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Case Study Sartorius AG

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Sartorius AG

Integrated SAP ERP/PLM solution for improved collaboration in the laboratory

From strategic project consulting to system deployment, CIDEON, in close collaboration with SAP, has tackled the introduction of SAP PLM at Sartorius, the world's leading provider of laboratory and bioprocess technology. The company, based in Göttingen, is taking a resolute but balanced two-pronged approach of growing organically and through acquisitions, as well as standardizing and harmonizing its business processes around the world.

A profile of Sartorius

The Sartorius Group is a leading international partner of biopharmaceutical research and the industry. With innovative laboratory instruments and consumables, the Group's Lab Products & Services Division concentrates on serving the needs of laboratories performing research and quality control at pharma and biopharma companies and those of academic research institutes. The Bioprocess Solutions Division with its broad product portfolio focusing on single-use solutions helps customers to manufacture biotech medications and vaccines safely and efficiently. The Group has been annually growing by double digits on average and has been regularly expanding its portfolio by acquisitions of complementary technologies. In fiscal 2018, Sartorius earned sales revenue of around 1.57 billion euros. Currently, some 8,500 people work at the Group's approximately 60 manufacturing and sales sites, serving customers around the globe.

Sartorius' Global Harmonization Project, known by the catchy nickname "shape-IT!," was launched in January 2012. The central focus of the global consolidation venture is SAP ERP (Enterprise Resource Planning). Having been put into operation at the company's Göttingen headquarters in 2012, SAP ECC 6.0 has been rolled out successively at Sartorius facilities worldwide since 2015. Michael Bogus, manager of the Product Lifecycle Management department, reports, "We are integrating all 19 production plants and 90 percent of our sales locations."

Single source of truth

A small team of Sartorius IT experts has been working with the Product Lifecycle Management department since December 2013 to move forward with the next steps of integrated data management, the introduction of SAP PLM (Product Lifecycle Management). Why SAP PLM? "Because it makes sense," explains Bogus. Because PLM is already incorporated in anything labeled SAP ERP—external PDM (Product Data Management) systems are becoming just as redundant as maintaining external interfaces between decentralized systems. Make no mistake, other solutions were also under consideration. "In the final analysis, however, SAP PLM offers Sartorius the best system for integrating all its environments without system interruptions," says Martin Bentin, Sales Manager at implementation partner CIDEON. "When you rely on the single source of truth in a single system, you're working with physically identical information. That, of course, is the strongest argument when data consistency is the goal."

It is impossible to imagine a laboratory without ultrapure water, which is used in practically every application in any laboratory.

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Challenge: Consolidate a heterogeneous system landscape; increase data availability, quality and process reliability in a multi-CAx and Office environment; automate manual processes; collaboration; data mining

Methodology: Replace old PDM solutions; introduce SAP PLM; data preparation and migration; implement SAP Engineering Control Center; set up universal converter

CIDEON solution: Introduce SAP PLM while maintaining the Inventor, Creo and Cati V5 CAD systems; integrate the Office world into SAP PLM via CIDEON Conversion Engine; integrate CAE into SAP via SAP ECTR

CIDEON services: Comprehensive support during system selection in SAP and Autodesk environments; implementation; data preparation/ migration; CAD/CAE/Office integration; customization; training; customer care services

Result: Company-wide data harmonization in one central data source; fast access to consistent product data; collaboration with specialized departments and suppliers; data mining

Mixed bags in the shopping cart

Indeed, a uniform data source is required at Sartorius. According to Bogus, when you acquire new companies, you have to grapple with a "mixed bag" of authoring tools in the CAx segment as well as PDM systems. "The variety, including untold amounts of shadow IT, simply reflects your portfolio. The number of acquisitions demands harmonization. We want to consolidate our diversity." In 2013 the specific discussion was about replacing the various PDM solutions while maintaining the Inventor, Creo and Catia V5 CAD systems. "Basically, CIDEON was our immediate choice for this task," recalls Sebastian Slomczyk. "The total package of technology and expertise was the right fit." CIDEON had already implemented Productstream Professional and nearly 40 Autodesk Product Design & Manufacturing Collections internally, and had established a design methodology for building complex assemblies that can be adapted easily. As an SAP Platinum Partner, CIDEON also develops integrations between SAP and the AutoCAD, Inventor, Solid Edge and SOLIDWORKS CAD authoring systems, as well as for EPLAN Electric P8 in the ECAD segment, using the SAP ECTR (Engineering Control Center) integration platform. This multi-CAD approach, CIDEON's long partnerships with SAP and Autodesk, and CIDEON's in-depth project know-how were the deciding factors for comprehensive support of strategic project consulting through to system deployment.

Indispensible: The Conversion Engine

In 2014 CIDEON provided Sartorius AG with its Conversion Engine universal converter. This data hub makes all kinds of documents readable for everyone in the company. Anytime, anywhere. According to CIDEON

In order for cells used in the manufacture of biopharmaceutical agents to grow at optimum rates, they are cultivated in a bioreactor under controlled conditions. Among the factors important for cell growth are the composition of the culture medium, mixing efficiency, temperature, oxygen content and pH value.

consultant Matthias Demuth, "When Procurement needs to access CAD data, they can do this using the conversion results from Conversion Engine." At Sartorius, Conversion Engine's backbone process automatically creates neutral, exchange and Web formats—including data preparation—from Creo, Catia, Inventor and Office (Excel, Word or Powerpoint) documents, including stamping and authorization concepts, and makes them available for company-wide access. This makes life easier and the process faster, since Sartorius does some of its business in the regulatory environment (FDA). Sebastian Slomczyk recalls, "Before, drawings were created and printed by the Design department; the printouts were stamped, scanned and uploaded to SharePoint; only then could manufacturing begin. Documentation was completed in part using routing slips, if you can imagine it! Now, digital signatures are much more effective."
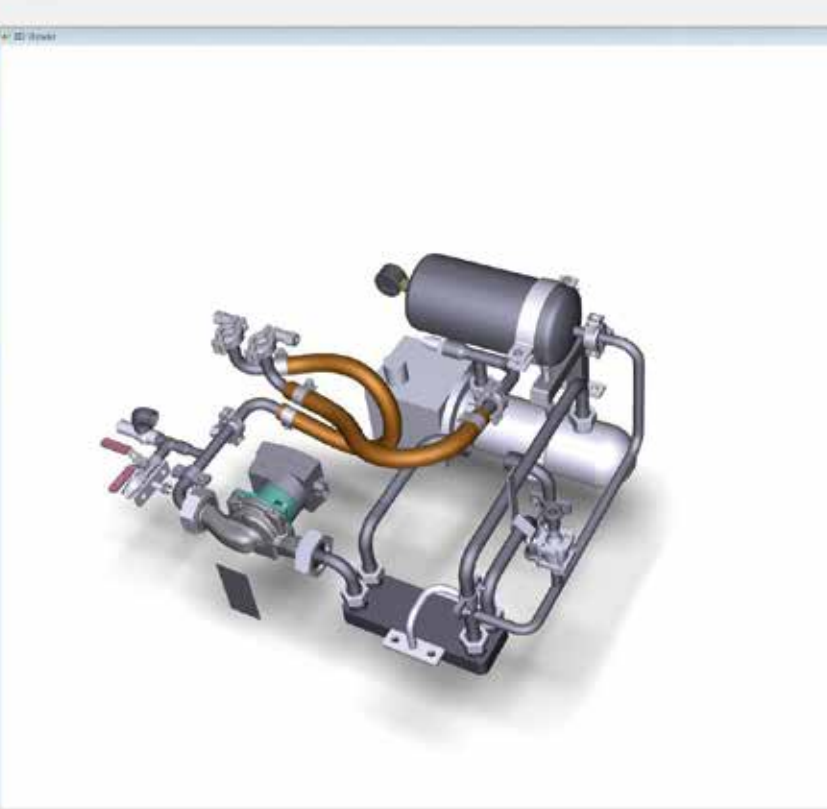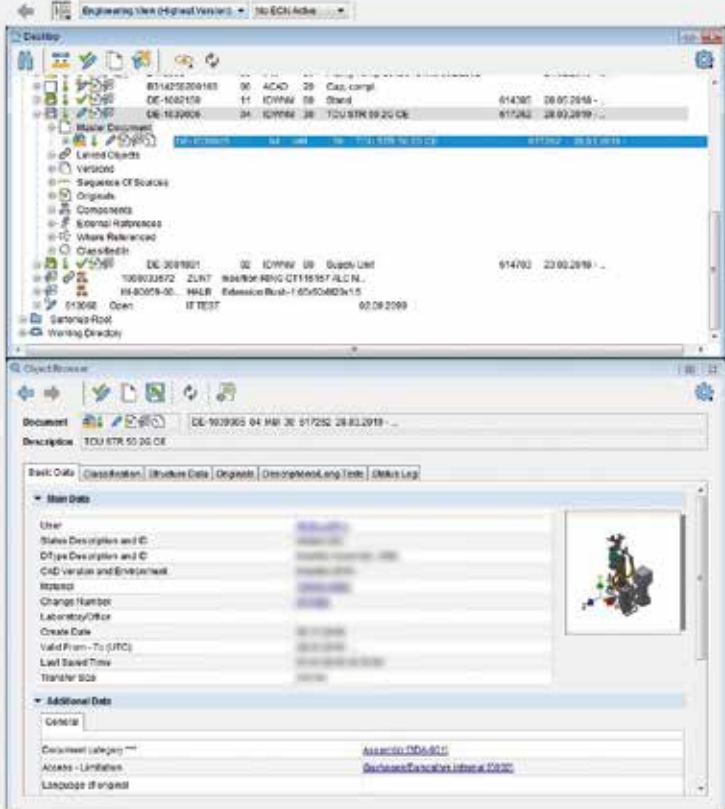
The perfect entry point

The linchpin of the preparation for SAP PLM is the transfer of stock data, meaning that data export, preparation and import of CAD drawings, 3D data sets, construction parts lists and Office documents are to be seen above all as a qualitative challenge and an important component of the project. "Data are a tremendous asset," says Martin Bentin, affirming the importance of this phase of the project. SAP PLM went live at the production facility in Guxhagen in October 2017. Bogus explains, "Prior to that, SAP set up pilots in the test system with support from CIDEON. Only then was SAP ECTR implemented in the productive system." SAP ECTR? SAP Engineering Control Center is not only the data cockpit through which design and development are integrated into SAP. It also makes it possible for the design and development teams, as well as Office users, to access current product data. The intuitive user interface impressed Michael Bogus. "Data handling using drag & drop, the look and feel of Windows, search functions like those in popular search engines: It's the perfect entry point to working with SAP PLM." Engineers from the Development and Design departments were brought up to speed on the new SAP PLM application using the train-the-trainer principle. CIDEON first trained the key users, who now train their colleagues as part of the roll-out around the world.

"Collaboration can be what tips the balance. We don't want data silos, but rather a central database."

Sebastian Slomczyk
IT Business Technology
Sartorius AG

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Look and feel of Windows—for designers, the highlight of working in SAP: Shown here, for instance, is the depiction of an Inventor assembly in the integrated 3D viewer of the SAP ECTR user interface.

Added value for Sartorius

- Seamless management of product lifecycles
- Consistent product structures with integrated transfer of parts lists to all processes, including design, project planning, manufacturing and maintenance
- Cooperation among all departments in the company, and collaboration with suppliers in a uniform, shared database
- Reduced operating costs resulting from IT consolidation
- Creation of added value through data mining
- Reduced complexity with strong growth and increased data traffic
- Compressed project schedules as a result of automatic instead of manual data preparation
- Satisfied designers owing to simple, intuitive data management with a modern user interface

Tipping the balance

One immediate benefit of the SAP PLM solution is that manufacturing parts lists are generated automatically and in compliance with processes; these parts lists then appear as unambiguous data for supplier requests or manufacturing orders. "Parts lists were and are of course a huge topic," confirms Sebastian Slomczyk. "Now, our engineers don't have to do anything by hand and no one has to give the lists a second thought." The same goes for the traceability of approval and change processes. Collaboration scenarios "among suppliers, idea management and Research & Development are important" as well, says Slomczyk. "Collaboration can be what tips the balance. We don't want data silos, but rather a central database. We receive new data by the terabyte from R&D, acquisitions and customers' usability studies. We have to take advantage of these data, and we can only do that with a solid foundation on the system side. With SAP PLM, we are quite well positioned."

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We can roll this out in good conscience

Michael Bogus provides the mid-term report after a good year of working with SAP PLM: "The transition was relatively seamless. We have a year's worth of experience now, and it has been good. We wanted to implement SAP with as few customizations as possible, and therefore it is a very stable, robust solution that we can roll out in good conscience." CIDEON's expertise continues to be in demand at Sartorius, be it in the form of CIDEON Customer Care services to support and optimize ongoing operations, or system migration at additional Sartorius locations. For instance, in Royston near Cambridge (UK), with the replacement of the ERP, migration of the database from Vault to SAP PLM, and the introduction of SAP ECTR and CIDEON Conversion Engine. Not the least of CIDEON's functions is to build a bridge to Eplan Electric P8 as part of the SAP ECTR integration, which will allow mechatronic workflows at Sartorius to gain momentum.

Samples are taken regularly during cell cultivation in order to monitor growth and establish cell density. This allows laboratory personnel to determine the optimum harvesting time.

"Data handling using drag & drop, the look and feel of Windows, search functions like those in popular search engines: SAP Engineering Control Center is the perfect entry point to working with SAP PLM."

Michael Bogus
Product Lifecycle Management
Sartorius Corporate Administration GmbH

About CIDEON

CIDEON provides consulting and support to businesses on implementing innovation and optimizing engineering processes to improve performance, customer benefits and business value. CIDEON is an Autodesk Platinum Partner in the German-speaking region, a partner to PROCAD, a Platinum Build Partner to SAP SE and a software partner to Dassault Systèmes. It employs around 300 people at 15 locations in the DACH region. CIDEON is part of the Friedhelm Loh Group.

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- Implementation
- Global Support

We would be pleased to advise you!

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