

ANSYS® + SLM Solutions Group AG



“We were searching for a CAD tool that was easy and intuitive – one that pays for itself even when used occasionally.”

Andreas Wiesner

*Head of Process and Material Development
SLM Solutions Group AG*

Manufacturer of 3D Printing Machines Uses ANSYS SpaceClaim



Our top model comes with up to four laser sources and offers a large installation space.

Introduction/Overview

We manufacture three types of selective laser melting (SLM) machines and metal powder for our clients' 3D printing needs. We serve a wide variety of industries, specifically aviation and aeronautics, automotive, energy, toolmaking and medical and dental. Clients use our SLM products to produce prototypes and small series rapidly and cost-effectively without the need for tools or molds.

Challenges

Like our clients, we also face the challenges of visualizing and testing ideas more rapidly. And, as a machine builder, we are often pressed to develop parts for our machinery ASAP. To overcome these challenges, our developers wanted to replace their conventional CAD system with a more user-friendly solution for faster design exploration.

Technology Used

ANSYS Discovery SpaceClaim

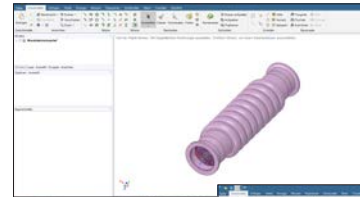
Engineering Solution

Discovery SpaceClaim empowered our developers (with little to no additional training) to visualize their ideas in 3D and design, modify and prepare their own production-ready components. With the software, they can also optimize and repair models, rapidly transfer STL files, influence design geometries without consideration of the structure tree or construction history and easily define free-form structures with the Discovery SpaceClaim's powerful functionality.

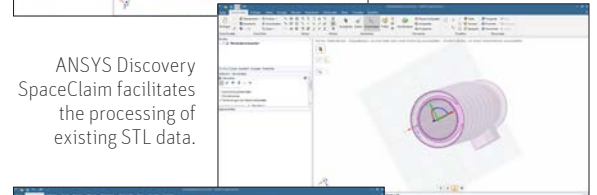
Benefits

One of the biggest benefits is that our CAD user group is no longer reliant on our mechanical engineers to bring their ideas to life and create the components they designed. And, because Discovery SpaceClaim removes so many of the obstacles we faced with conventional CAD systems, we've been able to use it for numerous, additional applications. We can prepare a lot more models for production, now that components are optimally placed, tolerances and surfaces are verified, radii adapted, offsets attached, etc.

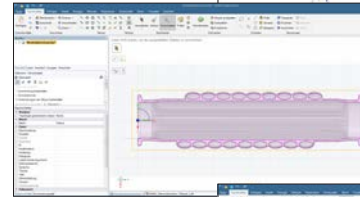
We can also create CAD geometries from imported STL data, which can be a very tedious process using other tools. In Discovery SpaceClaim, it can be done in a few mouse clicks.



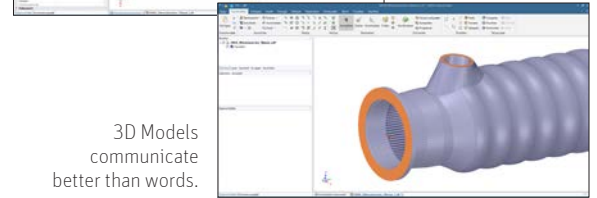
Using Discovery SpaceClaim, we were able to build a coil heat exchanger that can be manufactured without support geometries.



ANSYS Discovery SpaceClaim facilitates the processing of existing STL data.



3D Models from different CAD systems can be opened easily and processed without restrictions.



3D Models communicate better than words.

Company Description

Based in Lübeck, Germany, SLM Solutions Group AG is a leading provider of metal-based additive production technology. The company was the first to process reactive powders like aluminum and titanium using selective laser melting (SLM) technology.

