CADENAS


ENTERPRISE 3Dfindit

# Nikon® SLM® Solutions & ENTERPRISE 3Dfindit: From data migration and parts management to ECAD integration

## NIKON SLM SOLUTIONS AT A GLANCE

- Headquarter in **Lübeck**
- **1,000+** SLM® machines with **2,000+** laser
- 7 **worldwide** locations
- **700+** employees
- **Approx. 50** ENTERPRISE 3Dfindit workplaces
- Migration of over **8,600 standard parts**

# Nikon SLM Solutions relies on CADENAS' strategic parts management

As part of its process optimization efforts, Nikon SLM Solutions is introducing the ENTRPRISE 3Dfindit parts management system for data migration and purchased parts catalog integration.

Nikon SLM Solutions AG is a global provider of integrated solutions for metal-based additive manufacturing. Based in Lübeck, Germany, the company is a pioneer in selective laser melting and focuses on the development, construction, and sale of machines and integrated system solutions.

Nikon SLM Solutions' innovative selective laser melting technology is used around the world in a wide range of industries, such as the automotive industry, the energy sector, and toolmaking. Metal-based additive manufacturing is also used in the aerospace industry, where entire turbine parts can be printed. In medical technology, it is possible to manufacture patient-specific implants. The state-of-the-art technology enables significant weight reductions in components, improvements in performance, and cost reductions.

Nikon SLM has set itself the goal of being a leader in product performance and innovation. Process optimizations were necessary to maintain and further develop this goal. However, in the course of introducing new PLM and CAD software, the company encountered challenges with data migration. The solution was the strategic parts management system

ENTERPRISE 3Dfindit. Over 8,600 standard and non-standard parts were migrated using the software solution from CADENAS. At the same time, ENTERPRISE 3Dfindit enabled engineering processes to be optimized. The identification of preferred parts and automatic PLM duplicate checking enable faster and more efficient working methods. CAD data import from the manufacturer now takes only two minutes instead of the ten minutes

previously required. After that, only the specific Nikon SLM attributes need to be filled in.

With the introduction of ENTERPRISE 3Dfindit, Nikon SLM also benefits from a third use case, ECAD integration.

## Process optimization at Nikon SLM Solutions: The challenge of data migration

Due to improved future viability in terms of providing digital twins and configuration controls, Nikon SLM began optimizing its processes in 2022. This initially involved integrating Siemens Teamcenter as a PLM system and Siemens NX, as well as ECAD integration with EPLAN and an interface to the SAP ERP system. During the PLM implementation, Nikon SLM encountered challenges with data migration. "When you use a CAD converter, CAD data can be transferred from one system to another. However, when we looked into the issue more closely, we quickly realized that this was not the right technology for us. In addition to the high costs, the poorer data quality was a particularly negative factor," says Gordon Wirth, Senior PLM Process Manager at Nikon SLM.

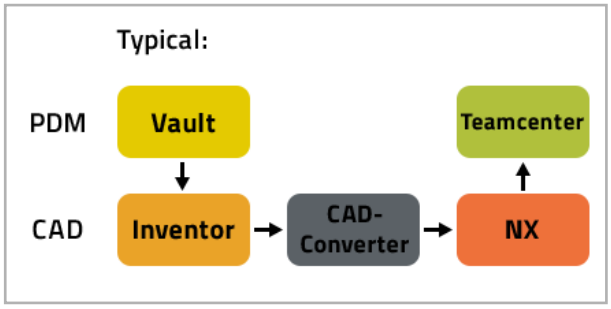


Figure 1: Data migration with CAD converter.

When transferring data between different systems using CAD converters, inaccuracies can occur and data and information, such as manufacturing information or tolerances, can be lost. Manual checking and supplementation are usually necessary after the transfer, which leads to additional costs. Furthermore, conversion processes are lengthy and time-consuming, especially with complex data. For this reason, the PLM implementation team sought a better solution: "We looked into ENTERPRISE 3Dfindit and created a new use case for ourselves. We used the software to migrate our CAD data. After all, why should I convert the manufacturer data when I can generate it with ENTERPRISE 3Dfindit? This way, you always have the latest data," says Wirth.

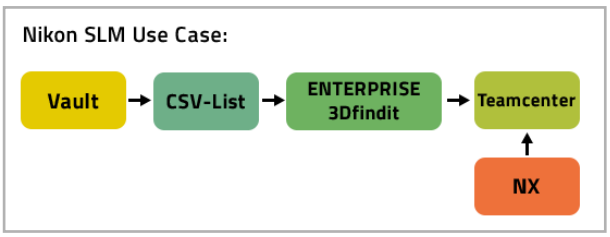


Figure 2: Nikon SLM use case with ENTERPRISE 3Dfindit.

## Use case: Data migration in 4 steps with ENTERPRISE 3Dfindit

Nikon SLM manages around 50,000 proprietary parts and 8,600 standard parts, which had to be migrated from the old software to the new one. After successfully integrating Siemens NX and Teamcenter ENTERPRISE, the company introduced 3Dfindit with an interface to both systems.

**The migration of data from the old software systems (Autodesk Vault and Inventor) took place in four steps:**

**1. Performing a CSV import of the master data export to ENTERPRISE 3Dfindit:** Using a CSV list, the master data was first exported from the old PLM system, cleaned up, and enriched with attributes.

**2. Parts allocation of over 8,600 standard and common parts:**
The parts were compared with existing manufacturer catalogs using ENTERPRISE 3Dfindit. This resulted in a rate of 50%, as some data could not be assigned. In other cases, supplier data was available from manufacturers who did not yet have a catalog on 3Dfindit.

**3. Import all assigned parts into Siemens NX and Teamcenter:**
Within a short period of time, the 3D models could be imported with the latest manufacturer information.

**4. Import all unassigned items into Teamcenter:**
All parts that could not be assigned were imported into Teamcenter without a 3D model. The PLM implementation team is satisfied: "Even challenges that arose during the migration were overcome with

the help of a very dedicated CADENAS consultant," explains Wirth. And the results speak for themselves: Nikon SLM recorded a time saving of around 13 minutes per new part creation during the migration, while maintaining the highest data quality.

## Parts management with ENTERPRISE 3Dfindit

In addition to data migration, ENTERPRISE 3Dfindit also fulfilled its original purpose at the Schleswig-Holstein-based company: the management of standard, purchased, and proprietary parts. Nikon SLM develops, builds, and sells machines and integrated system solutions in the field of selective laser melting. Approximately 4,000 to 6,000 parts are required to build a machine – a total of almost 60,000 parts are in circulation.

Before the introduction of ENTERPRISE 3Dfindit strategic parts management, components were managed using the PLM system, but all data had to be entered manually, which meant that errors were inevitable. "It was important for us to avoid duplicates and reduce costs by reusing existing parts. We also wanted to introduce a traffic light system to control and manage part usage," says Wirth. It often took a long time to search online at the manufacturer's website, manually download the respective CAD model, and integrate it into the CAD design.

## Save valuable engineering time: new parts system in two minutes

It was important to Nikon SLM that the valuable time of engineers and designers could be used for value-adding processes. This is achieved with the strategic parts management system ENTERPRISE 3Dfindit. Nikon SLM currently uses the software in engineering at around 50 workstations. ENTERPRISE 3Dfindit offers 3D CAD engineering data from over 1,000 manufacturer catalogs, which are continuously being expanded. Engineers and designers can find the components they are looking for quickly and easily and integrate them directly into their CAD system Siemens NX.

Instead of the previous 18 minutes per new part, an engineer now only needs two minutes to create a new purchased part in the system. After that, only the attributes specific to Nikon SLM need to be entered.

A traffic light system can also be used to define preferred parts and preferred suppliers, while an automatic duplicate check ensures that standard, purchased, and proprietary parts are only used once in the company. With ENTERPRISE 3Dfindit, Nikon SLM is also informed of product discontinuations at an early stage, making it possible to find a suitable replacement product in good time.

**>> Essentially, convenience, quality, and speed in parts production have increased, and with them user satisfaction. <<**

Gordon Wirth
**Senior PLM process manager**
Nikon SLM Solutions AG

If, despite a long search at the manufacturer's website and on various external portals, no suitable engineering data could be found, the component had to be designed manually. This resulted in long search times and unnecessary work for the new design. The effort required by engineers and designers to search for and create components was also considerable. If a required component could not be found in the system, it was redesigned manually, which often resulted in duplicate parts being created. Before the introduction of ENTERPRISE 3Dfindit, the creation time per new part was approximately 18 minutes.

## ENTERPRISE 3Dfindit: One software, many applications

In addition to data migration and parts management, ENTERPRISE 3Dfindit fulfills another use case at Nikon SLM: ECAD integration.

In a company like Nikon SLM, different departments, such as electronics (ECAD) and mechanics (MCAD), work together on a product. To ensure that everything fits together in the end, the electronic components (e.g.,

sensors or motors) must also be visible and usable as 3D models in the mechanical design software—in other words, ECAD-MCAD integration. It was therefore important for Nikon SLM to provide an electronic CAD model (ECAD model) in the mechatronic BOM (bill of materials) in Siemens NX.

The electrical product designer uses EPLAN to create new electronic components. These are then transferred to Teamcenter, where they are stored as data records. To ensure that these components are also visible and usable in the mechanical design, they are supplemented with 3D models. ENTERPRISE 3Dfindit is used for this purpose. The software provides native 3D models that can be used directly with Siemens NX. These models also contain important manufacturer information such as item numbers and product descriptions.

The mechanical product designer needs the electronic component in 3D in order to integrate it correctly into the overall model of the product – for example, to check whether there is enough space or whether other components are affected. To do this, they are given temporary write access to the corresponding data record in Teamcenter. Ownership remains with the electrical designer. After the component has been added to the mechanical bill of materials, a model quality check is performed. A colleague checks whether the 3D model is correct and complete. ENTERPRISE 3Dfindit enables electrical and mechanical teams to work together on a product without getting in each other's way.

## Outlook: further possible uses of ENTERPRISE 3Dfindit for Nikon SLM

The introduction of ENTERPRISE 3Dfindit has been a success for Nikon SLM in many areas.

In the future, the company plans to better integrate its existing software landscape. This includes upgrading to the latest version of Teamcenter.

Another focus is on integrating electrical cabling, which is currently still managed with Siemens NX. The "NX Harness Design" function allows cable systems to be planned and displayed in a 3D model. Until now, however, many components could only be stored and used within NX, which made it difficult to reuse and search for specific parts. In the future, these components and data will be more closely integrated into ENTERPRISE 3Dfindit. There, standard components such as connectors, cables, or sensors can be stored and managed centrally—with all their attributes. In the long term, the reuse of cable and component data will no longer be limited to NX, but will also be possible via ENTERPRISE 3Dfindit.


NXG XII 600® with RELOOP automated powder management system.

# Company descriptions

**www.nikon-slm-solutions.com**

## Nikon SLM Solutions AG

Nikon SLM Solutions AG is a global provider of integrated solutions for metal additive manufacturing and is headquartered in Lübeck, Germany. As a pioneer of selective laser melting, the company focuses on the development and distribution of the most innovative, production-oriented systems for metal-based additive manufacturing. Nikon SLM's goal is to be a leader in product performance and innovation—so that customers from all relevant industries can benefit from this approach.

**www.3Dfindit.com**

## CADENAS GmbH

CADENAS is a leading software manufacturer in the fields of strategic parts management and parts reduction (ENTERPRISE 3Dfindit) as well as electronic CAD product catalogs (eCATALOG 3Dfindit). With its customized software solutions, CADENAS acts as a link between component manufacturers and their products and customers. CADENAS has been part of the KEYENCE Group since 2025.



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