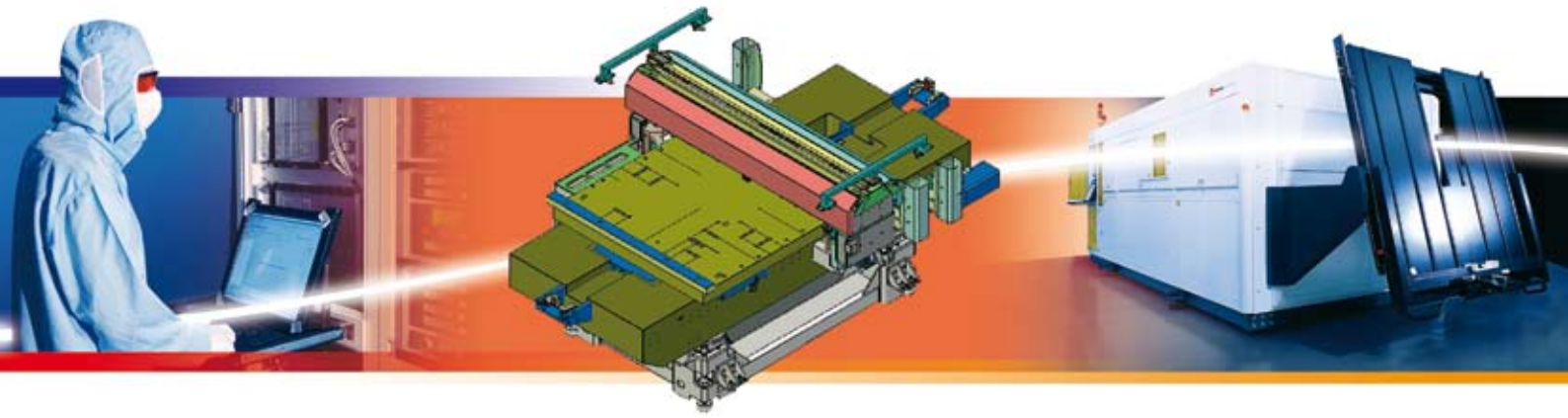
Micronic Laser Systems

Increasing data and process management efficiency with ENOVIA SmarTeam



Overview

Challenge

Micronic Laser Systems needed a solution that would manage all information related to its products throughout their long lifecycle and make this information available to its employees worldwide

Solution

The company relies on ENOVIA SmarTeam to manage all product structures and to provide each department with a single up-to-date view of the product

Benefits

The flexibility of the system enabled Micronic to progressively implement the functions it needed over time, to streamline its end-of-life process and to provide its employees with access to the right data at all times

"One of the major benefits of using ENOVIA SmarTeam is that we can start out small and take progressive steps as our business grows to flexibly expand and develop our use of the system."

Per Högström, PLM Process Manager, Micronic Laser Systems

MICRONIC LASER SYSTEMS

De facto standard for laser pattern machines

Micronic Laser Systems is a world-leading manufacturer and provider of high-end laser pattern generators for the production of photomasks. Commonly used in photolithography, a photomask is an opaque plate with holes or transparencies that allow light to shine through in a defined pattern. Micronic's generators also play a key role in microlithography, an essential process in the creation of both semiconductor chips and displays. The company has a unique position in the display market, where Micronic´s laser pattern generators are the de facto industry standard. The company has 300 employees in Sweden and 100 in various offices worldwide. Subsidiaries in Korea, Taiwan, Japan and the US focus mainly on maintenance services.

Driven by market trends and new technology

Micronic's product development process varies depending on whether the product is engineered to order or whether it is part of the company's technology watch. "In the high tech industry, new technology comes up frequently and we have to be able to anticipate a customer's need for a new machine that can provide it with the means to incorporate this new technology in its products," said Per Högström, PLM Process Manager, Micronic Laser Systems.

Micronic covers the entire design to manufacturing process in its facilities in Sweden. Once the machine is produced, it is delivered and installed at the customer site. "We have approximately 140 machines installed worldwide," said Högström. Each machine can have from 5000 to 8000 components and is the result of a collaborative effort between many disciplines such as high level mechanics, optics and electronics.

A choice between new and existing platforms

In order to save costs when designing its machines, designers rework existing or previous platforms using the same technology concepts but adding new features. On the other hand, when a customer requires a

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machine that Micronic has not yet developed, both companies have to start from scratch to create an entirely new concept. “In most cases we define specifications together with our customers because when they see a new technology trend they don’t necessarily have their development strategy entirely defined. We work together to define the process and production changes this may bring to their company as well as to our own,” said Högström.

ENOVIA SmarTeam for data and process management

Micronic uses SolidWorks to design its machines and ENOVIA SmarTeam to manage the design data. But as the quantity and complexity of data increased, Micronic quickly realized that it would need a single solution that would provide access to all information related to a product whether it be models, drawings, Electronic CAD system (Orcad) files, software or attributes. “Even though we started out using ENOVIA SmarTeam to store design models and their associated drawings and attributes, we soon realized that it can be more than just a Mechanical CAD system integration system. It helps us manage all our product structures originating from any of our other systems and provides production, purchasing and other departments with a single up-to-date view of the product,” said Claes Klang, PLM Application Manager, Micronic Laser Systems.

ENOVIA SmarTeam stores the master of a machine and manages the entire product data structure. Klang continued, “We have two separate classes in ENOVIA SmarTeam: one to manage the development work and the master data for our platforms; and another in which the unique delivered system configurations or as-builts reside. We are able to find, for each recently installed machine, its exact configuration, maintenance level, upgrades and replaced parts.” Micronic has hence improved its PLM-related processes and its maintenance services worldwide since acquiring ENOVIA SmarTeam in 2001. “By helping us keep track of the exact status of a machine, ENOVIA SmarTeam has helped us grow from a small entrepreneur and technology-driven company into a professional customer-oriented company,” added Klang.

One of Micronic’s major challenges is the need to handle end-of-life issues for electronic components. External suppliers provide all the components needed to build a system. Quite frequently suppliers flag components as “end of life”, meaning they can no longer be purchased. So Micronic uses ENOVIA SmarTeam to set up behaviors in the system to track this end of life process, thereby avoiding the use of obsolete components in future designs.

Grow as you go

“One of the major benefits of using ENOVIA SmarTeam is that we can start out small and take progressive steps as our business grows to flexibly expand and develop our use of the system,” said Per Högström. In effect, Micronic started out in a traditional way, like most small businesses, by addressing its design needs with CAD integration and design management and expanding to a more engineering scenario then moving further to benefit from and capitalize on the system for the entire enterprise. “Today our users rely on ENOVIA SmarTeam for their day to day activities,” said Högström.

Roadmap for the future

Micronic has plans for ENOVIA SmarTeam. It will soon be implementing ENOVIA SmarTeam Workflow for engineering change order handling, which is a major headache for the company today. It is also currently creating a dictionary for item descriptions so that all engineers use a company-defined name for each new or revised component.

“ENOVIA SmarTeam helps us manage all our product structures originating from any of our other systems and provides production, purchasing and other departments with a single up-to-date version of the product.”

Claes Klang, PLM Application Manager, Micronic Laser Systems

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Images courtesy of Micronic Laser Systems

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