

A man wearing a dark hat, a blue patterned vest over a light blue shirt, and dark trousers is walking on a paved road. He is leading a brown and white cow decorated with a large arrangement of orange and red flowers. The background shows a lush green landscape with trees and a fence.

Emergency retrofit

Don't have a cow

After many years of operation, controller failure brought a feed mill at Swiss animal feed producer Landi Unterwalden to a grinding halt. The engineers at Weibel & Partner found themselves tasked with an emergency retrofit to get the mill back up and running as quickly as possible. Equipped with solutions from B&R, the mill is now more productive than ever.





Active in both food and non-food agriculture, Landi Unterwalden produces animal feed at its facilities in central Switzerland.



With the help of his team and B&R products, Weibel programmer Oswin Baumann (right) got the feed mill up and running again quickly.



Machines have a way of breaking down when we need them most. That's how it seemed to Landi Unterwalden when its animal feed production line suddenly ground to a halt. The leaves were changing, and livestock was embarking on its ceremonial journey from alpine pastures back down to the valley for winter – where it would urgently need a reliable supply of fodder.

"It was the worst possible time for a failure," recalls managing director Albert Amschwand. "Farmers from the area and surrounding districts rely on us for fodder," he explains. "Failure to get the mill running again would have forced them to look elsewhere, and we would have taken a big hit financially."

Turning to its suppliers for replacement parts, Landi came up empty handed. The mill had been built in the 80s and the parts were simply no longer available.

B&R partnership based on quality

The engineers at Weibel & Partner are specialized in automation and process control systems. Several of them have been working with B&R components for over 25 years and have developed an exceptional level of expertise.

"B&R does an outstanding job of managing their components, and they're the only automation specialist that offers the support that I need as a programmer," praises developer Oswin Baumann. "They're also exceptionally innovative – it seems like they have a solution ready and waiting for every new technology that hits the market."

Retrofit under pressure

Baumann faced the challenge of getting the system up and running without access to original replacement parts. There are two possible approaches for the type of retrofit

that this would require. With the first, the customer takes the time to define what they want the new system to offer – things like entirely new functions or a modern user interface. This involves meetings between retrofitter and customer to evaluate all the possibilities.

The second approach is the route you take when under time pressure to replace the controller as quickly as possible. "On top of the problem that there were no replacement parts for the old controller generation, what you can't underestimate is the time-consuming task of getting existing code to work with the new generation," explains Baumann. Another challenge would be getting the controller to harmonize with essential equipment such as inverters and closed-loop controllers, which would have required too much additional programming or simply been too expensive to replace.



Compact powerhouse: the B&R solution saves considerable cabinet space.

750 I/Os replaced in only 2.5 days

To minimize cost and effort, Weibel developed a converter based on B&R's Automation Studio software. Automation Studio provides an integrated environment for every aspect of a development project – from machine and motion control to communication and HMI – with a sophisticated architecture that provides optimal support for users during programming.

The converter allowed the majority of the legacy software to be reused by converting it from Instruction List to C code. "It reads the existing program and translates it into executable code," says Baumann. The C files generated by the converter can then be added directly to the Automation Studio project. This tool allows even first-generation B&R controllers to be replaced by new ones quickly and easily. For Weibel, it meant being able to replace and test 750

Oswin Baumann

Programmer, Weibel & Partner AG

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I/O points and have them back up and running in only two and a half days.

Fit for the future

When a customer needs an old control system replaced with identical functionality as quickly as possible, the answer is a retrofit. In addition to the financial benefits this offers, the new controller generation also has

a smaller footprint in the control cabinet, and the software can be developed significantly faster. "Since the components have gotten smaller, we were able to install the new controller without having to adapt the existing wiring," says Baumann. "Another huge advantage is that the new components have full availability, so if we have another failure, a replacement is immediately available." ←