

SIEMENS

Ingenuity for life

Industrial machinery and heavy equipment

Liebherr-Components Biberach

Component manufacturer uses IBS QMS to achieve transparency and improve manufacturing productivity

Product
IBS QMS

Business challenges

- Increase process transparency
- Minimize administrative costs while increasing production
- Introduce a concern and complaint management system

Keys to success

- Implement a customizable solution to meet customer requirements
- Seamlessly integrate CAQ with ODA and ERP systems
- Choose a single-source, reputable solution provider

Results

- Implemented optimal transparency
- Improved manufacturing productivity
- Met goals for continuous process improvement

Siemens PLM Software solutions help Liebherr-Components Biberach support continuous improvement of quality processes

Meeting customer demands with quality products

Liebherr-Components Biberach GmbH (Liebherr) is part of the components division of the Liebherr Group, which developed the first quickly transportable and easily erected revolving tower crane over six decades ago.

With its approximately 1,400-strong workforce at its plant in Biberach, Germany, Liebherr today manufactures technically sophisticated high-performance drive components, such as large diameter bearings, gearboxes and rope winches, as well as electrical machines and switchgears. These components are used in products such as earthmoving machines, wind turbines, mining equipment, maritime applications, vehicle systems, machine tools and transportation systems.





Comprehensive analysis and evaluation functionality in IBS QMS supports continuous quality and productivity improvement.

Liebherr prides itself on producing products that meet customer demands for intelligent technology, maximum functionality and the highest quality standards. In order to safeguard its reputation for producing high-quality products, the company constantly monitors and documents production processes.

Delivering manufacturing transparency

Until 2003, Liebherr used a manual process for acquiring and evaluating quality data. To support customer requests, the company manually collated data prior to presentation. The existing production process lacked transparency, and the company realized it needed to improve its process and problem-solving capabilities.

Liebherr decided to introduce an integrated computer-aided quality (CAQ) and manufacturing execution system (MES) solution that would elevate process transparency; minimize administrative costs; increase production and individual worker responsibility; include a solution for concern and complaint management; and allow the company to integrate a batch tracking system. Additionally, the

CAQ/MES solution needed to be seamlessly integrated with Liebherr's existing operational data acquisition (ODA) and enterprise resource planning (ERP) systems.

Choosing a CAQ/MES solution

Liebherr selected four vendors to provide test installations to evaluate system functionality against the company's CAQ requirements. In November 2003, Liebherr selected IBS QMS software from product lifecycle management (PLM) specialist Siemens PLM Software. Key decision factors included the ability to customize the solution to meet customer-specific needs; the seamless integration with existing ODA and ERP systems; and the size of the supplier, which Liebherr felt would influence the security of its CAQ solution investment.

Eliminating duplication

In May 2004, Liebherr implemented IBS QMS and initiated training for approximately 700 employees using 100 terminals in the large diameter bearings, gearbox and crane technology departments.

“IBS QMS helps us improve process transparency and positions Liebherr for future growth.”

Juergen StuhlmueLLer
Quality Assurance Manager
Liebherr-Components Biberach GmbH

With a user-friendly operating interface, Liebherr can achieve a high degree of integration and eliminate duplicate data entry. Production orders are sent from the ODA system to IBS QMS, triggering respective inspection processes.

Using touchscreen terminals, operators can determine which orders are being processed at any given machine as well as the current manufacturing status of each order. Inspection results are acquired and reviewed in parallel with production processes for further analysis. Only after processing all CAQ characteristics, system operators can close the production order.

Certifying results

The ability to continually monitor each component throughout manufacturing helps Liebherr identify trends early in the process. If needed, the company can make realignment decisions before tolerance limits are reached. In addition to defect avoidance, the main emphasis is on the continuous improvement process (CIP) for products and procedures. At the request of the customer, Liebherr can generate individual certificates to substantiate processing results.



Solutions/Services

QMS Advanced Product Quality Planning (APQP)

QMS Concern and Complaint Management (CCM)

QMS Failure Mode and Effects Analysis (FMEA)

QMS Incoming/Outgoing Goods Control (IGC/OGC)

QMS Inspection Plan Management (IPM)

QMS Inspection Reports

QMS NetCom

QMS Statistical Process Control (SPC)

QMS ToolCom

www.siemens.com/mom/ibs-qms

Customer's primary business

Liebherr-Components Biberach GmbH develops and manufactures high-quality components and systems for high-performance drive and control technology. The company's products include large diameter bearings, gearboxes, electrical machines and switchgears that are used in various products and industries, including earthmoving machinery, wind turbines, mining, maritime, vehicle and transportation. www.liebherr.com

Customer location

Biberach
Germany

Enhancing traceability

The documentation and allocation of batch and serial numbers enable identification of individual stages throughout the part production process and allows Liebherr to track all batches. Defect causes can be localized and preventive actions initiated promptly to avoid further defects.

Quality standards and transparency

Internal complaints are managed with QMS Concern and Complaint Management (CCM), which allows Liebherr to prioritize the processing of once-defective parts that have been corrected. By using QMS CCM, Liebherr can document actions and allocate costs, such as rework, increasing transparency and enabling the identification and rapid elimination of weak points. The comprehensive analysis and evaluation functionality in IBS QMS supports continuous quality and productivity improvement.

"IBS QMS helps us improve process transparency and positions Liebherr for future growth," says Juergen Stuhlmüller, quality assurance manager at Liebherr.

The future

Since the initial implementation of IBS QMS software at Liebherr-Components Biberach GmbH, additional solutions, such as QMS Incoming/Outgoing Goods Control (IGC/OGC) with an ERP system interface, have also been introduced at the production plant. Additionally, other Liebherr sites have selected Siemens PLM Software as their CAQ/MES solution provider.



Siemens PLM Software

Americas +1 314 264 8287
Europe +49 (0) 2624 9180-0
Asia-Pacific +86 (21) 3889 2765

© 2016 Siemens Product Lifecycle Management Software Inc. Siemens and the Siemens logo are registered trademarks of Siemens AG. All other trademarks, registered trademarks or service marks belong to their respective holders.

www.siemens.com/plm

55486-A17 9/16 F