

CIDEON

efficient engineering.

**▶ Condensing Information
more Effectively**



Case Study AERZENER MASCHINENFABRIK GMBH

PROCESS CONSULTING

ENGINEERING SOFTWARE

IMPLEMENTATION

GLOBAL SUPPORT

FRIEDHELM LOH GROUP



Integrated SAP ERP/PLM Solution for a Breath of Fresh air in Blower and Compressor Technology

Product information based on a “single source of truth”, improves data consistency and process continuity. AERZEN, with support from partner CIDEON, seamlessly integrated their multi-CAD systems into SAP PLM achieving consistency and continuity goals while reducing costs, increasing speed, and satisfying users.

A single source of truth across the complete product development process provides better data quality and allows consistent reuse of engineering data for purchasing, distribution, and manufacturing. To reap these benefits, organizations require not only an integrated ERP/PLM system, but also a competent partner to support the implementation project from beginning to end—a partner that is in a position to provide broad-based support for the optimization of their business processes. According to Axel Stürmer, director of the engineering company’s PLM project, AERZEN has found such a partner in CIDEON.



AERZEN

AERZENER MASCHINENFABRIK GMBH

Industrial facilities worldwide are provided with gaseous media by means of AERZEN blowers and compressors. Innovative AERZEN mechanical engineering draws on empirical values compiled over 150 years of company history. The product range includes rotary lobe compressors, rotary lobe blowers, turbo blowers, screw compressors and gas meters. AERZEN blowers, compressors and gas meters are quality-tested and certified according to DIN EN ISO 9001. It is a flexible product line that provides standard products as well as customized special solutions. Additionally, AERZEN After Sales Service offers the entire spectrum of services—from full maintenance contracts to repairs and the modernization of existing facilities.

Exemplary Innovations

AERZEN units can be found wherever air and gases are pumped, compressed, or measured. The company has set the standard in innovation with hybrid rotary compressors, which combine blower and compressor technology and as a result use less energy. Some of these units are standard products with or without customer-specific expansions; some are customized products specifically developed as part of a customer order and manufactured in small batches. Accordingly, the company leans heavily towards the engineering side and uses Autodesk Inventor and AutoCAD Mechanical on over 100 workstations.

Inaugurated 2013/14:

The modern administrative building on the premises of the AERZEN company headquarters

Obsolete IT Infrastructure

The global manufacturer faced challenges to deliver shorter project schedules and improve delivery reliability which required a modern IT infrastructure to make processes more efficient. Although the legacy ERP system running on an AS/400 met the demands of the parent company, it did not meet the requirements of a division with globally distributed development and manufacturing sites. Therefore, development of the PDM system, Autodesk Productstream, AERZEN designers used to manage their CAD models and drawings was halted and the solution had to be replaced.

Why Direct Integration

AERZEN management decided on SAP as the new ERP. The PLM project team faced the decision of introducing a new CAD-like PDM system or integrating the multi-CAD systems directly into SAP or SAP PLM. The CIDEON direct integration made the decision easy in a benchmark with stellar performance, especially when loading large assemblies. Lower total cost of ownership including lowered administration costs also argued for an integrated ERP/PLM solution. "Crucial in the selection of a partner was that CIDEON was able to provide integrated support for process consulting, system implementation, CAD integration, data migration, process automation and optimization of our design methodology on the CAD system," says Axel Stürmer.



Added Value for AERZEN

Savings of over 100 man-days per year

as a result of automatic document formatting for electronic archiving

Better data quality and less rework

due to the system-supported principle of dual control for testing and release

Acceleration of change processes

as a result of linking all departments via SAP engineering change management

Significant time savings in purchasing

as a result of the automation of print output

Improved design methodology and documentation of best practices

Reduction of time expended

for the creation of a master material record from several weeks to three days on average

Challenge: Project schedule compressions, improvement of delivery reliability, improved data quality and process security, automation of manual processes

Methodology: Replacement of obsolete ERP/PDM solution, introduction of SAP PLM with direct integration of Autodesk Inventor and AutoCAD Mechanical, linking of external systems

CIDEON Solution: Optimization of work processes in design, automation of processes, such as electronic archiving and document output

CIDEON Services: Comprehensive support for system selection, implementation, CAD integration, data migration, customization, training and technical support

Result: Continuous and secure processes, better data quality and shorter project schedules at AERZEN



Made by AERZEN: The Delta Hybrid rotary lobe compressor features extraordinary energy efficiency and high reliability during compression of air and gases

CAD Migration with no Loss of Data

The ERP was introduced in several phases and AERZEN initially implemented SAP PLM as an independent system. “The challenge we faced with systems integration and data migration was that the CAD data had not been maintained systematically with Productstream, so not all the assembly structures were automatically available for referencing,” explains Klaus Becker who was responsible for the implementation of SAP PLM on the CIDEON side. Thanks to the effective migration preparation, the initial load was extremely successful—more than 99% of all models and drawings were transferred error-free to SAP PLM. Subsequent migrations after release changes in the CAD versions went without issue.

Reduced Inventory

It is important to AERZEN to reduce engineering costs further by using modular product systems and improving component and assembly recycling. The system methodology, however, is not mapped in the CAD systems but in the SAP sales configurator. To simplify the search for available materials and their associated documents, AERZEN integrated the classification software Simus ClassMate into SAP PLM. The requirement was quickly

met and the software is instrumental in reducing parts inventory, according to Stürmer.

Engineering Optimization

For designers, direct integration of multi-CAD systems means changing usual work processes. “They had to learn, for instance, that material is something different from the associated models and drawings,” recalls Becker. CIDEON oversaw the training process, matched design guidelines to direct integration requirements, and supported the users in optimizing their work processes. For example, a system-supported principle of dual control was implemented to meet AERZEN's quality requirements for review and approval. “The advantage is that less rework is required and data can be used more efficiently for downstream processes,” emphasizes Stürmer. Using CAD guidelines and a company-specific design methodology, CIDEON made the designs stable and at the same time improved data quality with a dramatic reduction on throughput times.



The vacuum-sealed stage for plant construction is equipped with standard, energy-efficient IE3 motors, and with 19 output stages it is the largest product line on the market



Axel Stürmer (right), Head Standardization and PLM project manager, with **Pia Mühl**, Key User, Blower Design, Aerzener Maschinenfabrik GmbH, and **Klaus Becker** (left), Principal Consultant CIDEON Software GmbH & Co. KG

“Cideon convinced us that direct integration is the best way to design processes more continuously and efficiently.” Axel Stürmer

“Thanks to automatic archiving we can now provide much more incisive information, which is also important with respect to compliance.” Pia Mühl

“Once we completely realize the single source of truth, it will also improve company-wide communication.” Axel Stürmer

“The automation of document output results in considerable time savings for employees in purchasing.” Klaus Becker

Easier Access

SAP PLM manages CAD data and all product and process-relevant documents. For the first time AERZEN is able to version these documents, which was not possible with the old system. In conjunction with engineering change management, which CIDEON mapped in SAP, electronic document management ensures development history of products and assemblies is easy to understand. In the past, engineers had to search electronic archives for specific TIFF drawings. Now, employees in purchasing, distribution, or operations scheduling can access current data and documents directly in their work environment and even visualize them in 3-D.



Specifically designed 3+4 rotor profile with inner compression for low-pressure applications

Time Savings in Sharing Information

In addition, CIDEON accelerated the availability of documents by introducing Output Management. Whether in the offer process, in order management, or in production or assembly, the SAP output solution allows users to combine, stamp and print approved documents on paper, or distribute them electronically at the push of a button. For external use they are automatically transferred to the electronic archive, so that what a customer received can be traced at any time. “If the manual handling of a print order is estimated at 20 minutes, this amounts to huge time savings at 500 to 600 orders per day,” says Becker.

Automatic Archiving

Models, drawings and other documents are archived in the Infostore archive after approval, so other sites can access them. Sites develop their own units based on the blowers and compressors from the facility in Aerzen. CIDEON integrated Infostore into SAP PLM and structured the data during export so it can be imported automatically. In the past, five employees in cross discipline design departments were busy manually archiving at least half a day per week—time they now use on higher value work. In addition, manual archiving led to the occasional misfiling of documentation. “Before, we did not document our products as fully and consistently,” says Pia Mühl, key user in blower design. “Now we can provide much more incisive information, which is also important with respect to compliance.”

Global Rollout

The electronic archive is slated for replacement in the foreseeable future since it no longer represents state-of-the-art technology, and goes against the idea of a single source of truth. SAP PLM replaces this legacy technology at all sites as part of the Vision 2022 rollout; standardiza-



Aerial photograph of the Aerzener Maschinenfabrik GmbH facility at the home office in Aerzen

tion of the group-wide IT landscape. Thanks to AERZEN's preparation and rollout roadmap, they are well equipped for the global use of PLM. The roles and rights concept for configuring user access takes into consideration site needs to access data selectively. In addition, experts at CIDEON provided the option to duplicate drawing sheets automatically in other languages based on user preference with all relevant data displayed (e. g., geometrics, dimensions, texts, etc.).

Faster with a Source of Information

SAP PLM was released on schedule at the facility in Aerzen and since then has been used in production by more than 70 employees across multiple departments. The users greatly appreciate the benefits of a single system. Axel Stürmer illustrates this by means of an example, "It used to take weeks to create a new material master record since all the design engineers had to go to a single employee who created the material master records in the system. Now, it takes three days on average, and we are actively optimizing it even further."

A key decisive factor in AERZEN's partner choice was to receive everything from one source. Therefore, in addition to SAP PLM, CIDEON takes over the comprehensive support of Autodesk products, including maintenance, upgrades, training classes, methodology consulting, and in-house coaching of the design engineers.

About CIDEON

CIDEON Software GmbH & Co. KG is a full-service software and solution provider specializing in engineering processes and 360-degree support of SAP PLM users in conjunction with CAD solutions.

For over 25 years we have offered solutions for a lean product development process and developed SAP PLM direct integration for leading CAD systems.

Our years of process and consulting know-how form the foundation of tried-and-tested SAP PLM complete solutions, which increase the productivity and efficiency of our customers' product development processes.



CIDEON

efficient engineering.

- Process Consulting
- Engineering Software
- Implementation
- Global Support

We would be pleased to advise you!

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