



DC-Series CO² Laser cutting stainless steel (Picture: ROFIN)

WHAT LASER AND PLM HAVE IN COMMON

CIDEON Software for SAP PLM at Rofin-Sinar Laser

50 CAD-Users – producing engineering data that benefits 500 people: Product Lifecycle Management has made this pleasant situation possible for the machine building company Rofin-Sinar Laser. SAP ERP functions together with PLM as a central user interface and storage application.

Prior to generating electrical power on the roof, a photovoltaic system's thin film-solar cells have already been through a costly production process. The solar cells are made up of an alternating sequence of plating and selective stripping; all of this is done using measurements of micro and nanometers. Finally the edges of the solar cells are rounded, in order to electrically insulate and hermetically seal them. This task is completed using a solid state laser such as the DQ x50S, which emits infrared rays. The producer Rofin-Sinar Laser belongs to the global ROFIN Group, a market leader in the industrial laser industry. The DQ-Model, as well as other laser systems produced by Rofin, uses the most modern technology and is comprised of up to 2000 parts and complex assemblies, resulting in a significant amount of engineering data. In order to manage the flood of information and make the data easily and quickly available for other departments, the Laser specialist has implemented Product Lifecycle Management (PLM) at four German locations.

Recently the company went live with CIDEON Output Management for SAP. This implementation ensures that the CAD-data is prepared using a fully automated and integrated process and is distributed in a neutral format. There are 500 downstream users in the company who access this central data pool and they can do so at the touch of a button. "The time savings is a significant advantage for us", emphasized Andreas Schaller, CAD-Ad-

ministrators of the ROFIN Group, and provided a concrete example:

Someone in Purchasing wants to know what the prices are for a complex assembly with milling parts and must compile various documents totaling approximately 100 files "Before the Purchasing representative needed two to three hours to complete this – now it takes less than 10 minutes". As another example, Mr. Schaller cited parts lists, which are now able to be almost entirely automatically generated. This alone saves the company 80 percent of time spent on this task.

First steps

The gains in efficiency are based on a phased implementation of PLM functionalities. In the first phase the company brought the extremely disparate IT infrastructure up to the same level. Four German production locations were involved; Hamburg, Bergkirchen, Starnberg and Mainz, whose engineering departments all work closely together.

The various historically developed 2D and 3D CAD systems were replaced with Solid Edge and a central data storage area was launched. The solid state laser DQ x50S is one of the first developments built using the new CAD System. The engineering department profited from the standardization, in that they are now able to access data more quickly and can leverage previously developed modules in other systems.

In the next step, PLM was introduced and the CAD world was connected with SAP R/3, the company-wide ERP-solution. The goal is to manage the process of making all information about a product accessible continuously throughout its whole lifecycle in SAP and to make the information available to other departments.

CIDEON's SAP PLM integration for Solid Edge is being employed as the interface solution. A reason for Rofin-Sinar Laser's selection of this product is that it is offered

exclusively by SAP. "It ensures that further development will continue in the future", stated Andreas Schaller. He also values the manner in which the mid-size software company partners with Rofin. "We communicate on the same level with the head of development, something which a larger company is unable to offer".

For the user interface, the laser specialist utilizes SAP-CAD-Desktop, which is made up of standard product contents from SAP. "We don't want to re-invent the wheel, so we use available standards to the extent that it is possible"said the PLM project leader.

Information flow optimization

In order to further improve access to the electronic documents produced by the mechanical engineering department, Rofin implemented the CIDEON conversion engine. The conversion engine automatically generates a PDF from released drawings and assigns it to the correct SAP Document Info record. Every ERP user is able to access the neutral PDF file via this link. The most current version of the file is highlighted, which helps prevent confusion. The automation increases the speed of information in the company, benefiting all departments. Additionally, the effort of manual conversions and possible sources of errors are reduced.

The SAP Knowledge Provider (Kpro) serves as a central data pool for information stored on four linked Content


Servers, which are in each of the company's four locations. Additionally, Cache-Servers accelerate data access and function as a backup. "This infrastructure was already in place and licensed at no cost. We only needed to activate it." said Schaller.

The engineering data flows into the archive in both CAD format and the neutral format. There are 1,300 files in the archive for the solid state laser DQ x50S alone. In addition, there are Microsoft Office documents, which are also linked in SAP to the current Document Info Record. Rofin completed the fourth step recently and implemented CIDEON Output Management. This implementation provided the ability to drive the distribution process of various documents easily and efficiently throughout the entire company. Rofin is broadening the list of the document recipients: In the future, contractors and suppliers will receive new plan versions and parts lists in PDF format and this will all be done automatically using CIDEON Output Management. "That shortens the external partners' response time" explained Schaller. This was an important criterion for him, since the four locations are relying increasingly on local partners for production. A special

CIDEON and ROFIN Group

Rofin-Sinar Laser GmbH belongs to the Rofin Group, a worldwide technology and market leader for lasers and laser-based solutions for industrial materials processing. The organization has been in business for over 30 years and has delivered more than 31,000 systems for cutting, welding, marking or surface treatment. Today the Rofin Group has more than 1,750 qualified employees at 35 locations for development and production worldwide.

At a glance



Company:	Rofin-Sinar Laser GmbH
Branch:	Mechanical Engineering
Users:	500 at 4 locations
Challenge:	Installation of Product Lifecycle Management at 4 locations
Solution:	Software from Cideon: SAP PLM Integration for Solid Edge, Conversion Engine and Output Management
Advantages:	Optimized and more real-time flow of information; greatly expanded number of users of engineering data, automation provides relief from routine tasks and prevents errors
CIDEON Services:	Consulting, Concept, Implementation, Training, Support



Lasersystem DQ from Rofin-Sinar Laser (Picture: ROFIN)

feature of Output Management is that attributes found in SAP, such as status or texts with multiple languages, are incorporated into the distributed documents.

Large user group

Stored information is accessed daily by approximately 500 users in all four locations. The users are from the Logistics and Purchasing, Warehouse and Scheduling, Production and Installation and the Quality Assurance departments, as well as the Service and Maintenance and After Sales departments. Sales and Marketing colleagues work increasingly with animation and 3D images. As an example, an image of the Laser system DQ x50S, portrays the model with an opened cover, which allows the internal content to be viewed.

The company stores all documents using a material number as a central reference. Storing data in this manner requires more effort on the part of the engineers.

However, because conducting a search is easier, it simplifies the work for all downstream departments. The engineering department also profits from the central management in SAP. Andreas Schaller heard an engineering colleague say “There is nothing nicer than accessing the purchased parts’ master data sheet with two mouse-clicks”.

Future plans

The next part of the plan is to transfer the illustrated spare parts catalog, currently produced in hard copy, into a digital format. Using the digital format Rofin would like to reduce printing and distribution costs. In addition, time expenditure is also expected to be reduced, due to the automation of as many process steps as possible.

Schaller believes the PLM transition in the four locations is progressing well. “Nevertheless we have planned some more changes over the next few years to enable the quick and dependable supply of data to all areas of the business”.