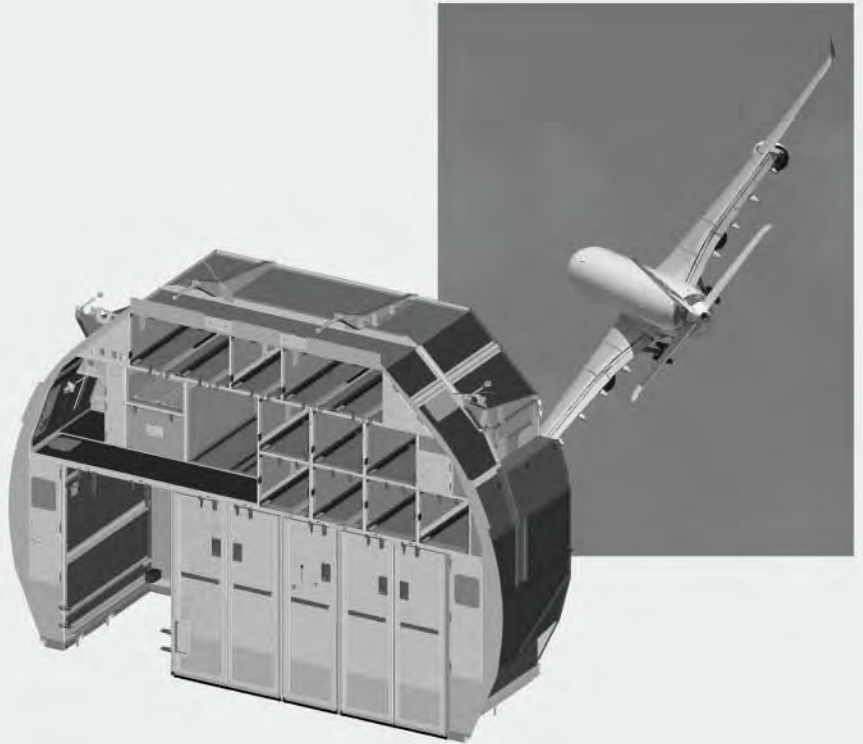




Flying high with **MEDUSA<sub>4</sub>**<sup>®</sup> –  
Bucher Leichtbau gives legacy  
data a new lease of life

**PARTNERS IN SUCCESS**



Introducing a new CAD system invariably has a major impact on the everyday workings of any design department, especially when it involves the transition from 2D to 3D. In order to avoid an endless war of attrition, organisations must protect their existing knowledge, ensuring the easy, continuous use of historical data. Bucher Leichtbau AG, a Swiss public company which supplies the airline industry with custom fittings, deploys Pro/ENGINEER® with the integrated drafting system STHENO/PRO™, a complementary combination which allows the company to achieve significant time and cost-savings.

Flying is fun – especially when gliding above the clouds enjoying a good meal. Service is an important differentiator among airlines, and so it is no surprise that manufacturers pay special attention to their on-board kitchens, known as “galleys” in the trade. Functional, durable and low-maintenance – these attributes are of top priority for international clients.

Heinrich Bucher, founder of Bucher Leichtbau (translated roughly as “lightweight design”) AG, recognised this need over 50 years ago, when, in 1953, he began to develop and produce airplane galleys and trolleys. The recipe for his success was, in short, a matter of moving away from sandwich-style construction and introducing the aluminium frame.

The company, based in Fällanden, Switzerland, now employs over a hundred staff members. Its product portfolio includes galleys, trolleys and in-seat video systems for the most diverse requirements and installation options, making travel safer and more pleasant for flight staff and passengers alike. Its customers include airlines and leasing companies like

Emirates, Lufthansa, Air France, Air Berlin and debis Air Finance. Bucher Leichtbau also produces tray tables for DaimlerChrysler’s Maybach luxury saloon, a high-end personalised car, which models itself on the legendary Maybach cars of the 1920s and 30s.

Always on the lookout for new opportunities, Bucher Leichtbau recently developed a fully equipped medical centre for the A380, which Airbus is planning to take on a promotional world tour in the near future.

### CAD: An Established Attendant

Bucher Leichtbau AG was an early convert to the use of computer aided design software for product conception and development, and used Applikon’s Bravo 2D design package for many years.



The Bucher Leichtbau headquarters in Fällanden, Switzerland

But increasing customer demands, and the tightly linked need for more flexibility and simultaneous time and cost-savings, forced the company to reconsider its design tools.

Bucher's need for change was also precipitated by the fact that Bravo development had been stagnating, and the alpha workstations the software ran on were coming to the end of their lifecycle. In order to find a proven 3D system which would meet its needs, the company consulted its U.S. subsidiary, Bucher Aerospace Corp. As a Boeing supplier using Pro/ENGINEER®, the corporation provided positive feedback on its experience with the parametric 3D system.

### Historical Data - An Invaluable Asset

Even as decision-makers at Bucher Leichtbau declared that 3D would be used for all new projects, they also knew that they neither could, nor wanted to, do without a 2D system.

Andreas Bollinger, Bucher Leichtbau's CAD Manager for the past four years, explained, *"About 70 percent of our corporate know-how is captured in Bravo designs. Most of our new developments are based, in some form or another, on existing products. It is therefore absolutely essential that we are able access historical drawings if we don't want to keep re-inventing the wheel. Plus we need a user-friendly system for creating simple electrical schematics."*

And a 2D system is more than a means of accessing legacy data. Technical drawings still remain an internationally recognised means of communication - easily accessible and comprehensible by technicians throughout the world - and form an essential link between customers, partners and developers for Bucher's global activities.

### STHENO/PRO – Professional Drafting Fully Integrated with Pro/ENGINEER

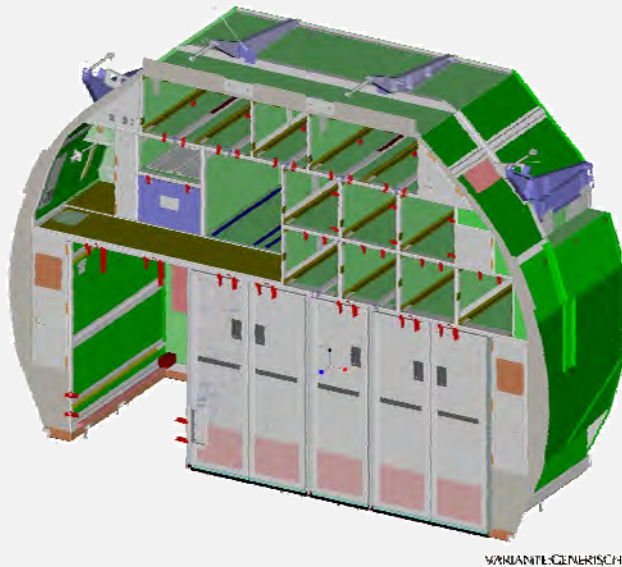
Originally, Bucher Leichtbau had simply been looking for a modern replacement for its existing 2D system. Its CAD specialists had already taken on board the fact that, in addition to their 3D system, they would have to maintain and administer a separate



The galleys produced by Bucher Leichtbau AG make optimal use of limited cabin space

drafting system. In the process of a comprehensive market evaluation, they came across CAD Schroer's **STHENO/PRO** software. What Gilbert Koch, director of the company's Swiss subsidiary told them about **STHENO/PRO** sounded custom-made for Bucher's requirements.

Founded in 1986 as a provider of CAD-based engineering services to manufacturers, CAD Schroer GmbH (CSG), now a worldwide systems vendor, has remained true to its roots and taken these specific challenges to heart. The result: **STHENO/PRO**, a powerful drafting system which provides the ideal solution for issues faced by Pro/E users like Bucher Leichtbau.



A galley unit designed with Pro/ENGINEER

CSG can look back on years of experience using and developing MEDUSA (whose kernel forms the basis of **STHENO/PRO**) in close, collaborative relationship with PTC®, owners of the MEDUSA product suite until 2001, when the rights were sold to CSG. As a result, **STHENO/PRO** is the only drafting system on the market today which is 100% interoperable with Pro/ENGINEER.

**STHENO/PRO**'s highly efficient user interface was designed to work the way engineers do, offering fast, single-click access to all major design tools. Professional-grade drafting functionality and flexible deployment options (integrated or standalone, with support for all major operating systems) meant that companies like Bucher Leichtbau could quickly reap the benefits:

Bucher Leichtbau AG, like any company looking to make changes to its CAD landscape, faced some typical problems:

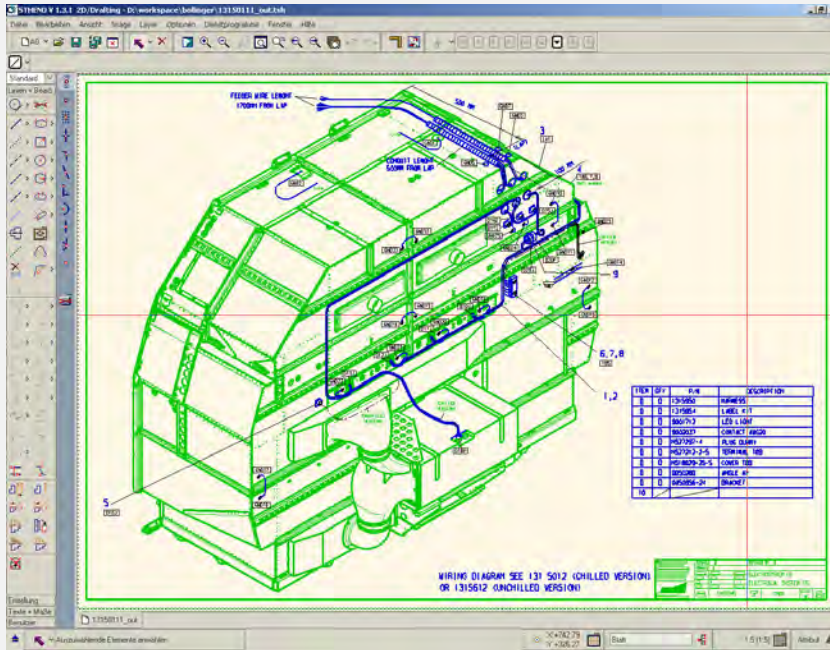
- The drafting functionality of many 3D systems didn't live up to requirements or expectations
- Legacy systems had to be deployed in parallel over a considerable period of time
- Insufficient interoperability between old and new systems made it harder to use legacy data in the 3D system

- Powerful, intelligent professional drafting system
- Allows continued use of legacy data
- Easy editing of, or conversion to, Pro/DETAIL drawings for concurrent engineering
- Minimal training required
- No need to double up on systems administration time and effort
- Tight integration with a company's PLM environment, including PDM and ERP interfaces

**Bucher Leichtbau – Flying**

## No Pain No Gain

But nobody sells miracles, and inevitably Bucher Leichtbau had to convert its legacy Bravo designs into a universal format. In order to be able to reuse the data, existing drawings were converted to DXF format, with the latest versions also created as PDF plot files – the only format which ensures a 100% correct representation of the drawing data.



**STHENO/PRO** is used to augment the 3D views (in green) produced in Pro/DETAIL

As is so often the case, what sounded simple enough nevertheless put quite a strain on the company's operations. In the end the process took around four months – little wonder when, according to Bollinger's estimates, 80,000 drawings had to be converted!

Everyday life has now returned to normal at Bucher Leichtbau AG, but with a new and more

contemporary IT environment: the company currently deploys 16 Pro/ENGINEER and three **STHENO/PRO** licenses on PCs running Windows 2000 Professional, with product data management handled by Pro/INTRALINK®.

The new set-up is meeting and even beating expectations. As intended, the DXF data can be easily read and quickly edited using **STHENO/PRO**, without having to go to the - often extensive - trouble of regenerating a 3D model from legacy data.

Because **STHENO/PRO** can be fully integrated with Pro/ENGINEER, Bucher's designers have, from the beginning, been able to work in a familiar Pro/E environment. And although engineers initially concentrated on creating and modifying designs based on legacy data, they soon came to appreciate another part of **STHENO/PRO**'s functionality: With a click of the mouse, Pro/DETAIL® drawings, derived from Pro/ENGINEER models, can be transferred to **STHENO/PRO** for further processing, and then automatically updated in their native Pro/DETAIL® format.

This allows designers to quickly create customer layouts before starting the 3D modelling process; to augment existing Pro/E views with cabling; or to easily generate technical documentation. The process not only transfers the geometry itself, but also the drawing structure and its associated attributes.

Because **STHENO/PRO** is used for drafting on a Pro/E sheet, all the benefits offered by Pro/INTRALINK apply: designs are treated in the same way and displayed in the same manner within the administrative structure, to include all the helpful supplementary information, such as component previews. They also underlie the same release procedures.

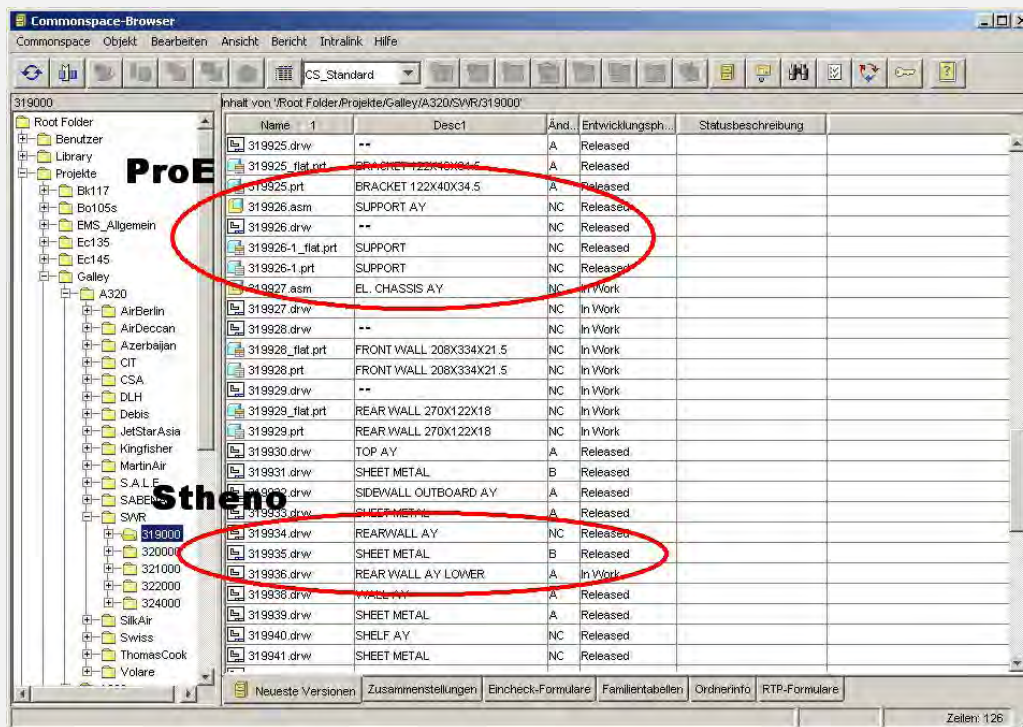
## High with **STHENO/PRO**™

## What Really Counts is Cost Effectiveness

But of course 3D modelling and professional drafting aren't pursuits in their own right. They are used strategically to achieve a high quality product with maximum efficiency – an objective which Bucher Leichtbau AG managed to achieve within a very short period of time. And even though the implementation of PRO/ENGINEER with **STHENO**/PRO only happened recently, the company has already achieved impressive results.

*some cases we have been able to reduce our editing time in various application areas by up to 60%."*

It's hard to think of a more convincing argument for the complementary deployment of 2D and 3D CAD in this high-flying combination. Add to that the local, competent customer service and support, as provided by CAD Schroer, and you can only speak of a true stroke of luck – or genius.



**STHENO/PRO** DESIGNS ARE TREATED AND DISPLAYED JUST LIKE **PRO/ENGINEER** FILES IN **PRO/INTRALINK**

Andreas Bollinger confirms: "We really hit the nail on the head when we chose **STHENO/PRO**. The system supports our 3D strategy, and has saved us from making uncomfortable compromises. Because **STHENO/PRO** integrates with **Pro/ENGINEER**, we were able to use it productively in no time. And in

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