Efficient Production Control Leverages Big Data with Seamlessly Embedded Analytics for Manufacturing Intelligence

With its Enterprise Manufacturing Execution System (iTAC.MES.Suite), iTAC Software bridges the gap between planning and production. Through continuous control and monitoring as well as active traceability, the solution helps to increase production quality and efficiency. With cloud capability, among others, iTAC.MES.Suite is designed to meet the requirements of Industry 4.0, an initiative by the German government.

Challenges

To offer its customers the greatest possible transparency and decision-making capability for production control, and to meet growing demands related to the Internet of Things (IoT), iTAC wanted to integrate Business Intelligence (BI) and analytics software into iTAC.MES.Suite. Doing so would support customer demands for manufacturing intelligence, quality control and traceability.

“Transparency is the key to success in manufacturing, therefore powerful MES KPI reporting is essential. Fitting seamlessly into our MES solution, this provides our customers a familiar environment, with dependable information for all production requirements.”

Peter Bollinger, Chief Executive Officer (CEO), iTAC

The BI and analytics software needed to handle enormous amounts of data, while being visually appealing and easy to use. In addition to rapid, effective implementation and seamless integration, iTAC required individual customization of reports, analysis and dashboards with full interactivity and security. All these needed to be web based, offer transparent personalization for various applications, and be available through different channels.

Solution

iTAC.MES.Suite provides holistic, decision-relevant information for integrated production management by drawing data from many sources. To add BI and analytics with interactive reports and dashboards to its products for MES
specialists, iTAC chose the unified architecture of BIRT iHub from Actuate. The extensive and efficient BIRT iHub infrastructure is seamlessly embedded in the iTAC.ARTES middleware, the technology framework of iTAC.MES.Suite.

Actuate BIRT provides visualization and analysis of KPIs for production optimization, quality assurance and monitoring of machines, enabling easy traceability of all components. Reports and dashboards are server-based, and can be distributed in different formats such as HTML, PDF, Excel, Word, PowerPoint or Postscript while retaining all functions and predefined rights. Online availability of all production-relevant KPIs – such as capacity utilization, waiting times, throughput, machine availability, failure rate and product yield – is guaranteed.

Thus, iTAC MES.Suite, using BIRT for BI and analytics, ensures transparency in metrics management and supports product lifecycle management, budget control and quality assurance, as well as field activity management.

Benefits

Secure integration and analysis of data
With BIRT’s Big Data capabilities, iTAC.MES.Suite clients can access and analyze large amounts of data centrally, with extensible support for future expansion. iTAC.MES. Suite can also standardize, merge and analyze KPIs from different manufacturing plants, offering the ability to compare information across time periods and locations as needed – all with stringent, role-based security.

Enhanced reporting and customization
The capacity for iTAC clients to create individual, customized reports with personalized branding allows iTAC.MES.Suite to present information in a visually appealing, user-friendly way. Clients can develop appropriate metrics (such as control level, production, etc.) to identify areas for potential optimization, increased production efficiency, cost reduction and quality assurance.

“With Actuate BIRT, we can produce attractive, compelling visualizations in no time from application data. Just as quickly and easily, the BIRT iHub platform can be integrated in any IT architecture and takes on the branding and security model of the main application. Real-time data are at last available and are ESSENTIAL for every manufacturing company today.”

Dieter Meuser, Chief Technology Officer (CTO), iTAC

Support for the Internet of Things
BIRT supports the IoT capabilities of iTAC.MES.Suite, enhancing its mobility, online availability and cloud functionality. This helps manufacturing companies prepare for the German government’s Industry 4.0 initiative, dedicated to creating smart factories through
computerization, resource efficiency and other technological advances. By doing so, iTAC builds long-term, sustainable competitive advantage for itself as well as its customers.

**About iTAC**

Since its founding in 1998, iTAC Software AG (Internet Technologies and Consulting) has been a specialist in providing internet technologies for the manufacturing industry. Implementing the “internet of things and services” has been at the heart of the company’s strategic direction right from the beginning. The manufacturer of standard software and products for cross-company IT applications is a leading system and solutions provider of Manufacturing Execution Systems (MES) for the entire supply chain.

The company develops, integrates and maintains its cloud-based iTAC.MES.Suite for manufacturing companies all over the world. As a specialist in highly available, scalable and future-proof infrastructure solutions – based on the Java EE technology platform – iTAC aims to set standards and to guarantee reliable IT-supported business processes.

iTAC Software AG has two locations in Germany with its headquarters in Montabaur as well as a branch in the USA and a global partner network in China, Mexico and Russia. Its customer base includes renowned companies from many different industries including automotive, electronics/EMS/TC, medical technology, metallurgy and pipeline sectors.