considerably reduce the error rate.

"By introducing the iTAC.MES.Suite, we are able to meet the growing demands of the end customers as well as to highlight our reliability as a supplier. With traceability, we can increase the quality of our products and ensure that production is independent of human error. In doing so, we have also met the requirements for advancing the enterprise into new product segments," said Six.

Preh can is also well positioned to claim improvements in material logistics as well. Since the introduction of the MES-Suite, material stock deviations have been considerably reduced in SAP's ERP. This has led to a simultaneous reduction in administrative effort. The warehouse, equipped by diplan with the integrated material check points, provide the personnel with the required transparency and ensure the correctness of data.

"The improved management of material stock reduces stock requirements, because we always know the correct numbers and know the actual use of material, even for so-called "undos" in the SMD area," added Six. This enables a reduction in stock in store and an increase in the store turnover and, last but not least, means improved planning reliability.

* diplan GmbH (a leading manufacturer of software applications for SMT production)

(Long version)

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Preh

Preh is a globally active consortium with approximately 1900 employees in Germany, Portugal, France, Mexico and the USA. The company, founded in 1919, offers a broad range of products in the automotive, electronics and KeyTec sectors.

The Preh Group is focused on the development and production of innovative mechatronic solutions for renowned automobile manufacturers.

In the automotive sector, the product line contains driver control systems (e.g. climate control systems, switches for the steering wheel and cockpit, control systems for the center console and center stack), operating and display systems for utility vehicles (e.g. combi display instruments for tractors, control modules for lifting gear hydraulics), control devices (e.g. control devices for electronic fuel pumps etc.), position and comfort sensors (e.g. accelerator pedal sensor, rain sensor etc.).

In fiscal year 2006, Preh achieved revenue of 277.7 million EURO. Of this, 86% was earned in the automotive division and 14% in the electronics and KeyTec areas.

www.preh.de

iTAC Software AG

iTAC Software AG produces MES standard software (Manufacturing Execution System) and offers innovative solutions for discrete manufacturing.

With a focus on the automotive and automotive supply industries, electronics, medical technology and other high-tech industries, iTAC offers enterprises an intelligent and integrated software suite for safeguarding complex and multi-version production processes.

The iTAC.MES.Suite is an MES solution entirely based on Internet technologies (JAVA). It permits complete transparency of the production processes across an arbitrary number of production plants with both the required horizontal and vertical integration into the ERP/PPS and production level.

iTAC is headquartered in Germany, and branch offices are located in France, the U.S.A., and the People's Republic of China.

www.itacsoftware.de

diplan GmbH

diplan has been successfully developing and selling software applications for SMT production for more than 18 years. Providing customers from the electronics industry with competent advice is an important component of the enterprise. Some thirty experienced engineers, technicians and computer scientists are fully committed to the development and support of high-performance software for electronics manufacturing. diplan has maintained a branch office in Singapore since 1999 and is represented on the American market by the company OAS Inc. Two branches in Shanghai and Shenzhen serve the Chinese market.

www.diplan.de