

Orchestration of agile production for operational efficiency

This topic refers to the coordination and management of various processes and teams in an agile production environment to achieve maximum productivity and efficiency which can include the use of tools and technologies to streamline and automate processes. The goal is to create a cohesive and efficient workflow that allows for flexibility and adaptability in response to changing business needs. Additionally, monitoring and analyzing performance metrics can help identify areas for improvement and make adjustments as needed. Overall, orchestration of agile production for operational efficiency requires a balance of processes and human coordination to achieve the best results.

Manufacturing Execution Systems (MES) are software systems designed to manage and optimize production processes in real time. Typically, they ensure process control and monitoring, equipment and resource management, data collection and analysis as well as a high degree of integration into other systems like Enterprise Resource Planning (ERP). Systems providing MES functionality, like Plant iT, can provide a wide range of benefits to manufacturing organizations, such as integrating data from various production processes, gaining insights into operations, enabling production managers identify bottlenecks, optimizing resources and making just-in-time, data-driven decisions.

When it comes to agile production, demanding customer requirements, short product life cycles and an ever-increasing number of variants are some of the challenges. Companies that can adapt quickly have a clear advantage. Therefore, agile production can be achieved through scalable and modular production components, so called Process Equipment Assemblies (PEAs), which can be universally configured via Module Type Packages (MTPs) or other plug & produce standards.

Nevertheless, techniques without orchestration will not work in an optimized way. ProLeiT's Batch Orchestration System (based on Plant Batch iT) represents a Process Orchestration Layer (POL). It provides real-time insights, clear, reliable and efficient orchestration of various modules, operator guidance for manual tasks and just-in-time decisions, independent of the underlying control architecture and vendor-specific implementation.

The presentation is intended to demonstrate what is already achievable with a fully integrated orchestration layer for the coatings and paint industry:

- Reliable performance indicators
- Production efficiency and accuracy
- Quality
- Cost effectiveness
- Waste reduction
- Sustainability