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▶ PLM and ERP permanently welded together



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FRIEDHELM LOH GROUP

IDEAL-Werk C. + E. Jungeblodt GmbH & Co. KG

PLM and ERP permanently welded together

By Michael Wendenburg

Process optimization is often hindered by ingrained structures, especially in small and mid-sized companies. With the assistance of the experts at CIDEON Software, IDEAL, a manufacturer of high-quality welding systems, has consolidated its technical system landscape and integrated a PLM/ERP solution throughout its processes as part of its company-wide roll-out of SAP. Thanks to SAP PLM, all employees in the company can now access the files and documents relevant to their roles.

There are certain metallic materials that, because of their composition, actually cannot be welded or can only be welded after being treated. IDEAL-Werk C. + E. Jungeblodt GmbH + Co. KG is a recognized authority specializing in just such impossible missions.

Since 1923, the mid-sized company headquartered in Lippstadt has been manufacturing innovative welding solutions for customers in the steel, mechanical engineering, automotive manufacture, and other industries. Between 70% and 80% of the systems are exported to destinations

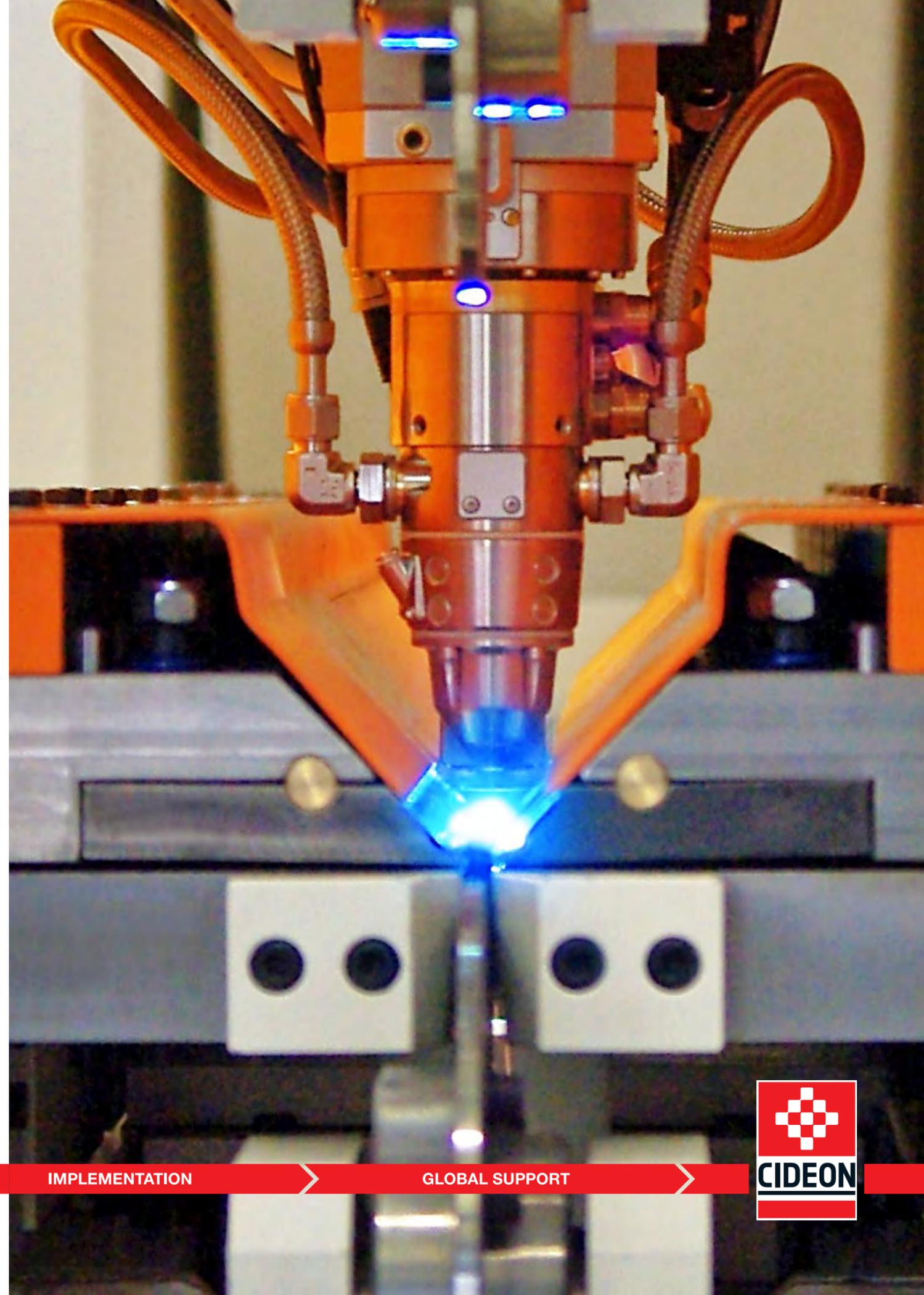
outside Germany. The company is represented by distribution partners in more than 90 countries around the world.

IDEAL's range of products includes welding machines for band saws, wires, cables, pipes, sheet metal, wire mesh, etc.; coil joining machines using resistance welding, arc welding and laser welding processes; as well as complete production lines for various applications.

In addition to standard designs and systems made of prefabricated modules configured specifically for certain applications, the company also develops and produces completely customized special solutions. "That is our strength. Innovations are continually being integrated into our standard machines from our customized systems," says Managing Director Max Clemens Jungeblodt, who with his cousin has been running the family business since 2006.



IDEAL is an engineering-driven company with a relatively high vertical integration. Nearly one-fifth of the employees are engineers, among them 12 electrical or electronics engineers. Typically, the more complex the welding systems become, the greater the proportion of mechatronics involved and therefore the higher the degree of coordination required among the various disciplines.



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Consolidating the menagerie of systems

Since the new generation took over the top management, the company has also become technically and organizationally younger. Mechanical production was completely modernized so that it is now possible to operate two shifts, and a new assembly and logistics center was built.

Additionally, SAP was introduced as the ERP system at the end of last year, and at the same time the heterogeneous system landscape in the engineering areas with separate CAD and document-management systems with dozens of additional programs written in-house was consolidated.

"A daunting undertaking, which we would not have been able to surmount without a competent partner such as CIDEON," says IT project manager Manfred Löher. Also of decisive importance to the success of the project was the seamless collaboration with the SAP partner, which implemented the ERP solution.

"We are always attempting to further standardize the mechanics using PLM and to increase benefits to the individual customers by means of electronics and simple communication between man and machine."

In 2005 IDEAL expanded its 2D CAD installation with its first SolidWorks workstations and added a reasonably priced database to manage its 3D CAD data. The CAD data management system, however, neither supported the versioning of files nor permitted the hierarchical management of access rights, and the company attempted to replace the existing database with a stand-alone PDM system. After all the 2D documents had been transferred to the new system, it became apparent that the provider was not in a position to migrate the 3D data cleanly. "This failed attempt cost us huge amounts of time and energy," says Jungeblodt.

The aim of the integration project was the improvement of data consistency and transparency between the PLM and ERP worlds in order to reduce throughput times and lower costs.

"Especially with the parts we manufacture ourselves, we wanted to achieve a simple process flow for creating materials and improved data transparency when changes are made," says Jungeblodt. "We wanted to make it possible for every employee in the company to access data, including design data. And we made it happen across the board. We now have only one 'source of truth' and only one valid version of each document."

SAP PLM took the place of a heterogeneous, unintegrated system landscape with multiple data repositories, as system administrator Christoph Tünsmeier explains.



CIDEON - a competent partner

After deciding on SAP as its new ERP solution, the idea of implementing SAP PLM instead and managing the technical data and documents in the same system environment was obvious. And the groundwork was laid for the selection of a partner:

"I conferred with other system administrators, and time and again the name CIDEON came up. Having been burned once, we naturally examined the integration solution very closely. But after the first presentation we had already come to the decision that this company was the right partner for us," says Tünsmeier. CIDEON distribution manager Martin Bentin adds, "With our experience with heterogeneous system landscapes, we were able to convince IDEAL of the benefits of our solutions."

CIDEON didn't implement an off-the-shelf PLM solution in Lippstadt that would need to be adapted later on; rather, they took the customer's needs into consideration when designing the first test installation.

Moreover, the CIDEON specialists working with project director Klaus Becker supported the project team in establishing optimized links between materials and documents under process criteria. "This kind of consulting ability was something we didn't experience with other system providers," says Tünsmeier.

To Jungeboldt's excitement, the migration of the existing 3D models and 2D documents required a good bit of preparation, but overall was an outstanding success. CIDEON made available to IDEAL a powerful migration tool that enabled the project team to analyze the errors during the data import themselves and optimize the data structure accordingly.

"After numerous test runs, we succeeded in migrating around 70,000 documents. Only 48 files fell by the way-side," says Tünsmeier, who was responsible for preparing the data.

At a glance

Company: IDEAL-Werk C. + E. Jungeblodt GmbH + Co. KG

Challenge: Consolidate the heterogeneous IT system landscape and improve process integration between PLM and ERP

Solution: SAP PLM Integration for SOLIDWORKS, CIDEON SAP PLM Integration to EPLAN, CIDEON Conversion Engine and CIDEON Output Management, CIDEON View Manager, CIDEON Import PDM, CIDEON Add Ons for SAP PLM

Benefits: Project durations shortened with the implementation of central data archiving and faster availability of drawings for proposals, production orders and documentation; greater data security and transparency through document access management

CIDEON services: Consulting, workshops, requirement specifications, implementation, customization, additional programs, training, support

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All integrations from a single source

The CIDEON integration currently links 25 SolidWorks workstations to SAP PLM so that engineers can save their 3D models and 2D drawings directly to the document containers. The interface makes it easier to create new materials by automatically entering certain information; users need only select whether the part is produced in house or is a bought-in part.

Electric plans from EPLAN software can also be saved directly to SAP PLM via an interface. Because CIDEON Software is now a company of the Friedhelm Loh Group, which is also the parent company of EPLAN, there are, in the words of Martin Bentin, new opportunities in the area of mechatronics.

According to Jungeblodt, one of the benefits of the integration solution is the seamless interoperability between ERP and document management, which makes it possible to assign various documents to one material and determine at any time which ones are up to date and which are not. If a drawing changes, for instance, the user sees immediately that the associated NC program does not correspond to the current version and may need to be updated. "Who is able to see which documents and the tasks for which they may be used is controlled via the document status network," says Tünsmeier. "It has been tried and proven that there are no more back doors."

Together with CIDEON View Manager, authorization administration ensures that only authorized users have access to clear document versions and that security gaps in the access process are closed.

Thanks to the operating concept, not only designers but also users in other departments can easily access data and documents in SAP. The solution could be viewed as a cockpit that consolidates various views of the information contained in SAP in one user-friendly interface and

integrates different authoring systems. Using additional software, users can check documents in, search for them, jump from one document to another, and conveniently branch off to parts lists and materials. As Tünsmeier explains, "By comparison, this kind of navigation in different views is laborious in a standard SAP installation."

"After all PLM is not a project that comes to an end, but instead is part of the continuous development of the company."



Company headquarters in Lippstadt.

CIDEON Output Management saves time

The integrated PLM/ERP solution creates more transparency in processes and, in Jungeblodt's estimation, will lead to faster project completion. With CIDEON Output Management alone, the time required for outputting drawings for proposals and production orders has been perceptibly reduced.

Before, each drawing had to be opened individually and sent for printing-now, the responsible employee need only click on the assembly and the complete set of drawings is converted to the desired format and printed out in the background. "Each drawing is stamped. This allows us to determine whether it is intended for a production order or for internal use," says Jungeblodt.

In addition to purchasing and production, project planning also benefits from the system documentation of the Output Management functions. Converting the documentation for a welding system in the steel-production industry into the format requested by the customer and printing it now takes only two days. Before, it took one employee three to four weeks to complete the same tasks. Assuming three or four large orders of this type annually, this represents considerable savings potential.

Even more important than the fast return on investment is that IDEAL is now equipped with a powerful solution and a reliable partner for future requirements, says Jungeblodt: "After all PLM is not a project that comes to an end, but instead is part of the continuous development of the company."



Managing Directors: Dorothee Jungeblodt and Dipl.-Ing. Max Clemens Jungeblodt.

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