FASTEC
Software for Production

We digitalize factories

User Report

Linamar Corporation

LINAMAR
Power to Perform

Linamar Corporation

Digital Data Acquisition Ensures Quality

Linamar is Canada's second largest automotive supplier. The company develops solutions that power the future of vehicles, motion, work and life by combining leading-edge technology and deep manufacturing expertise. Linamar consists of two operating segments – the Industrial segment and the Mobility segment, both leading global providers of manufacturing solutions.

The company is characterised by customer diversity in the automotive sector as well as diversity of parts. The latter includes engines, transmissions, but also small parts such as camshafts.

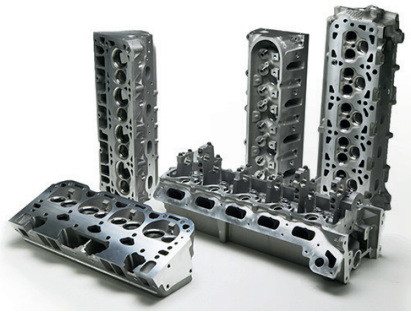
The Manufacturing Execution System (MES) FASTEC 4 PRO is now used to digitally record data in three of Linamar's German plants.

These include Linamar Antriebstechnik GmbH (LAT) and Linamar Powertrain GmbH (LPT) in Crimmitschau and Linamar Motorkomponenten GmbH (LMK) in Reinsdorf.

All plants use the same version of FASTEC 4 PRO and the same setup, i.e. the same software functions, and can therefore share the costs for the implementation of topic-specific processes.

FASTEC 4 PRO plays an important role in quality assurance at Linamar through process locking. The company also benefits from time savings and cost reductions thanks to digital data acquisition.

Learn more: www.linamar.com



FASTEC 4 PRO Supports Quality Assurance

Initial Situation

FASTEC 4 PRO has been in use at Linamar since 2012. Today, three plants use the MES – primarily in the areas of grinding, milling and, in some cases, assembly. In production, there are both interlinked processes and individual work centres.

Before using FASTEC's software, the company worked with a self-built system as well as manually with Excel files during the transition period. With the introduction of FASTEC 4 PRO, Linamar pursued the goal of ensuring individual part traceability. Automotive suppliers are subject to strict specifications from their customers. Linamar must fulfil the requirements for product traceability.

With FASTEC 4 PRO and the included Traceability module, the company fulfils these requirements.

"When the software was introduced, the staff really only had advantages: Everything was digital and there was no more paperwork. They still enjoy working with FASTEC 4 PRO today. There are points of friction due to adjustments and modifications, but in the end the employees were impressed by the result."

Max Koch
Intermediate System Administrator at Linamar

FASTEC 4 PRO is Easily Integrated

Among other things, Linamar uses the MES to eliminate piles of paper, to ensure digital processes and to interact more easily. When selecting a provider, it was not only the costs that played a decisive role, it was also important to the company that its own processes did not have to be adapted to the new system. FASTEC 4 PRO impressed on both accounts, as the software can be easily integrated into existing systems.

Initially, Linamar used FASTEC 4 PRO exclusively for tracking individual parts. This meant that the parts produced could be traced through the line. As the project progressed, other areas of application were added. The company's requirements for the software ultimately grew with its continuous use.

"The biggest advantage of working with FASTEC is that the software could be customised to our processes. We also have dedicated contact partners who are very competent."

Erik Fritzlar
IT-Manager at Linamar

Fulfilment of Strict Requirements

Solution

Our Software:

Flexible, Modular, Individually Adaptable

The modular software solution FASTEC 4 PRO supports the optimization of your entire production.

It improves production planning, creates more transparency and regulated processes, provides KPIs, analyses and reports – regardless of industry and flexibly adaptable even to special production processes.

Based on the basic module, the six main modules can be combined according to individual requirements and supplemented by various additional functions. The individual modules access a joint and standardized database.

As a result, consistent data is available at all times – there are no additional interfaces between the modules and no redundant double data storage.

Implementation:

Modules used:
- Machine Data Acquisition (MDA)
- Production Data Acquisition (PDA)
- Traceability (TRC)

Additional Functions used:
- Process Data
- Alerts (e.g. via telephone)
- Automatic Report Dispatch
- Monitoring
- Production Logistics
- Report and Label Designer
- Andon Board

Special Programming:
- Connection to the ERP system (IFS): Booking of stocks on the basis of TRC data
- Group QA process
- Goods receipt process
- Goods issue process (incl. delivery note printing)

Interfaces:
- S7 and TIA/Siemens
- TIA Portal Openness API
- SOAP services and REST API
- Q-DAS import and export
- Special interfaces to systems, master computers from various manufacturers

FASTEC 4 PRO Successfully Adapted to Processes

Successful Implementation Serves as a Role Model

Process locking plays a central role when working with FASTEC 4 PRO. This means that no component can run the wrong way through production. Errors are detected directly in the process. This is made possible via the production control system with the Production data acquisition (PDA) module.

As soon as a part is scanned at a machine, a query is sent to the database: If the part is correct, it can be processed further. If it is incorrect, the process is stopped. The company knows at all times which part is running on which machine, at what time and with which measured values. The use of the software also means that Linamar meets important automotive certifications and customer requirements for product traceability. Each finished part leaves the factory with a Data Matrix Code (DMC) and machine data is stored after each operation. A major task in the project was to bring all three plants up to the same software level. The implementation was first carried out at LPT and was then rolled out to the other plants. Machine Data Acquisition (MDA) for machine tools at Linamar posed a particular challenge.

The control system of these plants is usually not heterogeneous, which makes binding very complex and causes high costs. FASTEC has succeeded in finding a solution at LPT that can now be transferred to the other plants. Together with Linamar, a uniform data module was defined for a coupling PLC in order to tap standardized machine signals for OEE recording. The successful implementation serves as a model for future projects. The special thing about the project with Linamar is that the employees can still do a lot themselves, even when using FASTEC 4 PRO. This was a decisive factor in the partner selection process. This applies to the replacement and binding of machines as well as the configuration of the software.

At Linamar, the entire intralogistics, i.e. production warehouse management, runs via FASTEC 4 PRO. The company also uses the software for data management, recording product data and CVs for finished parts, as well as for controlling production, revision, logistics and shipping.

"It's great that we can configure a lot in the software. Not every little thing has to be adapted by FASTEC

"It's great that FASTEC offers so much variety that you're not forced to use a specific interface. You can take a flexible approach to individual machines or even individual projects. That's a huge advantage."

Max Koch
Intermediate System Administrator at Linamar

FASTEC 4 PRO Enables Flexibility and Variety

Results

The FASTEC 4 PRO MES plays an important role in quality assurance at Linamar through process locking.
The company also benefits from time savings and more precise delimitation when re-sorting, a reduction in costs, the visualization of piece count output, expandable functionalities through scan commands and process optimizations.

The MDA is a great advantage in the engineering process, as it allows machine failures to be traced.

The number of **individual part data records** (finished parts including intermediate products) from the individual plants that have already been recorded with FASTEC 4 PRO shows just how important individual part traceability is at Linamar:

LAT*: around 11 million

LMK*: around 29 million

LPT*: around 120 million

Individual part data records

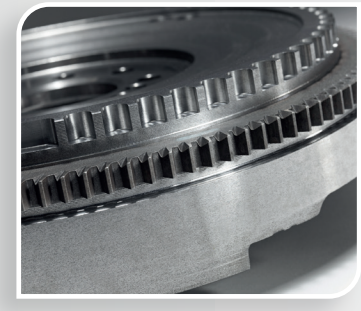
The **quantity of work centers** where FASTEC 4 PRO is used speaks for itself as well:

LAT: 405 (MDA: 98)

LMK: 300

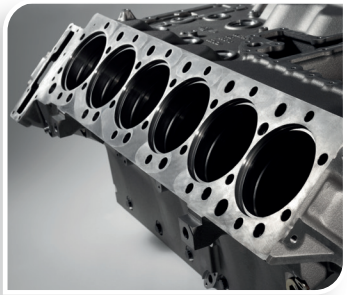
LPT: 397 (MDA: 172)

Work centers



"The performance of FASTEC is convincing. We also use various software for other areas. When we compare them with FASTEC 4 PRO, the difference is obvious. There, not nearly as much data is imported, yet it takes up to 20 times longer, and reporting also takes an extremely long time. With FASTEC, this is a lot faster."

Max Koch
Intermediate System Administrator at Linamar



Fewer Material Losses and Revenue Increase

*LAT: Linamar Antriebstechnik GmbH, LMK: Linamar Motorkomponenten GmbH, LPT: Linamar Powertrain GmbH

Results

" We find bottle necks. We find optimization potential in the lines.
That helps and supports us.
By using the software, there is less material waste and an increase in revenue."

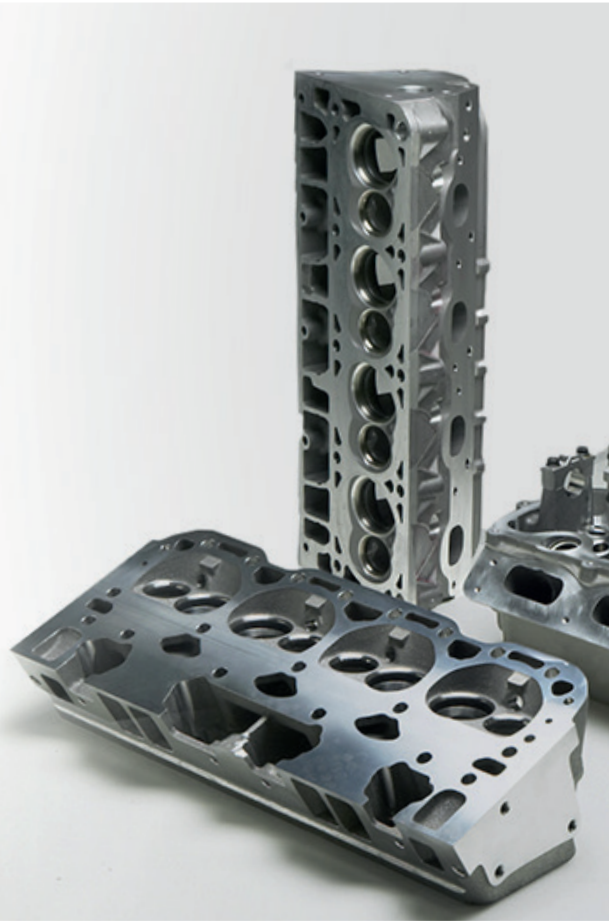
Steven Assmann
Project Manager FASTEC / IT Software Engineer at Linamar

" FASTEC is a very good tool for our employees."

Erik Fritzlar
IT-Manager at Linamar

"From an administration and backend perspective, we are also very satisfied with FASTEC 4 PRO. It is user-friendly."

Max Koch
Intermediate System Administrator at Linamar



Traceability From the Ring Gear to Gearbox

Outlook and Recommendation

In the future, Linamar plans to continuously develop the use of the MES FASTEC 4 PRO. Monthly coordination meetings are held with FASTEC, in which all three plants provide feedback. The company finds these meetings very helpful and important for successful cooperation. Urgent requirements are implemented directly together with FASTEC. For the future, Linamar plans to make even more intensive use of the collection of process data. The company also sees significant potential for improvement in the introduction of the Maintenance module in terms of effectiveness and planned maintenance.

"FASTEC has so far been able to meet all our requirements. It can be easily adapted to our existing processes. I am sure that this will continue to work well."

Steven Assmann
Project Manager FASTEC / IT Software Engineer at Linamar

Linamar's experience with the FASTEC 4 YOU user network, which offers regular customer meetings and opportunities for exchange and feedback, was very positive. After the company made an entry in the network's online platform, the FASTEC team implemented the improvement suggestion in the software. The company also uses FASTEC 4 YOU to gather information and learn from other approaches.

For companies wishing to introduce an MES into their production, Linamar recommends:

" In the planning phase, everyone who has to work with the data should be involved. Be it production, the development department, quality assurance or logistics. It is crucial that they are informed and can share their requirements."

Max Koch
Intermediate System Administrator atLinamar

"It is important that companies set clear requirements for their own products and take into account which machines and technologies are available. Otherwise, everyone should not lose patience with the introduction. You have to hold on for a successful implementation."

Erik Fritzlar
IT-Manager at Linamar

Active Participation in Shaping FASTEC 4 PRO

Why Not Get to Know Us Personally?

Production companies must produce on time, in a traceable, flexible and customer-specific manner, while ensuring consistently high quality. Achieving these goals requires transparency through real-time information, good planning and quick and adequate reactions to deviations. Our Manufacturing Execution System (MES) FASTEC 4 PRO is the right tool for this purpose. With great success since 1995.

With FASTEC 4 PRO, you gain the necessary level of transparency in all areas of production in real time, enabling you to discover previously unused potential for increasing productivity and optimizing processes.
Thanks to targeted planning, you can also respond to short-term requirements from sales and efficiently design production processes – traceable and documented.

We would also like to give you a good advice personally!

Our sales department will be happy to provide you with further user reports and information material! Or else, make an appointment with our sales department for a presentation at your location, in our company or via web. Of course, you can also experience FASTEC 4 PRO live and on site with our customers.
vertrieb@fastec.de or by phone at: +49 5251 1647-0

Additionally, we offer videos of our software and customer solutions in our YouTube channel:
www.youtube.com/FASTECGmbH

FASTEC 4 PRO

- Get transparent data in real time
- Reduce production costs
- Detect and eliminate weak points
- Develop high productivity potentials
- Benefit from the continuous flow of information
- Use available resources efficiently

As a data hub, FASTEC 4 PRO is essential on the way to the Smart Factory.

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