



Success in digital production thanks to MES

# User Report

**Heraeus Medical GmbH** Heraeus

## Initial Situation

Heraeus, a technology group founded in Hanau in 1851, is one of the world's leading family businesses today. In 2015, the company generated € 1.9 billion in sales excluding precious metals and a total turnover of € 12.9 billion, with around 12,500 employees in over 100 locations worldwide. A product line of the Heraeus technology group is manufactured in the Heraeus Medical GmbH in Wehrheim, Germany.

The medium-sized company specializes in the production of bone cements and biomaterials for surgical orthopedics and trauma surgery.

A continuously increasing product demand can be seen: On the one hand due to the aging population in the western industrialized nations, on the other hand by improving health care in emerging countries.



**Heraeus**

*"Visualizing capacities that were previously only roughly estimated has helped us enormously. In 2016, the OEE of individual lines was increased by a total of 10-15 % within one year."*

**Dr. Britta Bär**

Head of production

Heraeus Medical GmbH, location in Wehrheim

## Visualizing Data – Managing Growth

# Continuously Growing Demand Calls for Transparent Production

Since the opening of the location in Wehrheim in the 1950s, the company has steadily grown. Based on this success, several million euros have been invested in the conversion and new construction of production facilities in 2015. However, the positive economic development of the Heraeus Medical GmbH entailed obstacles that solutions and suitable tools were searched for in 2014.

- **Independent OEE System as the Key to Success**

In order to be able to serve the market, Heraeus had to gradually expand its production capacities. Machine running times were extended, for example by working through breaks and introducing new shifts.

The mere expansion of production capacities alone did not yield the promised results Heraeus wished for: There was a lack of an instrument with which the critical bottleneck could be identified and unused capacities could be released through appropriate optimization measures on the machines. As a medical device manufacturer, the Heraeus Medical GmbH operates in a regulated industry. Consequently, production is subject to strict regulations and standards, necessitating frequent training of employees. In the time of training, employees cannot operate production.

In addition, guidelines and standards lead to a requirement that must be taken into account in the implementation of an OEE system: The OEE solution had to be implemented without interfaces to other systems or machine controls in order to avoid validation efforts.

*“We need an instrument which can offer us full transparency of our production with the respective numbers, data and facts. As an independent OEE system was the most suitable solution for these purposes, our areas – namely, the production management and the supply chain planning – got together in a search for an OEE system that could meet our requirements. We finally found what we were looking for at the pharmaceutical technology conference in Neuss, where we got to know FASTEC.”*

**Dr. Britta Bär**

Head of production

Heraeus Medical GmbH, location in Wehrheim

## Identifying Bottlenecks

## easyOEE as an Introduction

Heraeus Medical's clearly defined requirements and objectives set the conditions and boundary conditions for the implementation of the OEE solution. Before a decision was made in favor of FASTEC, the solutions of other providers were also considered: "In the end, we were impressed by the very clear and user-friendly design of the system and the fast data evaluation and diagram creation," Dr. Britta Bär remembers. "The price was attractive. Additionally, we were given very friendly and competent advice."

The project started at the beginning of 2014: First, the productivity measuring device easyOEE was installed on a packaging line in the clean room area. This way, the medical device manufacturer from Wehrheim was able to take the first steps to implement OEE acquisition in a simple and uncomplicated fashion and quickly got a first overview of the benefits of the system.

The compact productivity measuring device easyOEE uses a connected light barrier to record the machine status and the output. Machine operators manually add states such as disturbances, downtimes or produced waste on the touchscreen of the device.

Since the easyOEE works completely independent without interfering with the system control and is not integrated into the existing network, it fulfills one of the project's specifications the medical device manufacturer requires: It does not have to be GMP validated as is usually the case with medical processes.

What the stand-alone solution meant to the Heraeus Medical GmbH, above all, is a fast, uncomplicated and cost-effective implementation of an OEE system as well as prompt results with low costs and little expenditure of time.

*"In the end, we were convinced by the clear and user-friendly design of the system and the fast data evaluation and diagram creation. The price was also attractive. We were also given very friendly and competent advice."*

**Dr. Britta Bär**

Head of production

Heraeus Medical GmbH, location in Wehrheim

*The flexible productivity measuring device easyOEE marks the start of many projects – as is the case for the OEE system at Heraeus Medical: The full system is easy to install and can be rented monthly without obligation and at low cost to take a first step towards automated OEE acquisition and to get to know the previously unlocked and enormous potential.*



# No GMP Validation Required

# easyOEE Becomes an MDA/OEE System on Six Lines

- **Positive Experience That Motivates and Inspires**

Driven by the positive experiences with FASTEC and the successes already recorded by easyOEE, the Heraeus Medical GmbH made the decision to equip another five primary, secondary, tertiary and end-of-line packaging in the clean room area with OEE acquisition in 2015. The basic requirement, however, is to create an autonomous OEE system.

The following solution has been created by FASTEC to meet the ever-increasing requirements of the medical device manufacturer: In addition to the productivity measuring device easyOEE a total of five production terminals were acquired (touch panel PCs, one of them with a powerful processor). For the acquisition of the production output, each line has been equipped with one of the production terminals.

In addition to its function as a production terminal, the production terminal with a powerful processor also acts as a server for the entire OEE system at the medical device manufacturer in Wehrheim. All terminals integrated into production are networked with each other via the server. The machine cycles are – as with easyOEE – acquired using a light barrier and the machine operators enter reasons for downtimes, waste and scrap quantities, states etc. manually. All data acquired by the server are stored, displayed and analyzed in clear evaluations, for example the Pareto view with the top ten reasons for occurring disturbances. The OEE acquisition is recorded based on batches and shifts. Deriving from the customer requirement rate, every machine at Heraeus Medical has an OEE target that has to be met in order to meet customer's needs.

If there are deviations from the set target values, causes can be discussed promptly and if necessary, measures designed to improve processes can be defined. The production system of the medical device manufacturer uses tools for lean production – OEE is a key figure for this procedure.



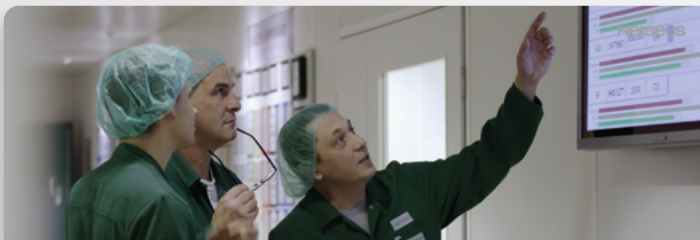
## Ever-Increasing Requirements

# Evaluating Data Together

## • Employee Integration and Employee Motivation

Daily and weekly meetings on the shop floor with the employees are part of the Heraeus Medical production system. An important element of the weekly meetings are evaluations from the MDA/OEE system, which are created for each line beforehand and are then discussed with the employees.

The team meetings as well as the OEE acquisition, which have become well established and valued practices in the meantime, were not advocated by the staff immediately.



*Heraeus Medical employee taking a look at the OEE evaluation as a tool of lean production.*

*“If you are working with this kind of data acquisition for the first time, there are of course some reservations of the staff. There were fears that the work would be ‘checked’ and the performance of each individual employee would be measured. The procedure also had to be coordinated with the group works council.*

*By repeatedly explaining that this ‘supposed personal monitoring’ is of course not intended and also impossible to perform based on the configuration of the system as well as with the help of the closely following experience with the OEE on a daily basis, we were able to take away the fears of our employees.*

*It is also helpful here that the line staff can operate the OEE acquisition by themselves, this way, they get a feeling of what happens with the reports.*

*Additionally, we are open to include their wishes to eventually create further message types etc., so that a trust in the OEE acquisition has been established.*

*Today, there are no longer discussions about the benefits, it is widely recognized. The employees identify significantly more with the process and actually use the OEE as a benchmark. They are eager to meet the set targets and involve their own ideas accordingly to keep the OEE values stable.”*

**Dr. Britta Bär**

Head of production

Heraeus Medical GmbH, location in Wehrheim

## Involving Employees

## Results

- **Increase in OEE up to 15%**

The transparency gained in production has reflected in significantly improved processes at Heraeus Medical. An increase in OEE of up to 5% could already be observed on a pilot line in 2015.

*“Visualizing capacities that were previously only roughly estimated has helped us enormously. In this way, we can also improve our planning of manufacturing processes. Employees have an immediate feedback on their daily performance without having to wait for the respective evaluation.”*

**Dr. Timo Mack**

Head of lean operations

Heraeus Medical GmbH, location in Wehrheim

*“In 2016, the OEE of individual lines was increased by a total of 10-15 % within one year. This concerns not only processes which record a strong increase in production anyway, such as new product launches, but also ‘mature’ processes in which tasks and processes have been going on for a long time and are thus carried out routinely.*

*Of course, the increase in OEE we have achieved is not only due to our use of the MDA/OEE system by the company FASTEC, but it certainly has a share of at least 50%. It is also extremely motivating and satisfying to be able to look back at these numbers at the end of the year, because there is so much work behind it.”*

**Dr. Timo Mack**

Head of lean operations

Heraeus Medical GmbH, location in Wehrheim

# Improved Processes Through Transparency

## Expanding Further With MDA/OEE

Due to the continuously increasing product demand, there are currently 17 million euros invested in the renovation and new construction of the production location in Wehrheim, whereby the current production area of 3,700 square meters is increased by 1,200 square meters of clean room area.

To maintain the gained transparency and current production results and to expand it to the extended production area, the MDA/OEE system will be introduced to the new lines.

The expansion of the FASTEC solution is uncomplicated and performed quickly: The flexible concept of the FASTEC 4 PRO MDA/OEE software allows for an acquisition of the production data of additional machines with the help of further production terminals.

*"FASTEC has an excellent support, the respective employees are usually directly available by telephone and immediately offer support (e.g. via remote access). There is also feedback on a regular basis in which FASTEC proactively gets in touch with us, which is what I personally appreciate. Our positive experience inspires confidence in further projects with FASTEC."*

**Dr. Timo Mack**

Head of lean operations

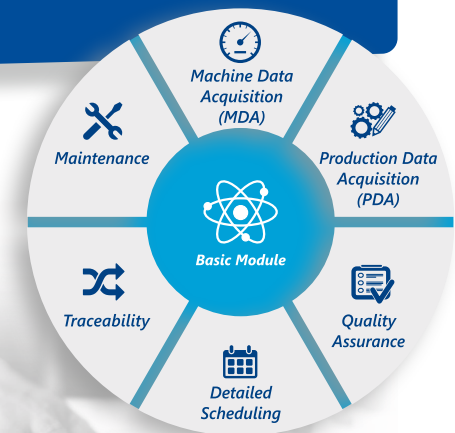
Heraeus Medical GmbH, Standort Wehrheim

### Overview:

Industry: Medical industry

Productivity measuring device easyOEE

FASTEC 4 PRO module MDA/OEE on six primary, secondary, tertiary and end-of-line packaging in clean room area



## Expansion of 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.

### 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](http://www.youtube.com/FASTECGmbH)

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Gold  
**Microsoft Partner**  


**SAP**  
Silver  
Partner

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.

### **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.**