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SWISS PREMIUM AIRCRAFT INTERIOR PROVIDER TAKES OFF WITH MODELSEARCH

Bucher Leichtbau AG | Premium Provider of Aircraft Interior

IDENTICAL PARTS ON THE RADAR

INDUSTRY

Aircraft Interiors

PRODUCTS

Catering
Cabin
Medical Systems
VIP Interior

LICENSES

ModelSearch
Windchill
Creo Parametric

EMPLOYEES

320

In the aerospace industry, the winds are harsh. The competitive climate is dominated by constantly rising time and cost pressures. A challenging environment that Bucher Leichtbau AG in Fällanden, Switzerland, has always faced with intelligently solved ease. The use of ModelSearch is further proof of this. After all, thanks to this software, as much as possible is reused rather than being completely reinvented.

With a minimum of weight but still the highest level of stability – this idea guided Heinrich Bucher when he founded his own company in 1953. He recognized early on the potential of aluminum as the lightweight among metals and consistently relied on this promising material. With success, as today, the Bucher Group is an internationally recognized premium provider of aircraft interiors. Well-built galleys and trolleys are part of the lightweight specialist's offerings, as well as storage spaces and various cabin fixtures, medical equipment such as a 16 g-compatible patient stretcher, and VIP interiors. According to CAD/PDM Manager Stefanie Altenburger, the galleys contribute by far the largest share – around 80 to 90 percent – to total revenue. The Bucher Group, with its three locations and a total of around 320 employees, is known for high-quality

design solutions. These not only convince with minimal weight but also with maximum space efficiency, sophisticated details, and incredible robustness. After all, in an aircraft, it is essential to withstand high accelerations and, potentially, quite severe turbulence.

6,000 DUPLICATES DETECTED

Although it may seem otherwise at first glance, hardly any galley is exactly the same as another. Even among aircraft of the same type, there are often significant differences in equipment. „The demand for customized, client-specific designs is increasing,“ confirms Stefanie Altenburger. „Galley systems are made up of similar components—mainly various units where spoons, cups, and other utensils can be securely stored—and the basic shape of the system and various angles are generally the same. However, there are usually some special features to consider during drawing or modeling,“ explains the CAD/PDM Manager.

This fine-tuning has been much easier for the engineers at Bucher Leichtbau AG since 2015, thanks to the introduction of ModelSearch. „The pressure on suppliers in the aviation industry is enormous. The reusability of existing parts is therefore a huge issue for the family-run company, which has been

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Although hardly any galley is identical to another, galley systems share a similar basic structure and sometimes overlapping components. ModelSearch assists during the design process by helping to find reusable parts.

highly successful for three generations," says Andreas Bollinger, a former Bucher employee who switched roles a few years ago. Now a CAD/PDM Consultant at Novita Engineering GmbH—a company specializing in engineering, consulting, CAD/PLM software, and IT services—Bollinger counts Bucher Leichtbau AG as one of his clients. „The connection between these two companies has existed for more than ten years. The collaboration dates back to the Pro/ENGINEER era," recalls Bollinger.

Today, Bucher uses PTC Creo Parametric 2.0, PTC Windchill PDMLink 10.2, and the MAIT add-on ModelSearch, which is fully integrated into both software environments. „It's a cool tool that's really easy to use and automatically tracks down reusable 3D models during the design process. The user can define

the similarity percentage at which they should be notified about existing models in the database," explains Sergio Spangaro, head of the CAD/CAM/PDM department at Novita Engineering, describing the geometry-based parts search software developed in Linz. Thanks to ModelSearch, around 6,000 duplicates were identified at Bucher. „In some cases, the same parts were even listed five times in the system," says Stefanie Altenburger, pleased that these unwanted multiple entries were eliminated with the help of ModelSearch.

AMORTIZED WITHIN A FEW MONTHS

Currently, the construction-supporting, fully automated live search at Bucher Leichtbau AG is set to a match rate of 75 percent. According to Stefanie Altenburger, this works very well to identify parts that would be extremely diffi-

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cult or nearly impossible to find just by name. "This is mainly because many items in our product data management are listed under similar terms. For example, there are hundreds of components that we refer to as 'angles' in some way," says Stefanie Altenburger. This also explains why, in the past, Bucher often preferred to redraw or redesign rather than spend too much time searching, fully aware that creating a new part takes both time and money.

A precise ROI analysis after acquiring the ModelSearch licenses estimated savings of 1,500 Swiss francs per reusable part. "Viewed this way, the investment costs were covered within six months," reports a visibly satisfied CAD/PDM Manager. In her further explanation, Stefanie Altenburger points out that significant efficiency improvements can be achieved across all business processes – from purchasing, to design and production, to inventory management – thanks to this search software from MAIT. "It already saves us a significant amount of time if we can copy from a similar part. And when – as has happened 30 times recently – we actually find a 100% identical part, we not only save time by not having to create it in the CAD and ERP systems, but we might also avoid redoing finite element method calculations or ad-

ditional certifications," she explains.

Another feature frequently used by the engineers at Bucher Leichtbau AG is the assembly recognition in ModelSearch. This was set up so that similar assemblies with a maximum of 25 parts also appear automatically in the "parts match radar" if they already exist. This ensures that certain purchased components, just as they were previously sourced, are used again.

NO ENTRY BARRIERS

Novita is a certified PTC partner, and so is MAIT. The former, as a Swiss company, primarily supports Swiss businesses with expert advice and services in various hardware and software matters, while the latter does the same for Austrian customers. However, when a specific request requires it, both companies are happy to collaborate and approach the German-speaking market together, as Sergio Spangaro emphasizes: "The ModelSearch implementation at Bucher Leichtbau AG is a perfect example of a project where we worked closely together. We've been supporting this customer for many, many years in the areas of PTC Creo and PTC Windchill, and when we heard that Ms. Altenburger was looking for a search tool for similar parts, we immediately brought MAIT into the picture. The software solutions

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from the Linz-based company are simply perfectly integrated into the PTC solution world, as it exists at Bucher.”

This is evident, among other things, in the fact that the usual design environment doesn't need to be left nor an additional application launched to activate the live search in ModelSearch. “It can be installed on the existing server environment, is very easy to use thanks to its direct integration with PTC Creo, and quickly delivers the desired results,” concludes Stefanie Altenburger, praising a tool that addressed the original task — finding the same or similar parts — with the intelligent ease that aligns with the company's motto at Bucher Leichtbau AG.

According to CAD/PDM Manager Stefanie Altenburger, when a part that is 100% identical is found using the geometry-based similarity search or parameter search, Bucher Leichtbau AG not only saves the creation of a new part in both the CAD and ERP systems and the generation of production data, but in some cases, it also avoids re-calculating with the finite element method or undergoing further certification.

ID	Part Name	Material	Quantity	Unit	Value
1	100000000	FRONT	1	PC	100000000
2	100000001	FRONT	1	PC	100000001
3	100000002	FRONT	1	PC	100000002
4	100000003	FRONT	1	PC	100000003
5	100000004	FRONT	1	PC	100000004
6	100000005	FRONT	1	PC	100000005
7	100000006	FRONT	1	PC	100000006
8	100000007	FRONT	1	PC	100000007
9	100000008	FRONT	1	PC	100000008
10	100000009	FRONT	1	PC	100000009

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