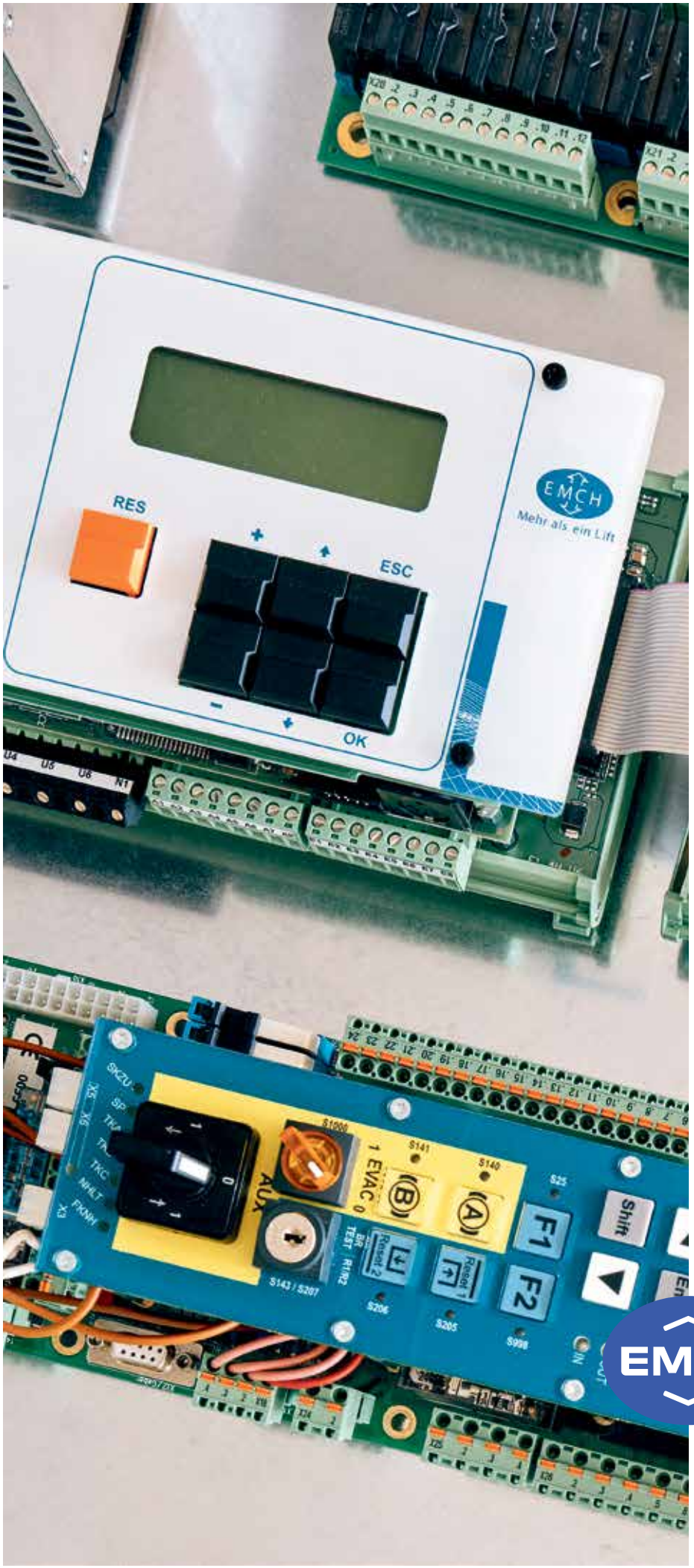


„AN ELEVATOR IS NOT A CELL PHONE“

EMCH

MORE THAN A LIFT
SWISS MADE

Marc Angst left and Bernhard Emch centre in conversation with Hochparterre editor Marcel Bächtiger right. Photo: Lukáš Kálna

Marc Angst
The trained draughtsman studied spatial planning with a focus on urban development at the HSR in Rapperswil. At the In Situ construction office, Marc is Project Manager with a focus on repurposing, reuse and circular construction.

Bernhard Emch
The ETH mechanical engineer completed the Owner/President Management Programme at Harvard Business School. In 2002, Bernhard brought the fourth generation into the family business, and took over the operational management of Emch Aufzüge AG in 2005.

What does the circular economy mean for the lift industry? Reuse expert Marc Angst from the construction company In Situ, and Managing Director Bernhard Emch in conversation.

The elevator can make an important contribution to the circular turnaround in the construction industry see ‚What the elevator contributes to the circular economy', page 4. But how does this work in practice? Where are the challenges, where are the opportunities? What role do costs and guarantees play? And what needs to change? We discuss this in Emch's ‚exotic warehouse', among old motors, control systems and cable winches.

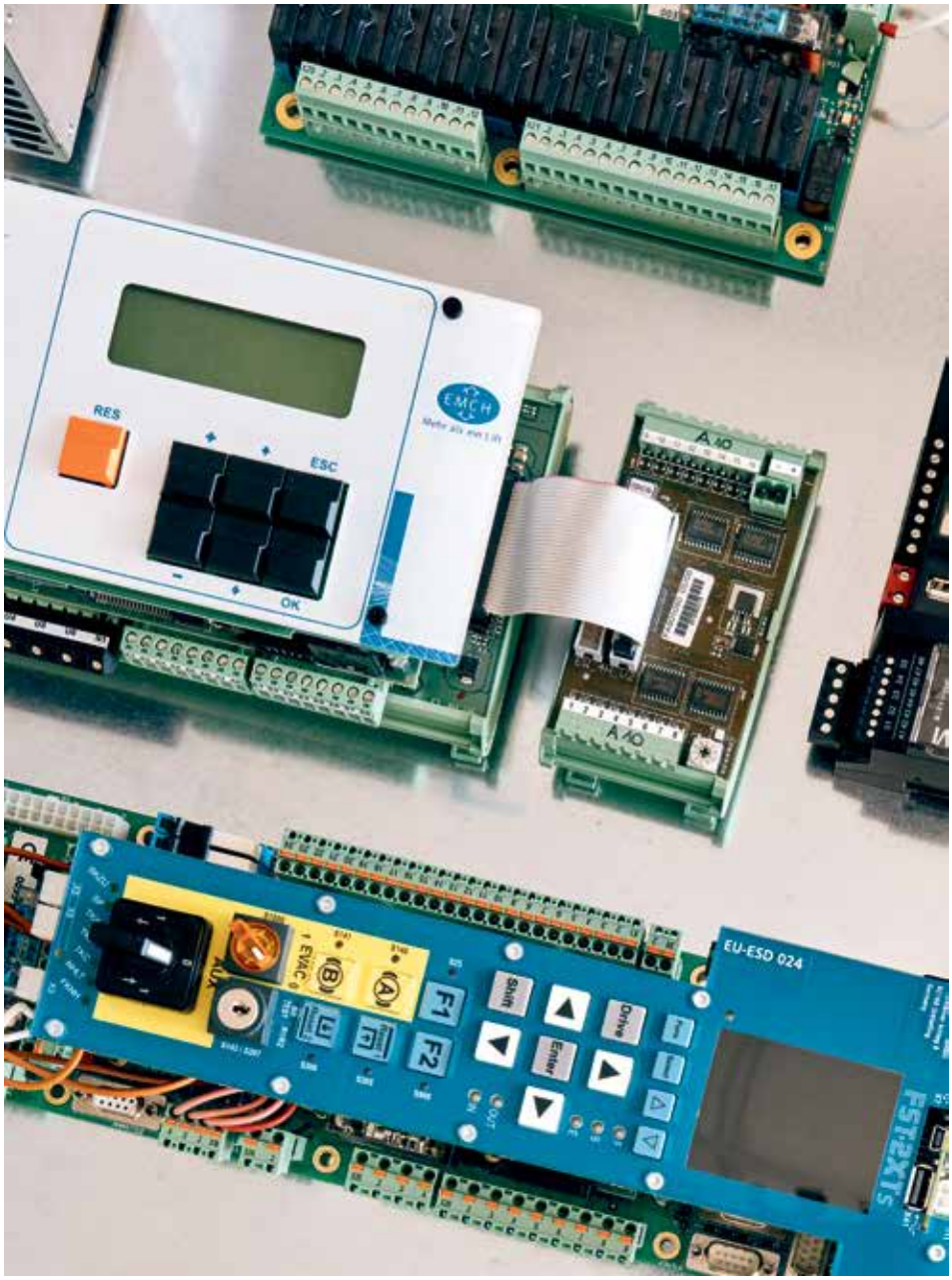
With the K118 head-end building in Winterthur, the construction company In Situ has built a highly regarded building from reused components, but the elevator is new. Why?

Marc Angst: We had a relatively new lift from a major manufacturer on our hands, from a hotel in Zurich that was to be completely renovated. We met on site with technicians and the expert from the elevator inspection department of the city of Winterthur to clarify whether the removal and reuse would work in terms of safety. Of course, the technicians said, it would be no problem, but the lift company ultimately refused. "We don't do that," they said. "We sell only new lifts." The lift was torn out and disposed of. After that, there wasn't enough time to look any further

Bernhard Emch: A missed opportunity!

Would Emch have been willing and able to remove and reuse the lift if such a request had been made?

Bernhard Emch: Absolutely. Back in my father's day, we were already assembling



Ein modularer Aufbau der Steuerung garantiert Reparier und Erweiterbarkeit bei geänderten Nutzungsanforderungen in der Zukunft.

and dismantling lifts, taking them apart and reusing them elsewhere, for example at the BEA trade fair in Bern. Today, we often have to dismantle lifts that would still be good to use – our own and others' – simply because the building is being demolished. If I were asked in such a situation whether we would reinstall the lift at another location, I wouldn't hesitate for a second! Reuse and repurposing are in our genes. This has been our strategy and our niche since the company was founded: not going for mass production, but investing in quality. Not tearing out lifts, but replacing and modernizing parts of them. However, the decision to do this is not in our hands. I remember one of our first glass lifts: a beautiful round lift for a boutique on Zurich's Bahnhofstrasse. After just 15 years, the store was renovated and the lift disposed of. That breaks my heart.

Storing such a lift is not an option?

Bernhard Emch: A lift is not a cell phone. Long-term storage requires a lot of space and is correspondingly expensive. If it's not clear whether the lift can be installed somewhere else in the foreseeable future, it's not financially viable for us. But we have ideas on how we can expand reuse in the future.

Marc Angst: A problem I am familiar with. This is precisely why we don't keep a permanent stock, but work on a project-specific basis: if a client wants to build with reused components, we acquire them and store them temporarily – preferably on the

Der zirkuläre Lift

Nimmt man die Ziele der Kreislaufwirtschaft ernst, sollten nicht nur Fassadenplättli und Lavabos wieder- und weiterverwendet werden, sondern auch komplexe Bauteile wie Liftanlagen. Die Herausforderungen sind grösser, der ökologische und der baukulturelle Gewinn aber ebenso. Dieses Heft berichtet vom Engagement der Liftmanufaktur Emch für den zirkulären Lift. Die vorgestellten Projekte zeigen beispielhaft, wie ein spezialisiertes Unternehmen einen Beitrag zu den Zielen Recycle, Re-Use und Repair im Bausektor leisten kann. www.emch.com

construction site or at the client's premises. For the client, however, this means an early risk investment. Because you can't draw up a reuse project without knowing what you're working with and in what quantities, the important components must already be purchased and in stock at the start of planning. The costs up to the building permit are therefore around twice as high as for a conventional new-build project.

Although Emch does not store entire lift systems, the size of the spare parts warehouse is still impressive.

Bernhard Emch: This is the logical consequence of our company philosophy. If you want to maintain lifts that are 50 years old or more, you need a correspondingly large warehouse. Our Kardex shelves alone store 30,000 parts. Pins, relays, resistors. Then there are the large parts: motors, coils, traction sheaves. Everything has to find a place somewhere.

Marc Angst: Do you know what's where? Do you have that under control?

Bernhard Emch: We must have that under control!

Marc Angst: Information management is the key to reuse: how do you keep an overview? And above all: how much old knowledge about the individual component can still be retrieved, and from where? What do I need to re-record for further planning, and how?

Bernhard Emch: There is a lot of knowledge in the heads of our employees. This is alrea-

dy evident in the on-call service. A long-standing service employee knows all about old relay controls, but must also be familiar with modern electronics. A young service technician, on the other hand, has excellent digital skills and masters fault detection with a laptop, but she also has to understand a 50-year-old control system. That is an enormous challenge.

For successful reuse, in addition to the components, the project requires the corresponding expertise.

Marc Angst: That's right. We have gained much experience in recent years. Nevertheless, when we take inventory and evaluate components, we often need specific help from experts. We need partners who can tell us what a component can and cannot do. We need engineers, installation companies, façade builders or the original manufacturing companies. Ideally, we can give this company the job of removing and reinstalling the components, and supplying the appropriate spare parts, but not all manufacturers are prepared to do this. They often say: "I'll be happy to sell you a window, but only a new one."

Bernhard Emch: That is an extremely important aspect. Right from the start, we placed great emphasis on creating lifts with long service lives, and also being able to modernize them. The components of a lift have very different lifetimes. While the electronics have to be replaced after 12 to 15 years, a well-made steel guide rail will, in principle, last forever. But the quality has to be right, of course. If you reduce the dimensions of the steel parts to such an extent that they are also worn out after 15 years, it really no longer makes sense to modernize the lift. **Financial considerations certainly also play a role on the part of the client.**

Bernhard Emch: If we offer a customer the modernization of an old lift system, but at the same time he receives a cheaper offer for a total replacement, this is difficult for him to understand at first. However, a carefully modernized lift has a longer service life than a new standard lift, which may need to be replaced after just 15 years. In addition, often the budget includes only the lift itself. The client overlooks the fact that when installing a new system, door frames have to be cut out and many on-site adjustments are required that are not included in the quotation. If you now factor in the environmental costs, if you consider the amount of grey energy that is wasted when an entire lift is thrown away – then you should realize that modernization makes more sense. But as I said: at first glance, replacing a wheel seems very expensive in relation to the cost of a new lift system.

Marc Angst: The cost factor is understandably relevant for customers. We are also constantly confronted with the hope that a reuse project will be cheaper than a new build. After all, the components are second-hand! We always have to dash this hope. We are happy if we can do it for the same price.

Bernhard Emch: People are not yet aware that much can be done in terms of ecology and sustainability, but that nothing is free.

Marc Angst: And that climate protection will cost us much more in other ways! In the meantime, we can communicate this quite well – at least to our clients who are already aware of the issue and recognize the added value.

Costs are one thing, security and certification are another. What strategies are there for dealing with this?

Marc Angst: The fact that there is no guarantee on second-hand components is a regular topic. We are involved in a research project by commercial lawyers at the ZHAW that deals with the legal aspects of reuse. The law simply does not provide for a component to be reused. There are many grey areas. Who bears what risk? We have now developed a contractual cascade in which the duty of care of all those involved is guaranteed through paid additional tests. In this way, we ensure that only flawless components are used. What's more, the warranty expires after 2 to 5 years. Well-selected components already have a few years under their belt. If they are then found to be good, why do they still need a guarantee? It is well understood that we naturally require the usual warranties for installation and new work on components. But there are certainly other requirements for a lift.

Bernhard Emch: The question of certification is definitely an issue for us. A modernized lift cannot comply with all the guidelines that apply to a new system. If our customers require proof, we issue a certificate of conformity in which we take responsibility and confirm that everything we have modernized is compatible with the latest safety requirements.

Marc Angst: We deal with such replacement measures on a daily basis. Many of the components we use do not necessarily comply with current standards. Very often, however, simple, creative alternative measures can be found. This starts at the design stage. Talking to the building inspectors also helps. The authorities are obliged to be proportionate. If the standard objective can also be achieved in alternative ways, or is not a priority in the specific case, exceptions are possible.

Bernhard Emch: The standard describes only one way in which the safety requirements can be met. If it can be proven that the safety requirement is met, you can deviate from the standard. Nevertheless, the Product Liability Act remains relevant. In the end, it's all about the claim. And there are many questions in the area of reuse that have not been legally clarified and that urgently need to be addressed.

How far has the lift industry as a whole come in rethinking circular construction?

Bernhard Emch: A lot is happening across Europe. There is a tendency everywhere to recognize modernization as a valuable contribution to the circular economy. However, manufacturers of standard elevators are certainly finding it more difficult than small, flexible SMEs.

Marc Angst: Modernization instead of replacement must be the top priority! This is not possible without appropriate regulations, for example through an early disposal fee or the obligation to keep spare parts and provide a repair service.

Bernhard Emch: The issue is not only affecting manufacturers, but also homeowners. Increasingly, they must demand products that can be repaired and modernized. A rethink is needed on many levels.

Marc Angst: Preservation is undoubtedly the most important thing. However, we will also be confronted with demolitions and temporary solutions in the future. And in these cases, it is crucial that the components remain in circulation.

Bernhard Emch: So, the next time we have to dismantle a lift, I can contact you?

Marc Angst: Absolutely. Reuse currently works best via networks. The dismantling logistics are not yet fully developed. We need to know who we can call for which component.

Bernhard Emch: And we are happy to offer our expertise and cooperation if you want to install a lift made from reused components in a reuse project.

Professionalization takes place via low-threshold networks such as this one of recycling and reuse?

Marc Angst: Yes. And demand is growing strongly.

Interview: Marcel Bächtiger

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of the magazine

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