FASTEC
Software for Production

We digitalize factories

User Report
NORMBAU GmbH

NORMBAU
PASSION FOR CARE

Content

NORMBAU – Digitalization as a Journey

Since it was founded in 1954, NORMBAU has developed from a family business to a manufacturer and global provider of high-quality, barrier-free and sanitary equipment series, construction fittings and electronic access control systems. Since December 2013 the company has been part of the Allegion Group.

At NORMBAU, people and their needs are at the center of product development. The company offers suitable series for every living environment – at home, in clinics and nursing homes, for age-appropriate housing complexes, for the hotel industry, restaurants and public areas. The developers work with passion on products that are functionally and aesthetically convincing. The highest quality and the pursuit of a perfect product are indispensable preconditions for this. Numerous design awards confirm the company on this path.

From Renchen, at the foot of the Black Forest, the products travel to places all over the world – from the Villingen-Schwenningen Clinic to the Hong Kong Disney Park and the San Francisco 49ers football team.

Challenges at NORMBAU

Initial Situation

Manual data acquisition and evaluation resulted in an extremely time-consuming effort at NORMBAU.

Production control needed five to seven days a month to evaluate relevant data from production, which was used for a 30-minute meeting. The staff recorded rejects with tally sheets and only estimated the quantity of rejects on fully automatic machines. These manually recorded or estimated rejects were entered together with shift reports in Excel and evaluated by quality assurance. The evaluations were the basis for quality key figures. In 2008, the requirement for the regular calculation of the OEE key figure (Overall Equipment Effectiveness) arose. Due to the manual data acquisition at NORMBAU, this was a very time-consuming calculation that involved a lot of "paperwork."

Station 1: Digital Data Acquisition

The search for a suitable software and hardware solution for digital data acquisition and automatic calculation of the OEE key figure began quickly. In 2009, NORMBAU started a test phase with the easyOEE solution from FASTEC. On one of the most important machines in production at the time, the OEE and the reasons for downtime were determined. Six months later, they were still very satisfied with the recorded data and therefore wanted to expand digital data recording to all other machines at NORMBAU. When selecting a provider, the company also considered another possible software solution besides FASTEC. For this reason, both the modular standard software solution FASTEC 4 PRO and the solution of a competitor were tested at different locations. FASTEC prevailed over the competitor.

Above all, the extensive flexibility and modularity of the software as well as the evaluations in real time were decisive arguments. The decision in favor of FASTEC was made at a meeting in Italy, after which NORMBAU's entire plastic injection molding plant was equipped with our MES FASTEC 4 PRO in March 2011.

Station by Station to Digital Production

FASTEC 4 PRO

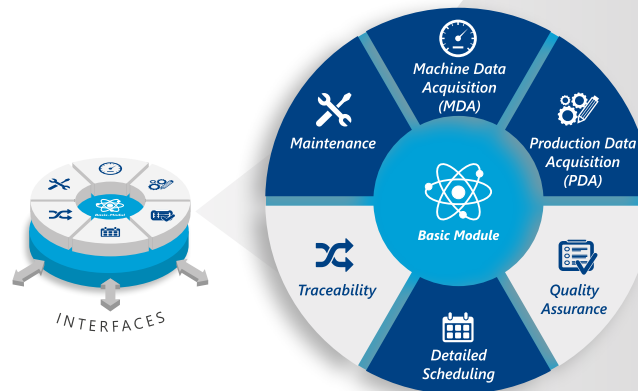# Solution

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 there is no redundant double data storage.

INTERFACES

Maintenance

Machine Data Acquisition (MDA)

Production Data Acquisition (PDA)

Basic Module

Traceability
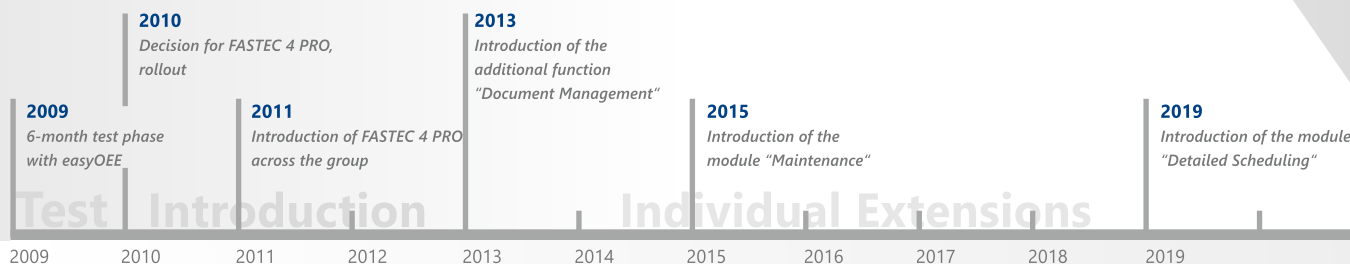
Quality Assurance

Detailed Scheduling

Individual Implementation:

Used modules and additional functions:
- MDA
- PDA
- Maintenance
- Detailed Scheduling
- Alerting
- Monitoring
- Document Display
- Personnel Scheduling

At the beginning of the MES implementation, orders were still registered manually, but this proved to be very time-consuming and error-prone. Therefore, the company quickly switched to automatic order registration. Barcodes generated from the ERP system can now be scanned at the terminal or the machine.

The View Client of the additional function Monitoring is also in use. The current production status is clearly displayed on large screens in production at all times. In particular, workstations, articles, target and actual quantities, OEE, current progress, quality in percent and the current status are displayed. In order to have an overview of the entire production, an automatic page flipping is integrated.

2010
Decision for FASTEC 4 PRO, rollout

2013
Introduction of the additional function "Document Management"

2009
6-month test phase with easyOEE

2011
Introduction of FASTEC 4 PRO across the group

2015
Introduction of the module "Maintenance"

2019
Introduction of the module "Detailed Scheduling"

Test   Introduction   Individual Extensions

2009   2010   2011   2012   2013   2014   2015   2016   2017   2018   2019

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With Digital Data to Efficient Processes

- **Station 2: DOC – Document Management 2013**

So far, NORMBAU has manually maintained 1,500 order folders for 1,600 different articles – a high personnel and time effort that was cost-intensive, inflexible and confusing.

All documents contained were digitalized with FASTEC 4 PRO and new content can be entered directly into the database. Furthermore, all required production documents are order-related and directly available at the terminal. The access depth can be configured flexibly and thus either everything, only the current order/article or the current working operation can be displayed. The access level can be configured flexibly and thus either everything, only the current order/article or the current work operation can be displayed.

In addition, work and test instructions, photos, drawings, etc. relating to the order and working operation can be accessed digitally at any time. This saves a tremendous amount of time that could be spent searching for misplaced papers or outdated, illegible drawings. Furthermore, NORMBAU now benefits from increased flexibility through faster provision of information.

*"Manual data acquisition and evaluation has long been outdated and we are glad to have made an early start on digitalized production. You can always start small somewhere and gradually work the entire way.
In my opinion, there is no other way nowadays than to use digital systems like FASTEC 4 PRO for production optimization. Otherwise, a company would easily fall behind its competitors.
FASTEC is the ideal partner for this path."*

Harry Mauch
Industrial Engineering Manager, NORMBAU

- **Station 3: Module Maintenance 20155**

In the past, the shift supervisor also documented occurring faults manually. The maintenance engineer recorded these locally in a document – including error description, cause of error and measures to be taken.

To make this process more efficient, the MES at NORMBAU was to be expanded to include the module Maintenance. At the beginning of the project, a requirement specification with central requirements was defined. Maintenance proposals, plans and orders should be recorded and managed centrally. In addition, it should be possible to plan maintenance for machines, injection molds and peripherals with specially created working operations.

The evaluations of maintenance for each machine has been recorded and documented using various KPIs since the maintenance module was introduced. In particular, the number of repairs per workstation for one year and the total duration of repairs are recorded monthly and annually.

All Information Available in Real Time

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FASTEC 4 PRO

Optimized Planning as the Key to Success

● **Station 4: Detailed Scheduling 2019**

Before the planning was integrated in FASTEC 4 PRO, a molding injection order was created and printed out by the production control in the ERP, sorted into the production folder and the article was scheduled on the planning board with the help of the production folder. Production control passed the folder on to the plastic injection molding at the scheduled time. There, the team manager arranged the respective planned document in the corresponding field according to the specifications from production control. When a machine was finished with the current order, the setter removed the plan document, sorted it back into the production folder and filed the order. The order remained on the machine until a follow-up order was available. In order to keep track of which tool was currently on the machine, the production folder was resorted when a tool was changed. At that time, all of these work steps were still carried out manually. NORMBAU then defined a requirement specification for the detailed scheduling with

FASTEC 4 PRO. The goals were reduced planning effort, more transparency, a reduction in the number of set-up operations due to color and tool changes, the elimination of analog planning boards, and the capacitive consideration of planning and operating resources.

The challenges of the project consisted of the high level of complexity due to quantities of 10 to 20,000 per production order with 10,600 different articles in eleven colors, as well as a large number of tools with one or two parts, partly they can be produced together, partly only individually.

Thanks to FASTEC 4 PRO, since 2019 NORMBAU has a freely configurable tooltip for each planning order, which displays order data as well as dates of the order or other information at the click of a mouse. The production proposals are transferred to the system every morning, then the planning can take place.

● **Station 5: Personnel Availability Planning 2019**

Before the integration of personnel availability planning in FASTEC 4 PRO, personnel was scheduled using an Excel document. Setters were scheduled every Friday for the following week, as well as machine operators from day to day.

The shift supervisor for the early shift planned the late shift and vice versa. The requirements for the personnel planning project with FASTEC were therefore a reduced planning effort and continuous transparency.

Today, thanks to FASTEC 4 PRO, the name, shift and function of employees are digitally recorded and displayed in a Gantt chart.

**Digital Acquisition
Reduced Effort, Increased Transparency**

FASTEC
Software for Production

FASTEC 4 PRO

Present Benefits of the MES – Achieved Goals

- **Goals Achieved on the Journey So Far:**

  • OEE increase of almost 30%

  • Reduction of scrap by identifying articles that cause problems

  • Simplified procedure for repairs/ maintenance
    → Simplification for plant maintenance

  • Reduction of paperwork by 90%

  • Introduction of order planning with a planning horizon of five days

  • Identification and elimination of countless causes of errors

"Sustainability plays an important role for us. In the past, we could only determine the electricity consumption per building. Thanks to FASTEC 4 PRO, we are now able to evaluate the consumption per machine and per order. This helps us to make targeted optimizations."

Christian Meier
Industrial Engineering, NORMBAU

- **Integrated Sustainability Aspect**

  Some older machines have been replaced with more productive, new machines. With the help of FASTEC 4 PRO, power consumption is measured in kWh using meters. The evaluation can be carried out per order, per machine and per building. This data acquisition enabled optimization measures, such as the insulation of the heating cables, to be implemented. As a result, significant energy savings were achieved using data from the MES. This is a great success for NORMBAU.

- **Conclusion**

  NORMBAU sees digitalization as a journey and, despite the previous successes with FASTEC, still has a lot on the digitalization to-do list. The journey towards Industry 4.0 shows the right way.

OEE + 30 %
Reduction of Paperwork by 90 %

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⟩⟩ *We digitalize factories*

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.

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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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