

air mail

The InfoMagazin of
Bucher Leichtbau AG, 2010

More efficiency, thanks to lean management.

ATS for patient transport at a higher standard.

A330-300: Project results full of additional benefits.

Flexibility in fixed wing aircraft – for EMS and VIP.

Huebwis: Groundbreaking ceremony for increased optimization.

Proudly sending off the A380 galley for DLH.



Editorial

Depending on circumstances, a route from one point to another can be followed in different ways. However if one wants to advance as business enterprise on the road to success, it makes a world of difference to take certain virtues or values to heart, and to put them into practice on a daily basis.

This is what we have been doing consistently at Bucher since our founding in 1953. It isn't a matter of coincidence that we have been able to establish a solid basis of trust with customers, suppliers and employees through all of our innovative products and services for aeronautics and the automotive industry.

In addition to the essential quality of trust, the importance of two further factors has also increased significantly, namely reliability and quality. And because one can confront the challenges of the market much more effectively with an appropriate amount of energy, we are also driven by a great deal of passion for customers and their market targets. That is how we constantly seek out and find answers to questions that will provide customers with additional benefits.

This is the background against which we made our decision to construct a new building, in order to broadcast a clear signal to strengthen our market position. This, especially in light of the assumptions on which we will continue to make ongoing optimizations to our processes, build stable, reliable and cost-optimized supply chains with our suppliers, and provide our customers with flexible capacities.

Just as we have walked the road to success in the previous 56 years, we will continue to walk it in the future. We will do this by always acting in accordance with our motto: passion – innovation – quality – reliability. You will certainly get a sense of Bucher's major topics when you read the reports on the innovative customer projects in this issue.

I wish you exciting reading and thank you for your confidence you have placed in us.

Kind regards, your

Roland Hengartner, CEO



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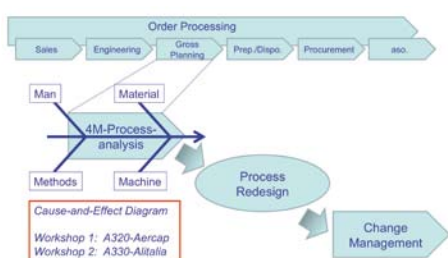
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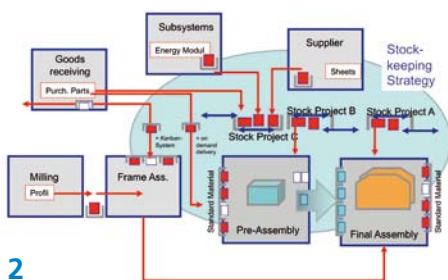
Lean and Slender towards More Efficiency

Roger Rykart

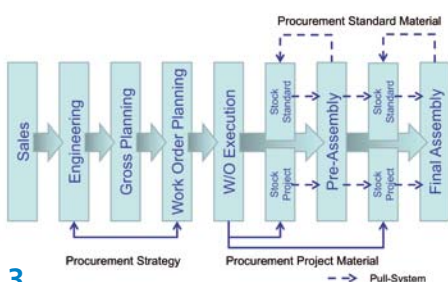
In the context of a project designed to optimize operative processes, Bucher has put together a further package of measures targeted towards a further increase in efficiency. The resulting added value provides competitive advantages.



1



2



3

1-3 Process/optimization analysis illustrated graphically.

4 Looking for results: Meetings of the work groups.

The central market requirement demanded of Bucher is to develop and realize lightweight, long-lasting products in shorter periods of time. In order to be able to continue to fulfil this task in a way that takes into account the market and the competition, Bucher subjects all operative processes to ongoing optimization evaluations. Consequently, a lean management project began in August 2009 with the aim of both analyzing as well as optimizing efficiency in an ongoing cycle. It already takes into account the processes of the new facility being built, «Bucher 2» (Huebwis), with corresponding definition and linking of processes with those of the headquarters.

Reduced to the Optimal

The project primarily focuses on logistics processes. The resulting optimizations mean that internal orders can be triggered on time, but they also mean optimal contract conditions in respect to suppliers. And in the same way that pre-defined batch sizes can also optimize procurement, parts can be directly supplied to the assembly line – with the result that stocks in storage can be reduced by around 25%. In addition to this, the purpose of the concept is to provide notification to the supply chain early on about order potential. After all, the suppliers should also be able to optimize the planning of their capacities. It is not a matter of coincidence that procurement, related to an order and delivery, based on the premise of «Just In Time» for the purpose of a reduction in warehouse stocks, is included in the specific objectives of this project.

Comprehensive Concept

The advantages of a comprehensive approach were quickly recognized at Bucher. Consequently the concept analyzes the order from the sale

to the installation, or delivery (see *Graphic 1*). Based on this the project team establishes initial items of focus in strategic procurement, storage strategies, order management and flow of goods. Because, that is where the source of the most optimization potential lies for Bucher. Using the results of the respective analyses, workshops and specific work groups are being derived. The things that these initial findings will bring to light will be presented by them at the beginning of December 2009, in order to continue to pursue them as sub-projects. In addition, the project team is defining certain immediate measures which promise direct added value, like e.g. in the areas of goods receipt or trolley/storage reductions.

New Organization

Until now operative departments have been steered by dispatch, the material is delivered according to an arranged date – often too early or too late, or it includes the wrong articles. Here Bucher will be taking a new approach in the future: Dispatch will be there, where the action is taking place, and will «pull» the right materials at the right time in the right quantity from the upstream organizational units, see *Graphic 3*. It is obvious that these structural adaptations will lead to changes in the company organization. In the future, so-called PLPs (Project Managers Production) will begin their function, integrated in the logistics. Directly responsible to the COO, these new officials will be in charge of deadlines, quality, and costs in customer projects. Consequently they will have a considerable influence on the whole of production operations.

Leaner and slimmer, the chances improve for Bucher to attain even more competitive advantages. ■

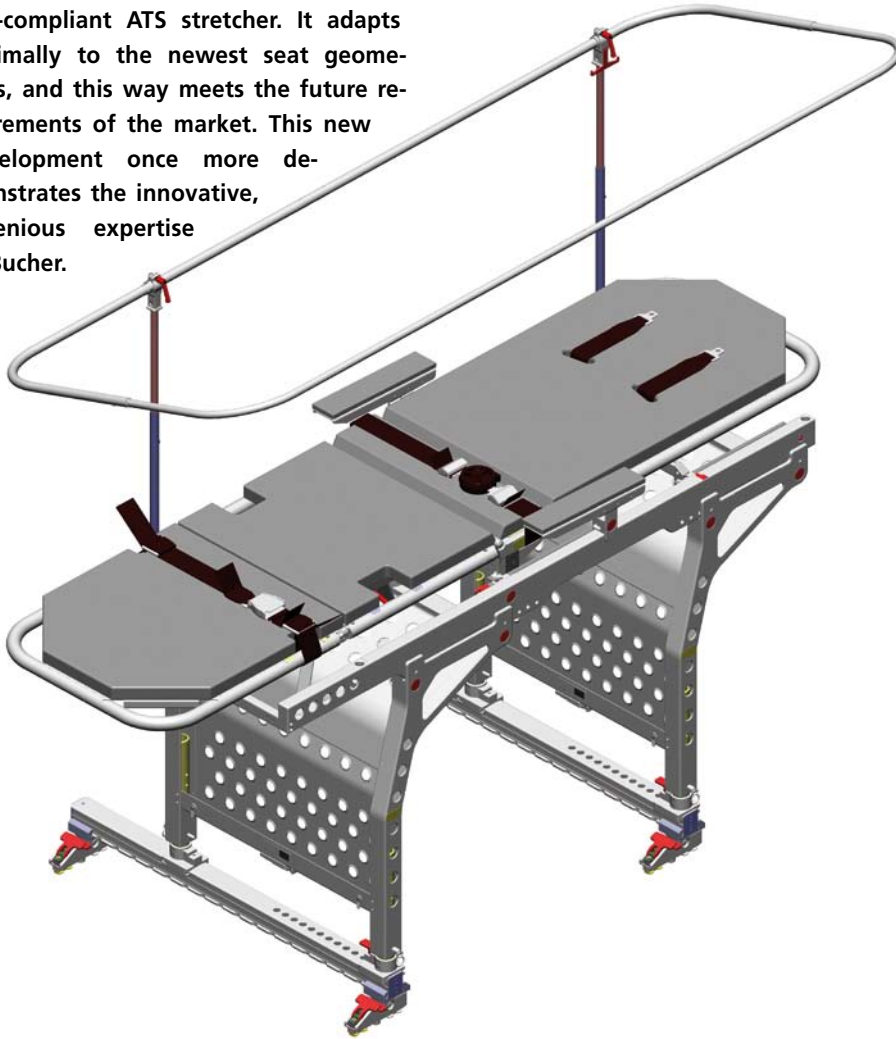


4

Patient Transport with a Higher Standard

Reto Mastel

2010 is the year that the new patient stretcher from Bucher will unfold: the 16g-compliant ATS stretcher. It adapts optimally to the newest seat geometries, and this way meets the future requirements of the market. This new development once more demonstrates the innovative, ingenious expertise of Bucher.



1

The ATS – when set up, it is immediately recognizable as new design.

When, as supplier, one sharpens one's senses to gauge the pulse of the market, it is possible to find answers or formulate solutions to the market needs in a timely way. This is the principle that the lightweight construction specialist, Bucher, has always adhered to – also, and especially, in matters concerning stretchers. The more so now, because its design is currently being influenced by a certain tendency: Because of changes in seat geometries and spacing, and the impending restrictions this will impose on building a patient stretcher into the rows of seats, the current design requires a completely new approach. At the same time, height adjustment capabilities and quick installation times are also a target.

Specifications full of Additional Benefits

Subject to the premises named, the B787 «Dreamliner» supplied the concrete impulse for the development of the ATS. Here it was necessary to meet specific requirements, whereby integration into a new seating rail system was just as important as a «Load Limiter» to dissipate energy without deforming the geometry of the frame. The performance specifications for the ATS also included other characteristics or requirements which had to be satisfied. It was and is naturally without question that the new stretcher should meet the SEI requirements (*Sustained Engine Imbalance*; «Windmilling»). And in addition to height adjustability in order to add more comfort – and thus provide more practical benefits – the concept of the new ATS also includes the option of being usable in aircraft types which have larger spacing between the seating rails (e.g. in the A380).

But the most noticeable and tangible result of this new design is the roughly 30% quicker installation time compared to the former NGS stretcher. This is an additional benefit which is derived from the capability to adapt optimally to the newest seat geometries of the seat manufacturers. For this reason alone it will be possible to install the new ATS stretcher in most aircraft types.

Project Start for the New Construction

The first to begin was an operator from the Far East – with the request for a stretcher suitable for the B787. Following an in-depth review of the facts and conditions, it was quickly decided at Bucher to design a completely new stretcher system instead of a new variation of the NGS. Following this came the order of the new stretcher, now called ATS (Air Transport Stretcher), as well as an agreement for mutual responsibility in development of the new solution.

At the time the project began, the engineers and technicians at Bucher could have drawn on experience from the NGS, but one needed a comprehensive amount of data as basis; after all, the matter at hand was a completely new development. In order to determine the

required specifications, active communication with diverse partners were maintained.

Challenges Capably Overcome

In the course of the project, challenges were faced at Bucher in the area of engineering. The reason for this was that the ongoing optimization of the design of the interior space, in respect to seating, generated certain conditions which had to be taken into consideration. The fact that Bucher found the correct solutions here, surprises just as little as does the solution to the seating rail problem itself: Since the specific design of the B787 seating rails left hardly any leeway in the design of corresponding fittings on the ATS, Bucher quickly overcame this challenge with a clever solution of its own design.

Not surprisingly, the familiar delays which were experienced in the B787 range also had a negative effect on the project planning for the ATS. Until now, however, the responsible parties have managed to keep this problem under control, thanks to strict controls.

Final Phase full of Tests

Following the completion of the development, and construction of the first prototype, at Bucher work is now being done on the testing of the functional models and preliminary structural tests of individual assemblies. This way, possible potential for optimization of the system can be recognized early on. In November 2009 the preliminary series was revised with the goal of subsequently using the planned models for the tests and *First Article Inspections (FAI)*. In addition to structural tests, also dynamic tests, i.e. 16-g-tests are at the forefront.

Production in series of the new Bucher ATS stretchers will begin in the second half of 2010.

Without a doubt the new ATS stretcher represents an optimal solution to the new spatial conditions in cabins. The benefits are provided in the form of an increase in efficiency, which means genuine added value at a higher standard. And naturally, this new

development is once more an opportunity for Bucher to underline its ingenious innovative expertise. ■

StepX Stretcher for Embraer ERJ170

To meet a market need, Bucher has developed a specific model of the proven NGS 16g for use in regional jets. This is called «StepX» (derived from the design of the supports) and has, in comparison to the NGS XL, raised track fittings on one side. Until now, an EASA certification is available for this stretcher with STC (Supplemental Type Certificate) for the *Embraer ERJ170*. A corresponding FAA certification is in its final stages and certifications for further regional jet aircraft types will follow.



NGS Stretcher 16 g XL with New Certifications

For the successful NGS New Generation Stretcher System 16g XL, Bucher has been able to acquire certifications for a whole range of other aircraft types – among them *A318, A340-500/600, B737-800*. Beginning in the second quarter 2010, a supplemental kit for use of the XL in the *A380* (with appropriate certification) should be available.



New Successes arise out of Solid Tradition

Daniel Marti

For the new A330-300 of SWISS, Bucher received the opportunity to develop a range of further innovative elements apart from galleys. Not only because of, but also thanks to, the many years of traditional good collaboration, based on a solid foundation of trust. The results promise valuable additional benefits.



1



2

1
View into the galley G1.

2+3
Footwell makes the front seat area in the B/C attractive.

Since the founding of Bucher in 1953, the light-weight construction specialist has supplied the Swiss national airlines with its solutions. Thus, with SWISS, it maintains a mature partnership of many years – characterized by a level of quality which could be proven once again in the most recent project for this customer:

Initially the customer request was for the delivery of 9 galley shipsets for the most recent addition to the fleet, the A330-300. Bucher responded to this with careful deliberation – with the «Baseline», a standard configuration which was previously developed for the A330 in close cooperation with the leasing company AerCap. Apparently this idea convinced SWISS, because the customer decided that the carefully designed baseline configuration was the optimal foundation necessary for its own purposes.

The Desire for More

In the context of these positive developments, the A330-300 project expanded noticeably. The result was that SWISS requested ideas for further solutions in addition to the already-planned galleys and stowages, especially for the area of business class. There, an innovative concept was to provide a smooth transition from the seat to stowage, or respectively to the galley. And, as expansion of the front seat range, the plans additionally envisaged so-called footwells, which are elements to rest the feet on, so as to increase comfort in the sleeping

position of the seat. In addition to this the customer was looking for a complete, customer-specific adaptation of the galleys and stowages in the door 2 area of business class. In respect to matters concerning the elements in the areas of door 4 at the back, and door 1 at the front, it was possible to derive the majority of this from the baseline.

Convincing Values and Ideas

Again Fällanden had understood correctly how to convince a customer of many years with the constructive functionality and variability as well as the reliable quality of its solutions. Added to this is the painstaking search for ways to further reduce weight. As a result, Bucher was ultimately successful in convincing SWISS thanks to a series of concrete, innovative suggestions. For example the optimal utilization of the galley, the lower weight derived from the intelligent aluminium frame structure, or the use of a honeycomb design for elements such as stowage and footwells. Additionally, the carefully designed, maintenance-friendly construction, overall, also played a not inconsequential role in the decision-making process of the customer.

At Bucher the close relationship with the customer, in the case of SWISS, came about not only because of the mature, carefully maintained relationship, but effectively also because of the close physical proximity.



3



Challenges Overcome

In the design, or engineering, respectively, it was necessary to negotiate around some obstacles here and there. For example the engineers and technicians at Bucher had to redesign the elements in the door 2 area in such a way that these conform to the service concept of SWISS in every way. And the task to be mastered for the footwell was to work with new materials which, in comparison to the galleys, necessarily brought us into some new territory. In particular there were new combinations of materials to deal with, making use of e.g. leather. But in a technical sense, too, e.g. rounded forms were a challenge which Bucher mastered with flying colours. This also applies to the same extent to such new features as the «Glovebox», adjustable monitor holders or interfaces for USB and iPods. Moreover the footwell, in particular, made high demands on precision because the arrangement and installation required coordination with the B/C seat – here, precision in terms of millimetres was necessary.

All in all, these, and the other challenges which Bucher mastered, conform to the new ATLAS standard. According to mutually determined, specific definitions, this will apply in the future at SWISS and will continuously replace the KSSU standard currently installed in the fleet.

Project Findings

The experiences during the course of the project lead to a series of valuable findings following completion: On one hand Bucher could again demonstrate that a project can be successfully realized by taking new approaches – both internally and externally – after defining the requirements. For this, partnerships with pertinent suitability, which focus on achieving specific aims, are exceedingly beneficial. On the other hand, there is naturally a certain level of satisfaction at Bucher because of the added value which it was possible to achieve for the customer. And this through searching for and detecting further optimized functionality and ergonomics in the galleys. Furthermore, the sought-after goal of increased optimization of weight, which was ultimately solved, will certainly bear fruit in valuable operative factors. ■

4-5

A high degree of functionality in the AFT galley complex.

More Flexibility Fast for Fixed Wings

Rolf Kraus

For years, in addition to helicopters, Bucher has equipped fixed wing aircraft with its EMS and VIP interior furnishings. While the existing solutions are being developed on an ongoing basis, now projects for flexible use are becoming increasingly more significant.

As proven interior furnishing specialist with a solid foundation of expertise in the areas of Emergency Medical Systems (EMS) and VIP/business travel aircraft, Bucher also designs and realizes appropriate solutions for fixed wing types. This is mostly done using configurations which have been in use for years, which Fällanden successfully implements, adapted to the respective customer needs. After Bucher recognized an increasing demand for more flexibility of the EMS and VIP furnishings, concrete projects were established which were to be used in fixed wing aircraft.

Development in Record Time

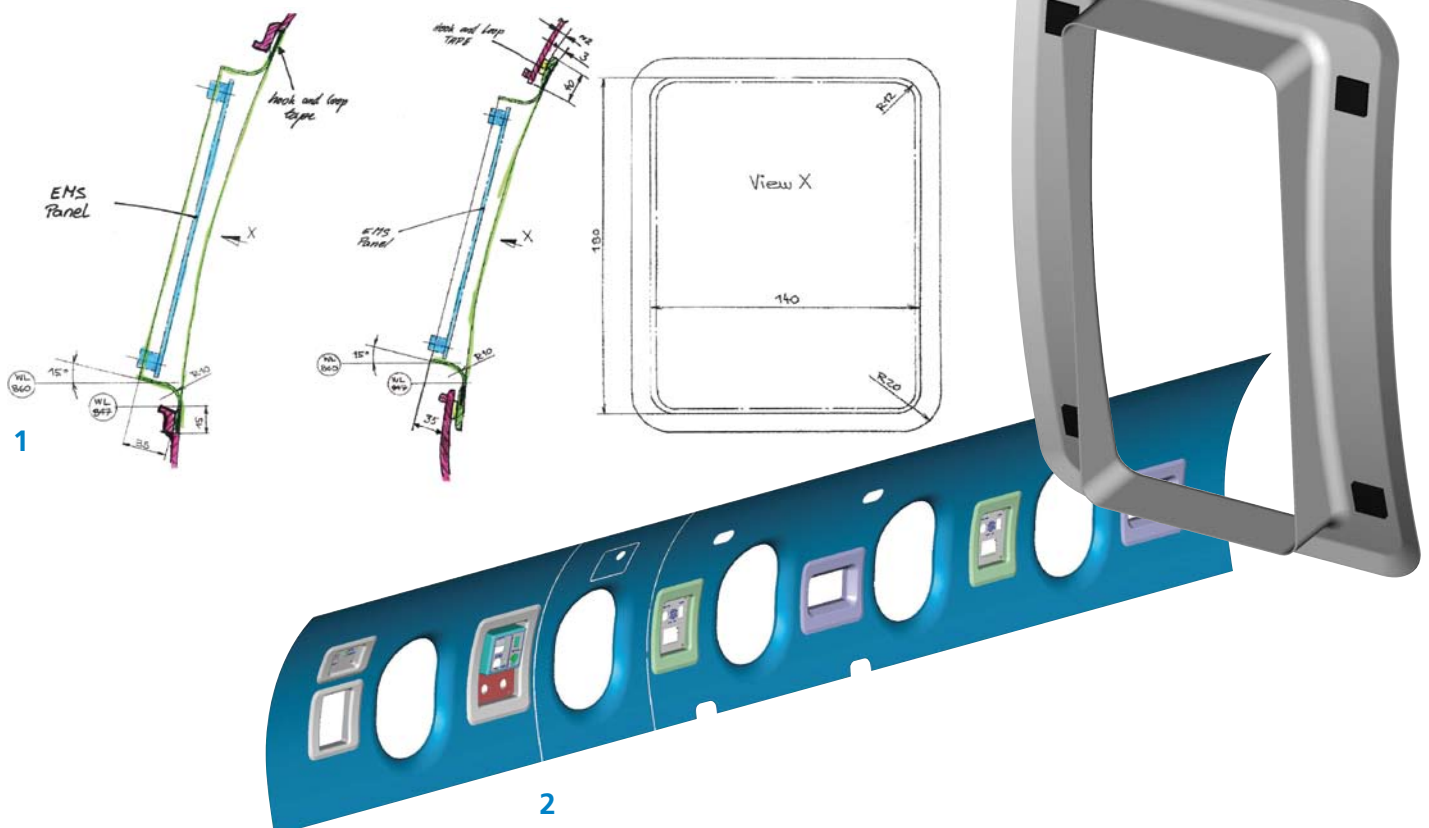
In one specific case a Bucher customer who had been satisfied using and maintaining an earlier (Bucher) solution for 14 years approached us looking for ideas for an upgrade. Even more so because the interior furnishings were to satisfy in a new way – in compliance with current as well as future requirements –

the needs of both the flight attendants as well as upkeep.

With these premises, the customer was in the right place with Bucher. Also because the time frame available was extremely tight: The engineers from Bucher were given roughly 4 months, from the time of awarding the contract, through project realization, to certification. Their task was namely to subject the EMS equipment to an upgrade, designed to fulfill a specific purpose. The goal was to optimize the side cladding in terms of ease of maintenance, by making it easy to install using flexible, adaptable collars. At the same time, these were required to be capable of handling tolerances which were invisible to the naked eye. In addition, experience of the flight attendants was contributed regarding the replacement of various operating panels, for the improvement of patient care during an incident.

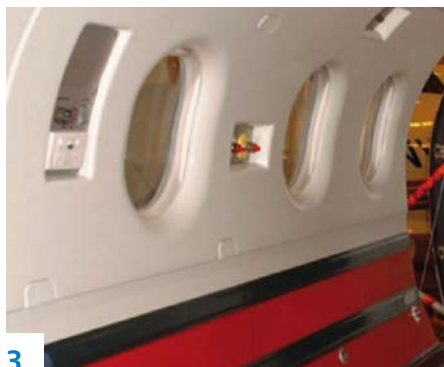
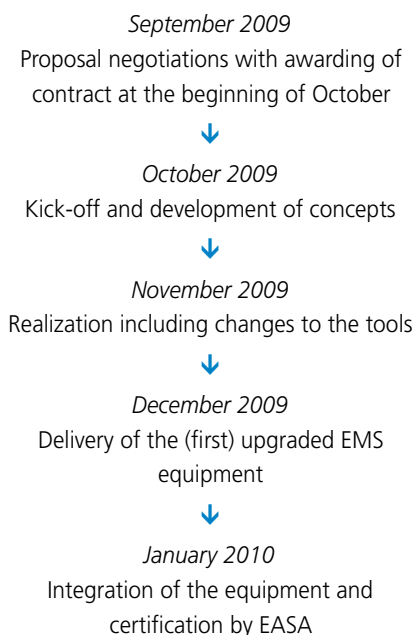
1+2

EMS upgrade: Various approaches to a solution for maintenance-friendly side wall cladding.

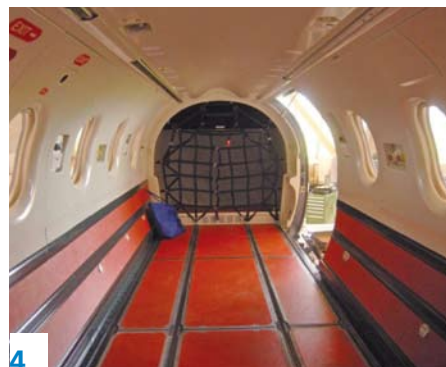


Deadline Pressure gives a Boost

The following schedule is an example of how tightly planned the deadlines in the above-named project were. Once again Fällanden was able to prove that it could achieve high quality results, also under such conditions – or also because of them – to the satisfaction of the customer:



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3+4 EMS upgrade: A view of the heavy duty floor.



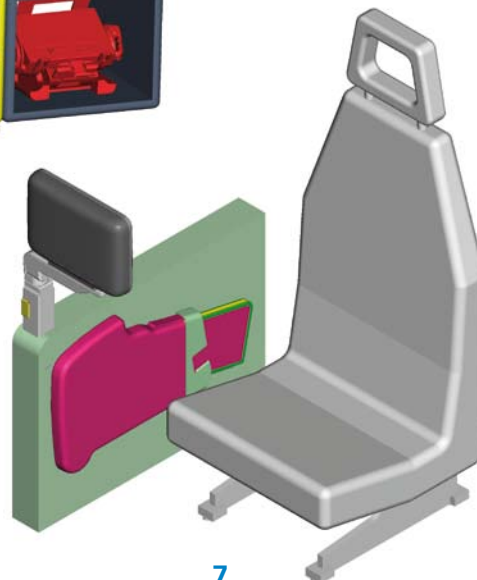
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Flexo Makes Flexible

As is typical for Bucher, the lightweight construction specialists respond to new or changed market requirements with clever, innovative ideas that promise added value. In the case of the flexible EMS and VIP equipment for the various fixed wing types, the concept is called «Flexo». This involves furnishings both for EMS use as well as VIP applications. This includes the idea of adapting the configuration to each intended use in a customer specific way. In such a way that the furnishings of a business travel aircraft could be converted with little effort from an EMS to a cargo or VIP application, and vice versa. This way it would be possible to achieve optimum utilization of the aircraft – and include the effect of increased efficiency in the use of the aircraft.



6



7

5-7 A high degree of flexibility for more benefits – thanks to «Flexo».

Optimizations on the Green Meadow

Roland Hengartner

The diggers have started up at Bucher in Swiss Fällanden. Now, the construction of a new production location is underway. Certain manufacturing processes and an entire business unit are to find a new home there.



1



2

1
An office section with character, with colours in conformance with the corporate identity, seen from the north east.

2
View from the south west. The assembly section is in the foreground.

The headquarters on Industriestrasse in Fällanden have been subject to many expansions over the years (the most recent, a new assembly hall in 2007), but it is slowly but surely reaching its capacity limits. With this comes the risk that operative processes will begin to run somewhat less efficiently than necessary.

In order to meet this challenge, on one hand, and to have the capacity to handle future market developments, on the other, Bucher decided to make a semi-new start on the green meadow. We use the term, semi, because the intention of the plans is to only move certain production processes as well as an entire business unit into the new facility. In particular, general milling, frame assembly and prototype construction will be included. Added to that is «MIC Medical & Interiors Components» including the respective engineering or assembly systems.

Very Close By

The «green meadow» being talked about is situated only a few hundred metres away from the headquarters on Industriestrasse 1, in the «Huebwis» area, where Bucher was able to make use of its own construction land reserves. So, following the completion of the project phase, the groundbreaking ceremony took place in September 2009 with the participation of all involved. The new facility is to be ready for occupation in July 2010, according to tentative plans. Here the close proximity to headquarters will without a doubt be a benefit to the optimization of the operative processes.

Unique Architecture

When one studies the building architecture, one is struck by the presence of lightweight, Bucher-typical elements. This applies not only to the materials (aluminium exterior facade), but also to the shape. The facade structure of the office section, for example, reminds one of the Bucher-typical frames which exist in most of the product designs. And in terms of colour, the architecture is sensibly oriented to the corporate identity of the company. Thanks to these elements, the concept will give the overall building complex a varying, exciting lightness. This

despite, or perhaps because of, the fact that three of the four sides of the office section are dominated by black.

More Space for Additional Optimization

When operations finally move there, 40 employees will be treated to generous, contemporary surroundings in a total of 1,900 sqm. assembly space, and approximately 500 sqm. office space. In other words, this will mean more space for expansion of additionally optimized operative processes. Because, at Bucher it is well understood that the optimization process, for the sake of constant improvements in efficiency and quality, actually never ends. It follows, then, that organizational adjustments will also take place. Even more so because the new location will mean additional space capacity will be freed up in the headquarter building. Bucher is reserving this for the purpose of further necessary optimizations in procedures in the business area «Galley».

Investment in the Future

With this investment, Bucher is without a doubt underlining its confidence in continued favourable market developments, and thus a positive future. This attitude is confirmed also by the continuously growing number of qualified and experienced employees, which has now reached around 200 at the Fällanden location. The market success of Bucher Leichtbau AG confirms this with a growth in revenues to 65 million francs in 2008. So it is hardly surprising, then, that the new production location, «Huebwis», represents yet another milestone in the success story of the lightweight construction specialists from Swiss Fällanden. ■

3

Groundbreaking ceremony with Margrit Bulet, Chairwoman of the Supervisory Board, Bucher Leichtbau AG.



Initial Delivery Celebrated

Roland Hengartner

Bucher delivered the first galley for the Lufthansa A380 – full of satisfaction and pride.

1 Collective pride: the staff of Bucher.

On 27 August 2009, Bucher employees gathered in Swiss Fällanden to attend the first delivery of a galley for the Lufthansa A380. And full of pride, too. After all, this was literally about sending off the result of numerous hours of mutual project and production time.

And to commemorate this notable day, the staff gathered in front of the two tractor-trailers to have a group photo taken. The forwarding company CLG from Zurich was responsible for the transport to Hamburg, and it delivered the galleys on time. ■



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