Success Story
Factory Automation

Kontron AIS GmbH

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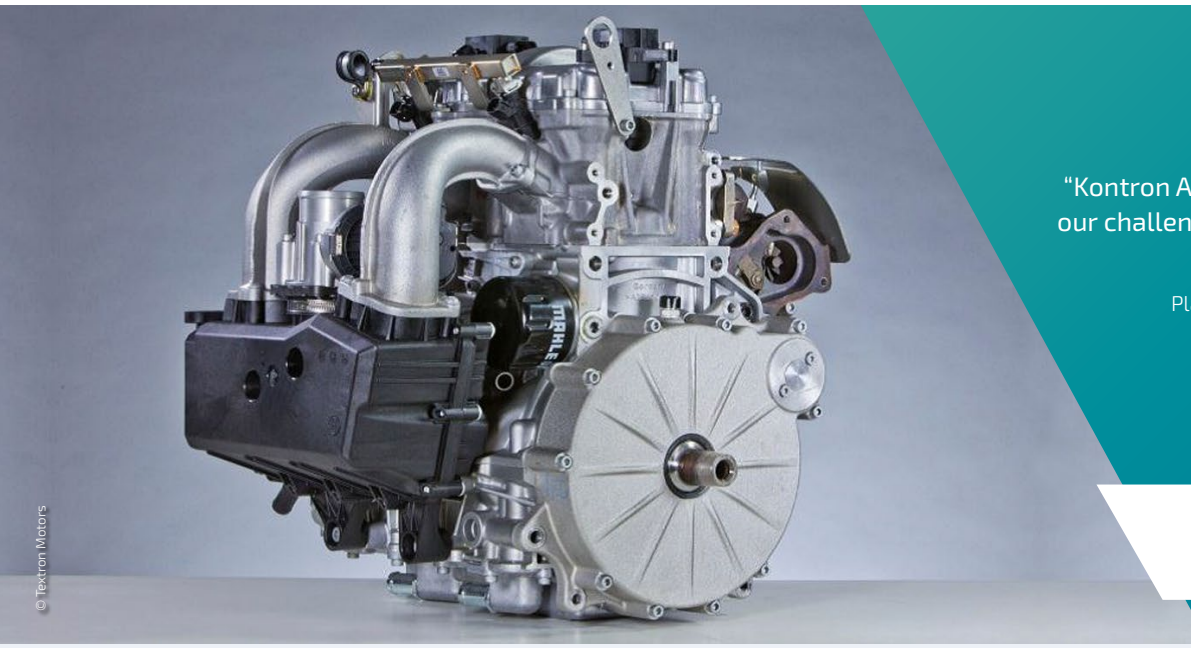
The Power of IoT

FabEagle®LC Line Controller for Combustion Engine Production at Textron Motors GmbH



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"Kontron AIS helped us to achieve our challenging production goals."

Sebastian Grassow,
Plant Manager, Textron Motors

TEXTRON MOTORS

FabEagle®LC

Textron Motors
Bernau, Germany

Platform:
FabEagle®LC line controller software with standardized Siemens PLC connector from Kontron AIS, SAP interface

Project:
Implementing line controller software for an automated transport system, optimizing PLC programs

Kontron AIS services:
Consulting, .NET development, PLC development, commissioning and support

Goals

- Replace the existing line controller software
- Optimization of existing S7 PLC programs
- Enhance throughput and support continuous high volume production

Challenge

- Rollout of the new software for line controller and PLC
- Implementation of a complex iDocs based SAP interface

Results

- 60 % reduction of downtime
- 70 % enhancement of production output
- Reduction of complexity in SAP configuration

Goals

Textron Specialized Vehicles acquired an assembly line for 2-cylinder engines from Weber Motors. The line consists of semi-automated manual work stations with PLC-controlled tools e. g. for screw tighening and oiling. Additionaly, two KUKA robots are handling the engines through several automated assembly and quality control stations. All stations are connected by an automated transport system which is controlled by Kontron AIS line controller software.

Kontron AIS was asked to replace the existing line controller software to make Textron independent from the support of the former line controller supplier, enhance throughput and support a continuous high yield for the production. In addition, the FabEagle®LC was supposed to provide a higher degree of configuration flexibility to make process flow changes easier. An interface to SAP's ERP system was required to exchange work plans with attached bill of materials (BOMs) and post consumption of parts and output of final products to SAP.

After review of the existing concepts and implementations, it was decided to also rework and enhance the tool automation software to gather more robust communication, faster transport and higher maintainability.

Solution

The introduced line controller FabEagle®LC automatically collects reliable process, performance and material related data online from the production tools without additional work load for the line operators. It provides an easily accessible data archive and management reporting to managers as well as process engineers.

The process flow is fully integrated and controlled by FabEagle®LC. All work steps for automatic and manual workstation are freely configurable. The customer can create complex work steps and help operators with work instruction and animations. Manual process steps are supported to track feeding parts by scanning and manual data input.

Transport planning was previously done by the line controller which resulted in unnecessary communication and unexpected transport behavior. The logic was transferred into the PLCs, the line controller transport logic could be simplified to macro commands. The exchange of single transport section states between PLC and line controller became obsolete. As a result the transport runs now smoothly and reliably.

Production progress messages automatically update SAP with consumed parts and assembled products. This results in a fully automated and vertically integrated production IT environment with full transparency and flexibility.

All FabEagle®LC software features were thoroughly tested in a sophisticated simulation prior to rollout to support a quick changeover and migration with a minimum of production interference and downtime.

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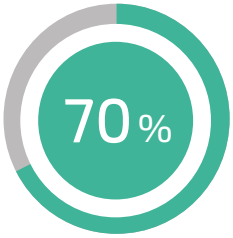
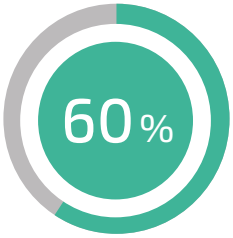
Benefits and results

- Reduction of production line downtime by 60 % adding transparency (line errors, data interfaces, PLC procedures) and stabilize IT environment including interfaces.



Enhancement of production output



Reduction of production downtime

- Enhancement of production output by more than 70 % due to full process control, optimization of process flow and increased transparency with data collection and visualization features in FabEagle®LC.
- Reduced SAP administration effort by automated provision of complete and transparent consumption data by the FabEagle®LC.
- Easy access and automated creation of management reports and data analysis to facilitate daily work of engineers and shift leaders enabled by the sophisticated reporting engine included in FabEagle®LC.

About Textron Motors

Textron Inc., headquartered in Providence, RI, is a multi-industry company with a yearly turnover of more then $13.9B. Textron employs more than 36,000 people in 25 countries and is ranked 228 in the Fortune 500 ranking (2014). Textron Specialized Vehicles is part of Textron Inc., and builds products in five value streams, Golf vehicles, Vehicles for Ground Support and Equipment, Consumer, Aftermarket and Commercial. Essential business of Textron Specialized Vehicles is the production of vehicles and equipment based on their own 2 cylinder base engine manufactured in Bernau near Berlin. The production plant in Bernau was acquired 2014 from Weber Motors and runs a 2 shift production of engines for Marine, Snow vehicles, Industrial and UTV.

For more information please visit: **www.textronmotors.com**

About Kontron AIS GmbH

We set the benchmark in industrial software – for more than 30 years and with an experienced team of over 200 employees. Our proven software products and customized digitalization solutions enable machine and equipment builders as well as factory operators to break new ground in automation and secure long-term competitive advantages. Together with our customers we implement worldwide cross-industry, intelligent digitalization strategies and solutions for the smart manufacturing of tomorrow.

As a subsidiary of the Kontron AG, we offer integrated, end-to-end IoT concepts consisting of hardware and software as well as worldwide project management, service, and support thanks to a global network.

For more informationen please visit: **www.kontron-ais.com**