

Alps Alpine innovates production control with iTAC



Electronics
Case Study

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Supplier masters challenges in the automotive industry with machine integration platform.

The automotive industry is under massive pressure due to structural and technological upheaval as well as economic challenges. Media reports are increasingly reporting recalls and, in response, quality offensives by leading carmakers with regard to their suppliers. Precise production control is essential. Alps Alpine is positioning itself for the future by implementing the MES/MOM solution from iTAC Software AG. A key component is the machine integration platform iTAC.SMT. Edge, which is used to collect, link and analyze data.



Perfecting the Art of Electronics

Products of Components,
Sensors & Communications,
Modules and Systems

The automotive supplier Alps Alpine originally used a solution designed for basic traceability with process interlocking. However, as the demands of the automotive industry increased, particularly in the area of quality control and production management, this solution was no longer sufficient. “We lacked quick access to all relevant manufacturing data. To meet the increasing expectations of the OEMs, we had to find a solution that provided a holistic overview and instant data availability, so that we could respond immediately to process and quality issues”, explains Ákos Varga, Senior Manager at Alps Alpine.

The iTAC.MOM.Suite closed the gap – a comprehensive manufacturing management system that covers all requirements, including production and quality management, traceability and control of production processes in real time. 1,700 devices are now connected to the solution at Alps Alpine – from SMT to final assembly.

186
locations

23
countries

28,693
employees

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Standardization and centralization of data for better analysis

A central component of the new solution is the iTAC.SMT.Edge. In SMT production, there are machines and systems from different vendors and of different ages that use various communication methods. This makes data transfer and analysis difficult. iTAC.SMT.Edge makes it possible to network machines and systems from different manufacturers bidirectionally. The data is merged on the shop floor using a machine integration platform based on an edge solution and distributed to the higher-level company systems such as the MES/MOM via a direct interface.

Edge technology provides a simple way to collect, link and analyze data from all SMT machines in real time.

This makes it possible to compare important key figures such as cycle times and productivity not only within a plant, but also across several locations. “For us, machine integration is an important lever for increasing efficiency and automation in production processes through comprehensive networking. The standardization and centralization of data is crucial for a comprehensive analysis, as it ensures the consistency and comparability of data”, says Ákos Varga.

The first test system using the iTAC.SMT.Edge started at Alps Alpine in Hungary in 2016. After successful testing, the solution was also rolled out at other locations such as Mexico, China and Japan.

Immediately identify errors – the effort required is reduced from days to minutes

iTAC.SMT.Edge, as a central component of the iTAC.MOM.Suite used at Alps Alpine, enables a high level of data availability, among other things. The availability of real-time data is particularly appreciated and represents a major advance in the traceability of parts and components within the company.

This direct data availability has enormous advantages. In the event of internal quality problems, the corresponding serial number can be traced immediately and the problem precisely identified. This simplifies and accelerates the search for errors considerably.

This form of traceability is also very important for OEMs. “In the event of complaints, the affected component must be found as quickly as possible – regardless of whether it is still in storage or has already been installed in a vehicle. Thanks to the iTAC solution, the time required for such investigations has been significantly reduced. What used to take days can now be determined within a few minutes”, says Ákos Varga.



“With the previous system, tracking data was very difficult and time-consuming. Now we have instant access to all the relevant information”, explains Ákos Varga.

Ákos Varga, Senior Manager at Alps Alpine



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Future outlook: further automation and predictive maintenance

With the iTAC.MES.Suite, Alps Alpine has laid the foundation for future automation. Planned expansions in the areas of data analytics, predictive maintenance and anomaly detection show that automation is becoming increasingly important in order to counter the shortage of skilled workers and make production processes more resilient and efficient.

„We are striving for production in which machines independently detect problems and provide early warning of failures. Further development in the direction of more automated production secures the company’s competitiveness in the long term”.

Ákos Varga, Senior Manager at Alps Alpine



The iTAC solution used at Alps Alpine is to be successively expanded. Another tool that could be integrated at the automotive supplier in the near future is iTAC.Asset.Analyzer for final assembly. The dashboarding tool offers a centralized platform on which all information from machines and systems can be consolidated. The correlation engine provides real-time information on how different machines and processes influence each other and production performance. To this end, data is correlated and analyzed across processes, machines, locations and departments. With this expansion, the company aims to delve even deeper into the analysis of machine data and develop predictive maintenance strategies to prevent production downtime.

“With the introduction of the MES/MOM solution iTAC.MOM.Suite and the iTAC.SMT.Edge solution, we were able to network our machines across generations and now use real-time data to optimize production control. As a result, we have drastically reduced response times in the event of quality problems and created the basis for more automation such as predictive maintenance. We are now more efficient, more resilient and future-proof – crucial characteristics in the changing automotive industry”, summarizes Ákos Varga.





iTAC Software AG, an independent company of the mechanical and plant engineering group Dürr, provides Internet-enabled information and communication technologies for the manufacturing industry.

Founded in 1998, the company is one of the leading MES/MOM providers in Germany.

The iTAC.MOM.Suite is a holistic Manufacturing Operations Management that is used worldwide by companies in different industry sectors such as automotive, electronics/EMS, telecommunication, medical engineering, metal casting and energy. Additional services and solutions for implementing IIoT and Industry 4.0 requirements complete the portfolio.

iTAC Software AG is headquartered in Montabaur, Germany and has subsidiaries and a partner network for sales and service worldwide.

Our philosophy is to connect people, data and systems.

iTAC Software AG

Aubachstr. 24
56410 Montabaur
Germany

Phone: +49 2602 1065 0
E-Mail: info@itacsoftware.com

itacsoftware.com



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