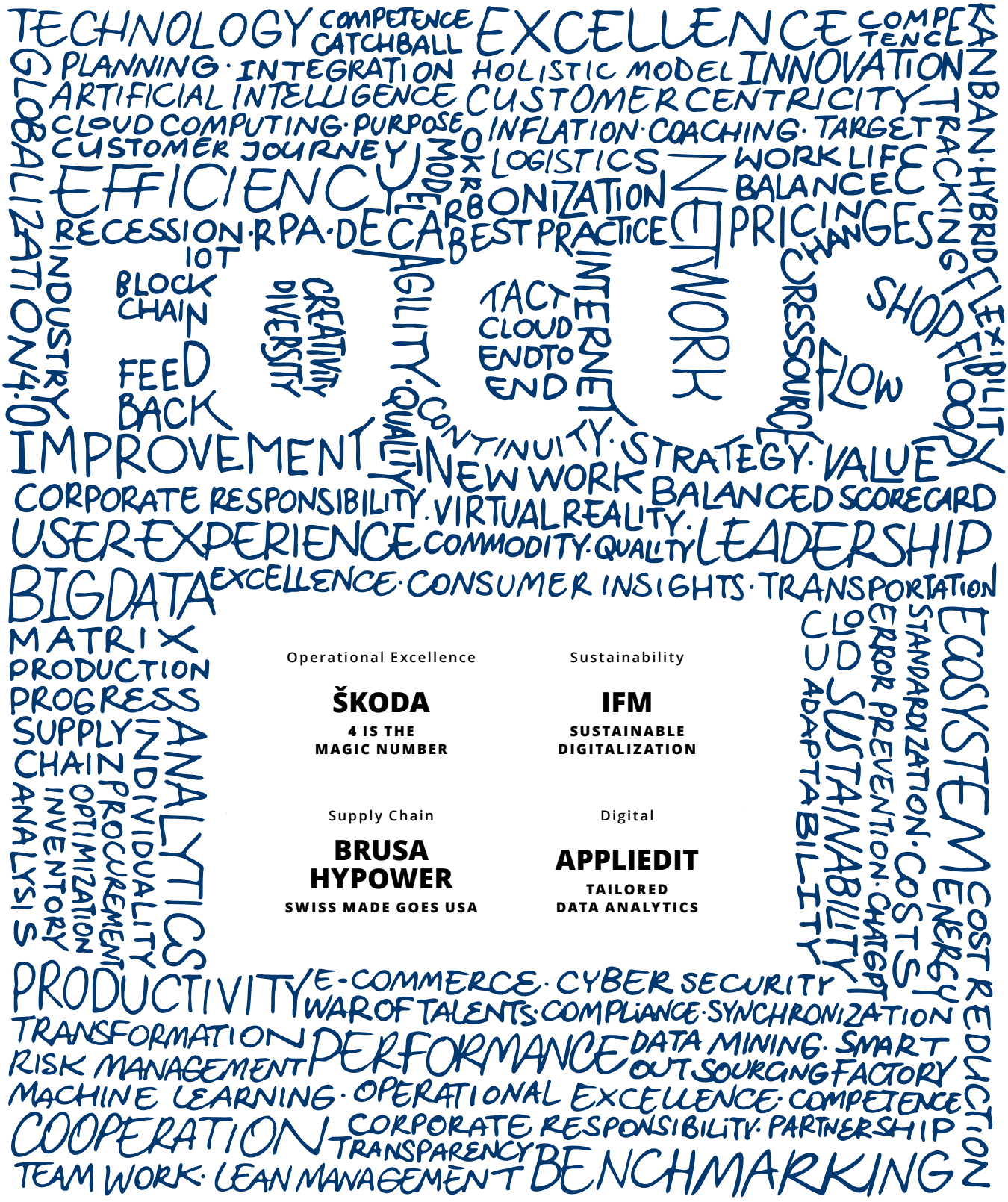
staufen magazine

A journal for change by Staufen Group

2023/2024 | No. 6



INSIDE EVERY COMPANY THERE IS AN EVEN BETTER ONE.

CELEBRATING SUCCESS: STAUFEN WINS THE FORBES AWARD!

By winning the Forbes Award, we have earned global recognition for our outstanding achievements as a trusted advisor and catalyst for success.

The Forbes Award establishes us as a beacon of expertise in the consulting industry. Clients and stakeholders can trust our track record of delivering impactful strategies and measurable results.

We are immensely proud of this accolade, and it is a testament to the dedication and expertise of our talented team. We would like to thank our clients whose trust and partnership have propelled us to this momentous achievement.

www.staufen.ag

STAUFEN.

Dear readers,

How many concepts from the cover of the new Staufen Magazine can you spontaneously remember? 5, 10 or 15? As a rule, our short-term memory only stores such information for a few seconds. They remain in the so-called working memory for a little longer, the importance of which for the transfer of information to the long-term memory is still being researched by the British psychologist Alan Baddeley.

But are all the terms that make it from short-term to working and then to long-term memory really relevant? For you personally? For your company? For our society? In times when we are bombarded with a flood of information every day, companies quickly run the risk of losing sight of the essential. But how do owners, managers and employees manage to always keep their focus, even in turbulent times?

In order to find out how companies are successfully overcoming the current challenges whilst focusing on their main issues, we spoke to people around the world again this year. And the openness with which everyone told us about themselves and their companies impressed us again.

I'm sure many of these stories will not only make it into the "episodic buffer" discovered by memory researcher Baddeley, but will leave a lasting impression on you. I wish you an informative reading, after which you will not soon forget one word from our title: Focus!

YOURS,

WILHELM GOSCHY
CEO, STAUFEN.AG

CONTENT

DIGITAL

06 Celonis & Staufen
CONSISTENT EVOLUTION FINANCES A DIGITAL FUTURE

OPERATIONAL EXCELLENCE

staufen magazine
ONLINE

Read the Staufen Magazine conveniently from anywhere:
www.staufen.ag/magazine-en

26 Binder & Staufen
LEAN MANAGEMENT: THE PATH TO WINNING MENTALITY

SUPPLY CHAIN NETWORK MANAGEMENT

SUSTAINABILITY

CONSISTENT EVOLUTION FINANCES A DIGITAL FUTURE

CHAPTER DIGITAL

"AI is currently solving simple tasks surprisingly well, but no complex ones. **Humans are essential as control bodies."**

OLIVER ERB
Senior Vice President , CELONIS SE

OLIVER ERB
Senior Vice President
CELONIS SE

DR. MICHAEL FELDMETH
Principal
STAUFEN.AG

Examples such as the recent AI chatbot ChatGPT quickly give the impression that the digital transformation is taking place in disruptive spurts, indeed must take place. However, a look into the industrial heart chambers shows that the digital pioneers rely on continuity.

Anyone who wants to know how the digital pulse of the economy is beating has a very profound source in Oliver Erb. As Senior Vice President of Celonis at the world market leader for process mining, he is responsible for sales in the DACH region. According to Erb, digitization is leading to ever shorter innovation cycles and is therefore increasing the pressure on companies to constantly develop their processes and business models. His conclusion:

"If a company does not want to be left behind, there is no alternative to **consistent digitization!"**

A large part of the economy already sees it the same way. According to the current Staufen study "Future Industry" (see p. 27), almost every second company has started new digitization projects despite the recent weakening of the economy. Above all, they want to increase efficiency (86 percent), bring more transparency to their processes (75 percent) and reduce costs (57 percent). Oliver Erb confirms: "There are pioneers who are already extremely far, but also companies that have a lot of catching up to do."

Recently, the public got the impression that without revolution and disruption in the area of digitalization, nothing will happen. It is often said that those who do not introduce digital business models now will soon disappear from the market. The reality is probably not that radical after all. "Most companies rely on evolutionary innovations and are also successful with them," reports Celonis manager Erb from the customer front.

From an individual project to a digital strategy

Nevertheless, this is no reason for the industry to rest on its laurels. The digital pioneers in particular are putting pressure on other companies. If you want to continue doing business with them, you also have to be digital. The same applies here again: the companies have definitely recognized this and have therefore started many pilot projects. But precisely this – to put it bluntly – digital activism can become a problem. "Many companies have difficulties moving from scattered individual projects to large strategic initiatives," says digitization expert Erb. He recommends two approaches: working with experienced partners and using the right technologies.

Both are closely related, because the development speed of the required technologies is high. It is not easy, especially for medium-sized companies, to stay on an equal footing. That is why partnerships with specialists or teams of experts, such as those regularly formed by Celonis together with Staufen, are essential. The second point is the variety of technologies. It is not enough to simply introduce software. Rather, it is crucial to bet on the right, i.e. tailor-made horse.

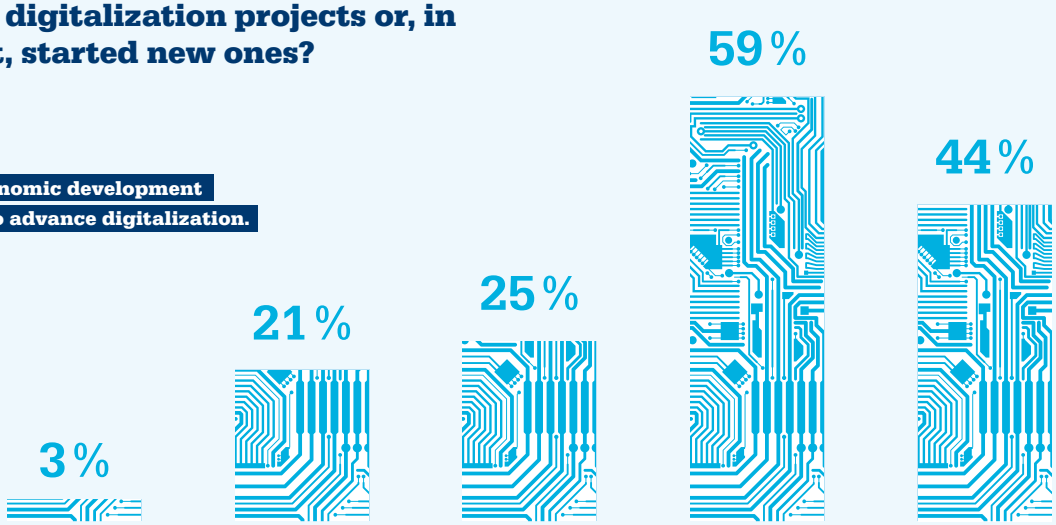
For example on data analysis: "From our point of view, the availability of data down to the machine level and its aggregation and analysis are the major accelerators of digitization in industry," emphasizes Oliver Erb. This helps many companies to increase the efficiency of their processes and value-added chains. This approach is often criticized because it primarily optimizes and thus preserves existing business models. Much is reminiscent of the criticism leveled at the German automotive industry, which for many has been too hesitant to move towards electromobility for a long time.

Digital thinking leads to innovations

But the traditional industrial companies are in a predicament. They have to keep their current business as long as possible because it finances innovations and investments. At the same time, they have to work on new business models in order to be future-proof. That's why companies don't like revolutionary - from their point of view hasty - changes, not even in digitalization. "The projects are often tentative: You know that you have to do something, but you don't know how to really get the best out of it," says Gero Bockelmann, smart factory expert at drive specialist SEW-EURODRIVE, a pioneer in digitization and Industry 4.0 (see also p. 18). "For this reason, many are starting to increase efficiency." Even if the really big advantages of digitization would undoubtedly only come with alternative business models and a changed way of thinking.

Due to the slower economy, have you stopped digitalization projects or, in contrast, started new ones?

Current economic development continues to advance digitalization.



"In the course of digitization, however, all employees are beginning to think more and more digitally. This, in turn, has an impact on the development of the entire organization." The consequence of this ever-increasing digital thinking is the gradual development within companies towards digital business models. "Of course, the companies have to proceed strategically," adds Oliver Erb from Celonis. "However, you should always keep an eye on rapid implementation and create real innovations."

But: where do these innovations come from? Again, partnerships can make the difference. On the one hand, customers are an excellent inspiration for innovations. They usually know best what really helps them. But there is a second source for new products, services and business models: the universities and colleges. Cooperation with university-related institutions such as the Fraunhofer Institutes is also a decisive factor in driving digital change forward. Targeted programs and partnerships with universities and colleges ensure a supply of qualified employees and valuable suggestions for future topics. This becomes a competitive advantage and sustainably supports digitization.

Artificial intelligence: Humans are indispensable as control bodies

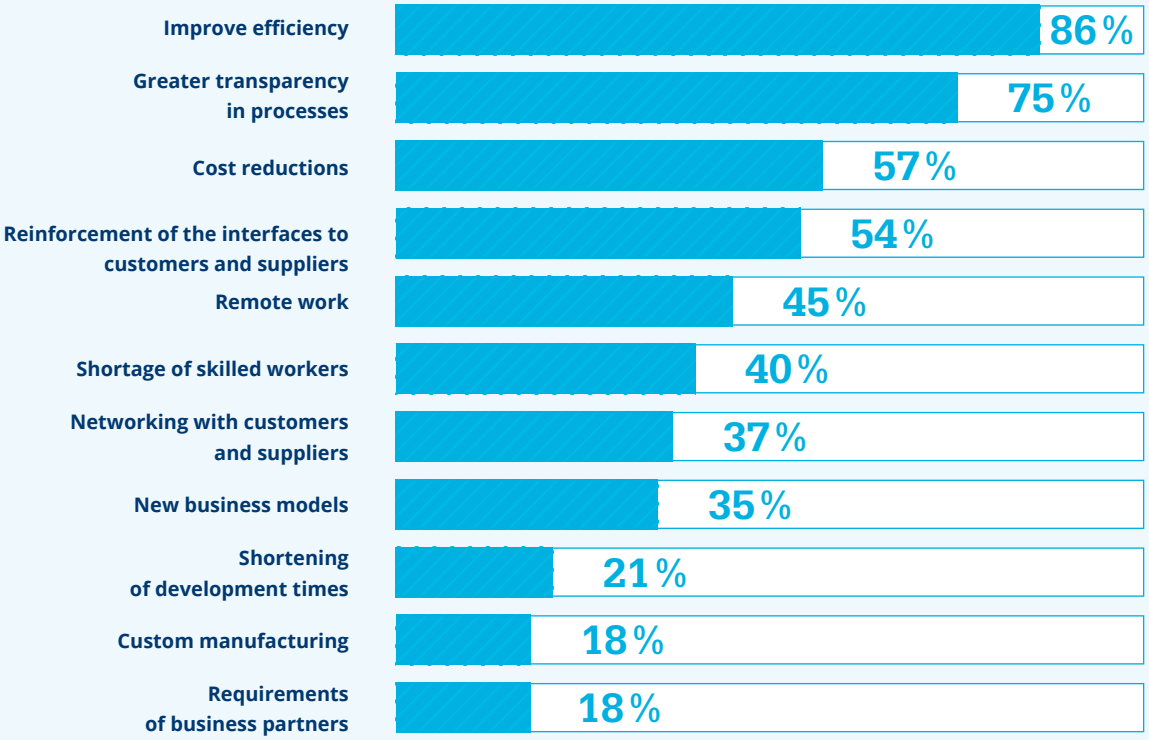
The latest developments in artificial intelligence (AI) show how far something like this can lead. Since the end of 2022, ChatGPT, the text-based dialogue system (chatbot) based on a Large Language Model, has been attracting a lot of attention. Incidentally, the basic principle was discovered by two German scientists: Sepp Hochreiter and Jürgen Schmidhuber. They developed the first artificial neural networks for processing natural language. A successor to these first attempts is ChatGPT, whose texts and program codes are currently making headlines and questioning entire job descriptions.

"The great excitement about it mostly comes from people who have not yet dealt with AI," says Oliver Erb. "We see AI more as an evolution towards increasingly useful, intelligent things." Celonis has been using machine learning (a sub-area of AI) for years, for example to recognize patterns in large databases. But AI is doing more and more. In this way, the intelligent business miner helps less technically savvy users to use the Celonis platform optimally. But Erb warns against exaggerated expectations: "AI is currently solving simple tasks surprisingly well, but no complex ones. Humans are essential as control bodies."

Dr. Michael Feldmeth, who is involved in many digitization projects as a principal with Staufen customers, recommends that every company deal intensively with artificial intelligence and accelerate the digital transformation. Manufacturing, the supply chain and logistics in particular have the greatest digitization potential, as confirmed by the Staufen study "Future Industry". Three quarters of the study participants are already offering their first digital products and services. That makes Michael Feldmeth optimistic: "The economy has a core of innovative companies with qualified employees. They have enough drive to successfully shape the digital transformation." ■

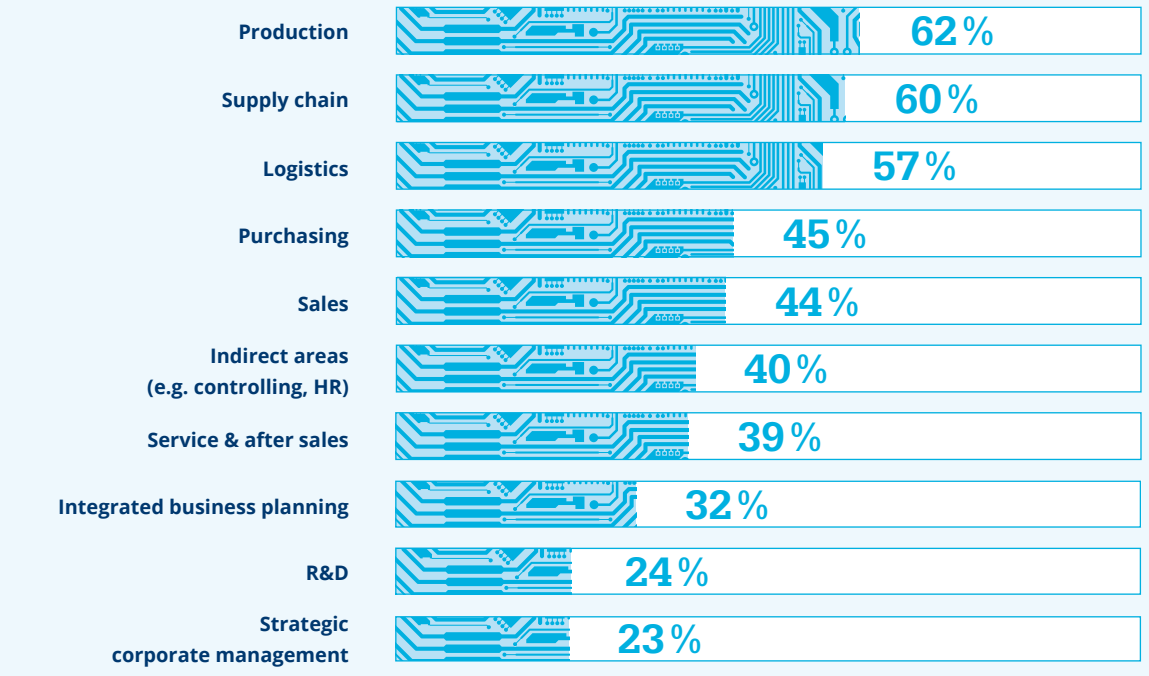
Read the entire study
'Future Industry 2023'
www.staufen.ag/studies

Which current challenges are you trying to approach with digitalization?



Industry continues to rely on efficiency increases.

In which areas do companies see the greatest digitization potential?



The greatest potential lies in production in the supply chain network, and in logistics.

UNLEASHING OPERATIONAL PERFORMANCE THROUGH TAILORED DATA ANALYTICS

IGNACIO QUIÑONERO FERRER
Managing Director
AppliediT S.L.

"Manufacturing dashboards often just tell you in real time that there is an issue. **However, they don't tell you the cause of the problem and how to fix it."**

Nowadays, company data is still the most underused asset. According to experts, only 0.001 % of the data a company generates is being utilized actively to identify and solve problems or to improve efficiency in manufacturing processes. In this labyrinth of industry operations, where data flows are as complex as they are copious, AppliediT stands out, a Spain based technological beacon illuminating the path to improved operational performance. Its tools of the trade? Tailored data analytics solutions and data engineering services.

AppliediT's philosophy rests on a simple but profound observation: Industrial companies generate a wealth of data from production machines, quality stations, inspections, ERPs, SAP, MES systems, and Excel databases. However, this data is often siloed, making it challenging to decipher underlying patterns and root causes of operational problems. Quality deviations, warranty issues, production line inefficiencies, and new product launch hiccups are just a few of the challenges these companies face regularly.

The Problem Landscape: Too much to handle

At the core of these issues lies the inability to monitor and analyze real-time operational data effectively, which prevents these companies from identifying bottlenecks and implementing corrective measures swiftly. "In many cases our clients still use simple Excel datasheets", says Carlos Hernandez, Senior Expert at Staufen, "and even if they have a more elaborate database at hand, the export of datasets to tackle a specific problem is, again, a huge Excel file which they then have to analyze."
AppliediT bridges these data islands, integrating disparate data sources to deliver real-time analytics. This approach not only allows different operational teams to access and analyze data in real-time but also democratizes the process, taking data analysis out of the exclusive realm of ‚data scientist gurus' and into the hands of the teams that can use the insights directly to drive improvement.

Serving the Industry Spectrum

AppliediT caters predominantly to the industrial sector, with a primary focus on the Automotive (OEMs and Tier 1, Tier 2 suppliers), Aerospace, and Foundry sectors. Their target audience encompasses Operations, Engineering, and Quality departments within these industries.

"Imagine an automotive OEM grappling with frequent production line stoppages, quality deviations, and overall low performance. These obstacles often snowball during periods of change, such as the launch of a new product", explains Ignacio Quiñonero Ferrer, Managing Director at AppliediT. "At this stage we step in with our data analytics tools to provide a transparent view of the entire production line in real-time. The team identifies bottlenecks, pinpoints quality issues, and unveils hidden inefficiencies." With this granular, moment-to-moment insight, the OEM is not only able to rectify current issues but also anticipate and mitigate future problems. This proactive approach substantially reduces downtime, improves product quality, and ultimately enhances the bottom line.

A Powerhouse Partnership: AppliediT and Staufen

Every notable collaboration has a genesis. AppliediT has been a key expertise partner for many years with the Quality Excellence business unit of Staufen, a group known for its capacity to effectively solve industrial emergencies, like potential product recalls due to malfunctioning components. Over the years AppliediT has specialized in creating software tools designed to swiftly pinpoint issues. In recent years, this analytical, methodical approach to error prevention has been extended to all of a company's key business processes. Today, the company focuses essentially on a comprehensive use of the potential of real-time data analysis to improve operational performance.

Alongside the implementation of Staufen's lean strategies and with the support of AppliediT's data analytics tools, customers are empowered with the knowledge and resources for independent analysis and process monitoring. This symbiotic relationship cultivates a culture of continuous improvement and self-reliance.

Foreseeing the Future

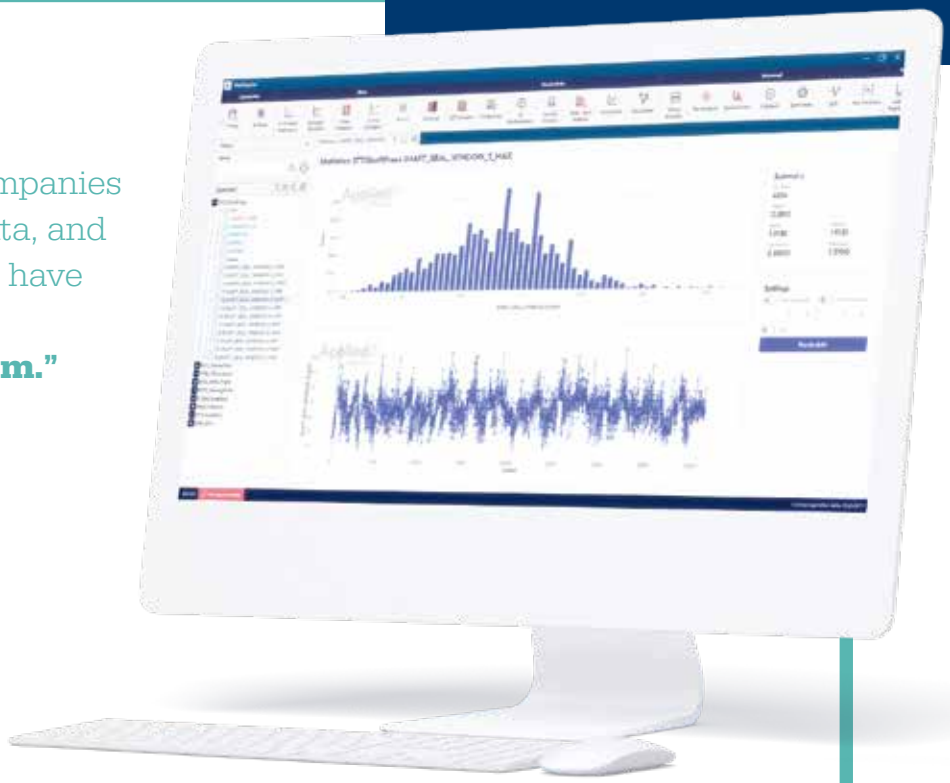
Recognizing the rapidly changing dynamics of the data science field, AppliediT continues to innovate in data application development. The company builds efficient applications for data analysis and problem solving, including dashboards, web forms for paperless initiatives, advanced analytics tools, traceability, Manufacturing Execution System (MES), quality digital apps, logistics monitoring, and machine learning modules. These applications anticipate the needs of future industries, where intricate real-time predictions and computations at scale will become the norm. ■

AppliediT S.L.

AppliediT's unique approach stands at the crossroads of engineering knowledge and statistical techniques. Leveraging correlations, regressions, and pattern recognition methods, the company offers real-time analysis of production data – the lifeblood of industrial processes. This integration of skills, spearheaded by a team of seasoned experts, has resulted in a digitization of problem-solving techniques that progress 100 times faster than conventional industry methods.

"We are seeing companies which have no data, and companies which have too much data.
Both is a problem."

CARLOS HERNANDEZ
Senior Expert, STAUFEN.AG



In a nutshell

Digital learning formats are revolutionizing lifelong learning at BSH, Europe's leading home appliance manufacturer. Together with Staufen, the company has set up a virtual learning island on value stream organization and a virtual factory tour around value stream analysis in order to improve the further training of its managers and production teams distributed around the world. First experiences show that such learning formats increase the willingness to learn and contribute to a better learning experience. BSH is therefore considering expanding the use of digital learning formats to other topics.

B/S/H/

LEARNING IN THE DIGITAL SPACE:

NOT JUST FOR THE TIKTOK GENERATION

Lifelong learning is mandatory today, also for the around 63,000 employees at the household appliance manufacturer BSH. New, digital learning formats give them a playful understanding of challenging topics, such as value stream organization, and whet their appetite for more.

An avatar sits at the beach bar and has a lively conversation with his colleague. Both are executives in an international corporation, one works in Germany, the other in India. Their employer sent them to an island for further training. Several stages have been set up on the beach, on which the individual contents of their seminar are presented by means of films, quiz formats or lectures. Sun loungers under palm trees invite them to linger.
What looks like a computer game is actually part of a new learning experience at BSH, Europe's leading manufacturer of household appliances (including the brands Bosch, Siemens, Gaggenau and Neff). "We send our managers to this virtual island so that they can continue their education in value stream organization," says Dr. Arnd Schöfer, Head of Business Excellence at BSH. So far, the further training took place as a classic classroom training; the content was conveyed to individual groups in workshops and with PowerPoint presentations. "Functional excellence is very important to us in manufacturing household appliances, and that applies to production as well as to engineering, quality management and logistics. But that always harbors the risk that the functional units work in silos," says Schöfer. "The value stream organization connects employees of the functional units with the responsibility for a defined value stream (e.g. hobs, washing machines, etc.). These value stream teams are led by the value stream manager. He is responsible for achieving the goals in the value stream and can

Video
virtual BSH campus

above: Production hall in Dillingen
below: BSH is Europe's leading manufacturer of household appliances (including the brands Bosch, Siemens, Gaggenau and Neff).

lead and focus the specialists from the functions accordingly. The teams in all locations should work according to the same principles and methods in order to efficiently manufacture the products ‚on time' in the defined quantity and quality for the customer."

Platform enables exchange across national borders

Although the globally distributed production teams exchange information regularly, joint face-to-face training is not so easy to implement. The new learning experience should now further improve the exchange across national borders. "The first feedback after the pilot phase was very good," is Arnd Schöfer's interim assessment. "With the virtual training, we have awakened a great willingness among our colleagues to deal with this important topic in a playful way."

The training presented above is just one example, many more could follow. BSH also relies on learning in the digital space in the area of value stream analysis in the digital space. "The training is important in order to be able to read and interpret information and material flows end-to-end in practice," says Alexander Fuchs from the Bosch Production System at BSH. However, a real exercise on site has so far often disrupted the production process in the factory, employees had to be available to show the learning groups around. All this is eliminated with the virtual tour.
He is responsible for achieving the goals in the value stream and can lead and focus the specialists from the functions accordingly. The teams in all locations should work according to the same principles and methods in order to efficiently manufacture the products ‚on time' in the defined quantity and quality for the customer."

Joint product of software specialists and value stream experts

As with the value stream organization, BSH also cooperated with Staufen and rooom's software developers on the value stream analysis. Together, they developed the two learning formats: The software specialists programmed the virtual environment for the value stream organization. For the value stream mapping, they produced a 360-degree tour of the factory in Traunreut (Germany). After being welcomed by an avatar, the participants can walk through the digital image of the factory, similar to Google Street View, and view the production in detail. The Staufen experts developed the concept and contributed the learning content in both cases. BSH, Staufen and rooom quickly found themselves on the same wavelength, and the first two modules for the digital cloud-based learning platform, the virtual BSH campus in Traunreut, were ready for use within a few months.

DR. ARND SCHÖFER
Head of Business Excellence
BSH Hausgeräte GmbH

ALEXANDER FUCHS
BSH Production System
BSH Hausgeräte GmbH

Pictures on the right: digital learning experience for value stream organization, realized together with Staufen and the software specialists from

“Digital whiteboards, teams and PowerPoint are boring for the TikTok generation. We have to use technology to pick them up where they are,” production expert Fuchs is convinced of this. “The digital learning platform can be used worldwide,” explains Guido Gratza, a partner at Staufen in the area of organizational development and responsible for creating the learning content. “Employees are not tied to any time or place. They can learn on their own responsibility and independently, when and where they want.” BSH manager Schöfer adds: “The opportunity to see other employees and talk to them also ensures a better learning experience.”

If the new learning experience continues to be so well received by BSH employees, it is very likely that the offer will be expanded to other subject areas. And BSH in-house consultant Fuchs has already received many inquiries from the parent company Bosch. ■

HOW WE GUIDE OUR CUSTOMERS ON THEIR JOURNEY TO THE METAVERSE

STEP 01

Content + Story Concept

- Target Group Analysis
- Learning Targets
- Learning Journey

STEP 02

Metaverse Design + User Experience

- Design
- Functionality
- Technical Specifications
- Scenarios
- User Experience

STEP 03

Production Media Plan + Production

- Production Plan
- Media Production
- Metaverse
- Test

STEP 04

Go Live

- First Experience
- Further Development

ENTER THE METAVERSE NOW!

Discover the future of knowledge transfer!
Experience interactive learning in digital spaces with rooom AG.

visit us at
rooom.com

rooom.com
enterprise metaverse solutions

DIGITIZATION IN AVIATION:

"IT'S ALL ABOUT SAFETY"

PROF. DR.-ING. JENS SCHIEFELE
Director Digital Aviation Research & Rapid Development / Managing Director Jeppesen GmbH

DIGITAL

The aerospace group Boeing develops electronic products and services in a former printing shop in Neu-Isenburg, Germany. There, just a few kilometers from Frankfurt Airport, Dr.-Ing. Jens Schiefele heads the German innovation center of the US company. In an interview, he describes how the area has digitally transformed over the past 25 years.

In a nutshell

With the market launch of the iPad, digitization in aviation achieved its big breakthrough. Since then, not only digital maps have replaced their paper predecessors at the Boeing subsidiary Jeppesen. According to this, in addition to networking in aviation, the team around Prof. Dr.-Ing. Jens Schiefele is also working on drones and air taxis, among other things. The employees work in so-called "self-managed teams", where creativity and speed are important - without sacrificing quality.

Mr. Schiefele, there is a statue of Captain Elrey B. Jeppesen in front of the hall – what connects Jeppesen with Boeing?

It all started with Captain Jeppesen: He had been developing instrument flight charts since the 1930s so that pilots and passengers could reach their destinations safely. In 1957, he opened the first office in Germany. At that time, the cards were still printed, in the hall that now houses the Digital Innovation Lab. Since the late 1950s, the Jeppesen company in Germany has been continuously expanded and has been a Boeing subsidiary since 2000.

But digital maps aren't the only products that are being developed in Frankfurt?

No, the Boeing Digital Solutions division in Germany has already developed products such as the electronic pilot case or the Airport Moving Map cockpit assistance system. Today, we develop analytics software to optimize airline operations. Our goal is to support customers with efficient services in digitization and networking.

The Frankfurt site of Boeing has also changed massively as a result of digitization, even if the printing hall is still standing. You've been there from the start: When did the transformation begin?

It already started around 25 years ago. At that time, the CEO recognized that the future was digital and no longer paper. We then set up a software department and started digitizing the maps. But initially, only a few airlines jumped on the bandwagon. But the CEO was undeterred and consistently pursued the digitization strategy. Then, in 2010, the first iPad came, and the market literally exploded. After two to three years, 70 percent of the airlines had started to switch to our digital products. Today there are only digital maps. In this way, we save some weight on board and allow crews to quickly access a large number of digitized flight charts. In the meantime, the transformation has extended to the Boeing Digital Solutions Board: Today we have the first CEO and an entire leadership team with a "digital" background.

How does digitization affect the organization and culture in the company?

Traditional production used to be process-related and clearly defined. There was no deviation from the process to ensure quality. There are still areas that have to work this way. But especially here in the Innovation Lab, the focus is on creativity and speed. The engineers maintain an open, integrative culture with flat hierarchies. Mistakes are allowed and will be corrected. They work in so-called self-managed teams. Each team is put together by the employees themselves and decides how it works. Our culture of openness is also reflected in the hall, and the participants in the Staufen BestPractice Tour were already able to get an idea of this: openness, transparency, and flat hierarchies are extremely important to us. But despite this typical "start-up culture", we attach great importance to the quality of our digital products. After all, our industry is all about safety.

What's next at the Boeing site in Frankfurt?

Digitization and networking in aviation are progressing. One of the things we are currently working on is smart cabins where, for example, food can be ordered by cell phone. Also air taxis, which transport passengers in cities or to airports, and aircrafts with reduced crews are topics. As a part of Boeing, we have the opportunity to do things that we couldn't have done as Jeppesen. ■

BOEING

Boeing Jeppesen

Jeppesen was founded in 1934 as one of the first companies to offer navigational charts for pilots. Today, the company is a subsidiary of Boeing. Around 470 people are employed at Jeppesen's German site in Neu-Isenburg. Jeppesen supports airlines around the world in reaching their destinations safely and efficiently. Based on this experience, Jeppesen today offers an ever-growing range of innovative digital solutions, information products, services and software solutions.

SEW EURODRIVE

SEW EXPERT TALK – DIGITALIZATION IN INTRALOGISTICS

"A STABLE PROCESS LANDSCAPE IS ESSENTIAL"

Automation in intralogistics is an unstoppable force. Jens Kohlhaas, Lean expert at SEW-EURODRIVE, and his colleague Gero Bockelmann, Manager System Planning MAXOLUTION®, are convinced of this. Together with Federica Kraft, project manager at Staufen, they explain how factory automation goes from a vision to an operative success.

What is the status of the industry as a whole and SEW-EURODRIVE in particular with regard to intralogistics 4.0?

Federica Kraft: Many industrial companies are already intensely concentrating on the topic of automation and industry 4.0, but few of them have extensively implemented it in their factories. Logistics in particular has a great deal of potential in logistics for making processes more efficient and error-free through automation. Due to the often heavy focus on production, intralogistics, which mainly includes production supply and warehouse processes, has frequently been neglected in the past. However, we are also noticing a shift in the understanding of the value of intralogistics and the willingness to change processes and develop employees with regard to digital skills.

Jens Kohlhaas: More than ten years ago, we at SEW-EURODRIVE developed a vision of an assembly plant as a modular factory. This further development of the production system and the new possibilities as a result of the automation of intralogistics processes are now resulting in completely new possibilities in process and layout design. In summation, today we achieve a much greater level of production variability, more flexibility with regard to variants, and increased productivity.

But SEW-EURODRIVE is not only betting on the solutions and its own company, but also introducing them to customers.

Gero Bockelmann: Right, because for us, intralogistics 4.0 is not just an internal process topic, but rather also a business field. We are convinced that automation in intralogistics is an unstoppable force. We see in our projects, however, that companies have very differing levels of automation.

“We are convinced that automation in intralogistics is an unstoppable force.”

GERO BOCKELMANN
Manager System Planning –
MAXOLUTION® SEW-EURODRIVE GmbH & Co KG

What challenges does this bring?

Gero Bockelmann: Depending upon the situation of the company, we have to approach completely different topics. Whereas some companies are still making isolated improvements, others have already internalized universal value-stream orientation in their processes. We must often make customers understand the concept of an overarching process flow.

Jens Kohlhaas: A stable process landscape based on lean production is essential if intralogistics is to be automated. The company needs a value-stream orientation and a good database, in addition to a clear idea of what the future will bring, meaning which areas they want to develop more dynamically in the future.

What could such an entry solution look like?

Jens Kohlhaas: In our electronics factory, for example, there is an application with which waste disposal is fully automated. The containers with the manufacturing waste are picked up by a logistics assistant several times each day, taken to the trash compactor, and automatically unloaded there. Then, the empty containers are brought back again. The entire process is now completely unmanned.

Gero Bockelmann: Control of a point-to-point system is the simplest. The customer then has something to see and can imagine how it will work with other processes. The degree of complexity increases with value-adding processes.

Do the customers always know what the step of automation means in concrete terms?

Gero Bockelmann: When a company approaches such a project for the first time, we have to get it right. Together with the customer, we develop an ideal image for future processes. Based on this ideal image, we then identify a meaningful first step for the transformation together. The goal is to create an entry point that allows the customer to gain experience and develop skills using the new technology.

“Together with Staufen, we offer a seminar on matrix production in the SEW teaching factory. There, we build awareness of the challenges facing a modular factory regarding planning, control, and operation.”

JENS KOHLHAAS
Business Process Consultant
WIEPROconsulting – Processmanagement
SEW-EURODRIVE GmbH & Co KG

Seminars

Beyond Lean?
Modular production!
Event location:
SEW-EURODRIVE GmbH & Co KG
Bruchsal, Germany

Lean Logistics next Level –
Theory meets practice!
Event location:
SEW-EURODRIVE GmbH & Co KG
Bruchsal, Germany

GERO BOCKELMANN
Manager System Planning – MAXOLUTION®
SEW-EURODRIVE GmbH & Co KG

JENS KOHLHAAS
Business Process Consultant
WIEPROconsulting – Processmanagement
SEW-EURODRIVE GmbH & Co KG

FEDERICA KRAFT
Project Manager
STAUFEN.AG

How does one create the necessary consciousness and desire to change with regard to automation and matrix production in companies?

Federica Kraft: When we plan logistics processes now, we notice that there is a great deal of willingness with regard to automation. The question of whether driverless transport vehicles – so-called Automated Guided Vehicles (AGV) – can be used often comes up quickly. We then explain that an AGV controlled by the system requires the same information as an employee. When we lay out new processes and systems, the second step, automation, is therefore already being considered.

Jens Kohlhaas: Together with Staufen, we offer a seminar on matrix production in the SEW teaching factory. There, we build awareness of the challenges facing a modular factory regarding planning, control, and operation. The event is directed specifically at practitioners from the production environment. Just like we supported the introduction of the one-piece-flow with training measures around 20 years ago, we also train our employees regarding this further development of the production system.

In your opinion, what are the greatest advantages of automation in intralogistics?

Gero Bockelmann: From a technical point of view, the quality of the transport increases when converting to AGVs. Automated systems introduce tranquility. Work accidents caused by hands-on transports declined when forklifts and tugger trains are removed from factories. In addition, their use creates more transparency: With an AGV, I always know where my workpiece is at any moment.

Jens Kohlhaas: There are clear costs benefits. A robot works 24 hours a day and doesn't take a vacation. The factory also becomes more variable due to matrix production. Where I would have had to redesign an entire assembly line earlier, today I can flexibly integrate new processes into my production by adding an additional process module.

Federica Kraft: Often, the desire for automation is driven by a lack of specialized personnel. Today, many companies are forced to get by with fewer personnel. In addition, however, a company can utilize automation as a competitive advantage in the race for the best talent. Because young people simply expect digital and smart processes in their workplaces.

How can one make the success of automation measurable?

Gero Bockelmann: By defining a goal. In the beginning, the company must ask itself about the intended extent of automation. For example: What value-adding activities do I want to support? Which non-value-adding processes do I want to completely automate?

How important is it to include the employees?

Jens Kohlhaas: The inclusion of the employees in the change processes is an absolutely critical factor for success and will remain so, especially in direct dealings. In our case, this includes work in multifunctional teams, mutual situation analysis, and concept development in each project. This is the only way to turn affected people into participants and maintain momentum in the project.

Federica Kraft: Many employees are still skeptical with regard to automation. For this reason, it is important to plan the processes together with people and clearly communicate the new roles they will play and how their duties will change in the future. ■

TRUMPF

DIGITAL

"WE ALREADY MADE IT TO INDUSTRY 3.8"

They talk a lot about Industry 4.0, but the smart factory is still far in the future for most companies. In its Customer Center in the headquarters in Germany, the Machine tool and laser technology specialist TRUMPF offers a preview towards the industrial future. In an interview, Alexander Kunz, the Customer Center manager, points out which parts have already become reality at TRUMPF.

In a nutshell

TRUMPF is on its way to transforming itself from a classic mechanical engineering company into a provider of holistic, smart customer solutions. More employees are already working in developing software solutions for networking in the company than on hardware. In addition to digitization, the company also focuses on sustainability and sees growth in sheet metal processing as an alternative and energy-saving construction method for components over the next few years.

Mr. Kunz, the TRUMPF Customer Center is a regular contact point for the Staufen BestPractice Tour. What is TRUMPF showing to the visitors there and how do you achieve the greatest wow effect?

Our customer center is a real smart factory. We are working there with machines for sheet metal production and thus offer visitors an authentic experience. However, the wow effect is generated less by what we do there, but more by showing how we do it. Because the visitors experience that a smart factory works regardless of how automated the material flow is, i.e. how many robots are set up. Rather, it depends on lean processes and smart control.

How do you introduce TRUMPF to the visitors there – still as a classic mechanical engineering company?

No, because that's not TRUMPF anymore. Rather, we are a modern digital company that deals with cross-process, holistic solutions. There are now more employees in our development department who deal with software, processes and digital business models than those who are still working on classic hardware. Visitors to the Customer Center can also see how we have changed by the use of partner products that are deliberately not branded as TRUMPF products.

What is the central driver for TRUMPF to develop digital business models?

Clearly it's the customers. Thanks to digitization, we now have much more transparency about their needs. That's why we want to offer them solutions that go beyond pure production, that help them do their business and, above all, prevent the machine from standing still. Because that's always the most expensive thing.

What new business models has TRUMPF developed in the past few years?

For example, the "Oseon" software, which customers can use to control their production and material flow. This software can be expanded in the areas of warehousing, logistics and interfaces - up to the complete networking of the company. Or "pay-per-part", the use of the machine as a service, where customers only pay for the manufactured parts. TRUMPF takes over remote production planning and control as well as machine programming and maintenance.

In addition to digitization, sustainability is currently at the top of the agenda for many companies. How does TRUMPF connect these two topics?

At this year's Intech, we presented the newly founded company "Scrap2Value", in which TRUMPF is also a stakeholder. Here, we let ourselves be guided by the idea of sustainability and developed a solution for more intelligent scrap recycling. Because if the scrap is sorted correctly, it can be processed in a much more climate-neutral manner, which in turn influences the company's greenhouse gas balance. By the right sorting, we can address up to 40 percent of the CO_2 footprint. And by linking it to "Oseon", the solution becomes even smarter and gains additional value for the customer.

Although many companies are dealing intensively with digitization, the most recent Staufen study also shows that in many places, the transformation is progressing slowly. What does TRUMPF do better or differently?

Also for us, the transformation was very strenuous and is far from over. I would state that if Industry 4.0 is the goal, we've already reached 3.8. The clear positioning as a board department helped us with the change project. Mr. Kammüller, our stakeholder, took on the CDO role and drove the entire change forward.

ALEXANDER KUNZ
Head of Customer Center
TRUMPF Machine Tools
SE + Co. KG

"There are now more employees in our development department **who deal with software, processes and digital business models than those who are still working on classic hardware**."

If you look into the future: Where will TRUMPF stand in 2030? And where will your industry be?

We are expecting the trend towards sustainability to lead to growth in sheet metal processing. Many components are still "milled from the solid". Against the background of necessary energy savings and the European Green Deal and the associated CO_2 prices, this will no longer be worthwhile for every application. Therefore, many will rely on alternative construction methods with sheet metal. The trend towards networking will also continue, not only within the factory, but also across entire plants. As a result, significantly fewer machines will be required and capacity utilization will increase. Due to the shortage of skilled workers, the demand for automation solutions will increase. TRUMPF therefore relies on individual consulting solutions and tailor-made overall solutions for our customers. ■

TRUMPF

The TRUMPF Group is one of the global market and technology leaders in machine tools and lasers for industrial production. Software solutions should pave the way for customers to the smart factory. The company recently achieved sales of more than 4.2 billion euros with around 16,500 employees.

LEAN MANAGEMENT: THE PATH TO WINNING MENTALITY

OPERATIONAL EXCELLENCE

PETER WIMMER
Vice President Innovation
and Products
BINDER GmbH

BENJAMIN JEUTHE
Vice President Operations
BINDER GmbH

CHRISTIAN SPRENGER
Partner
STAUFEN.AG

CHRISTIAN MÖLLERS
Partner
STAUFEN.AG

BINDER
Best conditions for your success

The current Staufen study "Future Industry 2023" underlines how effective Lean Management is for companies to develop more resilience despite cost pressure. The Binder family company also shows how Lean Management can not only make you better and faster, but also inspire employees and customers.

For a long time, politicians in particular had hoped that the German economy would get through the multi-crisis without recession. At the end of May of this year, however, it became official: With the economy shrinking for two quarters in a row, it had happened after all. The majority of industrial companies had already anticipated this development and increasingly switched to crisis mode. The current Staufen study "Future Industry 2023", for which more than 400 industrial companies in the DACH region were surveyed in spring, shows that the goal of more efficient value creation is now even more important than the mega-topic of sustainability.

However, the study also shows that almost all of the companies surveyed (94%) are convinced that Lean Management is more important than ever and helps to overcome the current challenge (see also p. 28). Securing the cost and earnings targets is by far the biggest driver for the use of lean. "Anyone who recognizes that it is not enough to simply make cutbacks can avoid waste and optimize processes through lean value creation. In this way, competitiveness can be sustainably increased in a challenging environment," says Staufen partner Christian Sprenger.

Higher quality at lower costs

An example of how a company meets the challenges of the market with lean methods is Binder GmbH, the world's largest specialist for simulation cabinets for scientific and industrial laboratories. More than 22,000 devices leave the Binder factory in Tuttlingen, Germany, every year. Binder's aim was to ensure competitiveness through shorter development periods because product cycles of simulation cabinets keep on reducing. So, the Lean journey originally started in the development department. "Today, the link with process development in production is the success factor for meeting market requirements," says Benjamin Jeuthe, Vice President Operations.

Development and production at Binder are now planning a product together right from the start. Benjamin Jeuthe welcomes this very much: "In this way, we always develop production-oriented and save considerable costs at the end of the day." Restructured processes also help to avoid unnecessary loops. "It is absolutely clear what happens in each individual phase, what the individual work packages look like, who is responsible and who is involved," explains Peter Wimmer, Vice President Innovation and Products. There are clearly defined regular meetings on the digital shop floor for each project. "In this way, the team can find out about the status of the project and the next tasks within a 10-week plan from anywhere."

The continuous measurement of progress has ensured transparency across all areas involved. At a glance and thus early on, department heads can see whether a project is still on schedule. Innovation Manager Wimmer: "We have not only succeeded in significantly reducing the development time. Project costs are lower than in former times and the new products are always ready on time and on budget. In addition, our products have reached such a high level of quality that would not have been possible before."

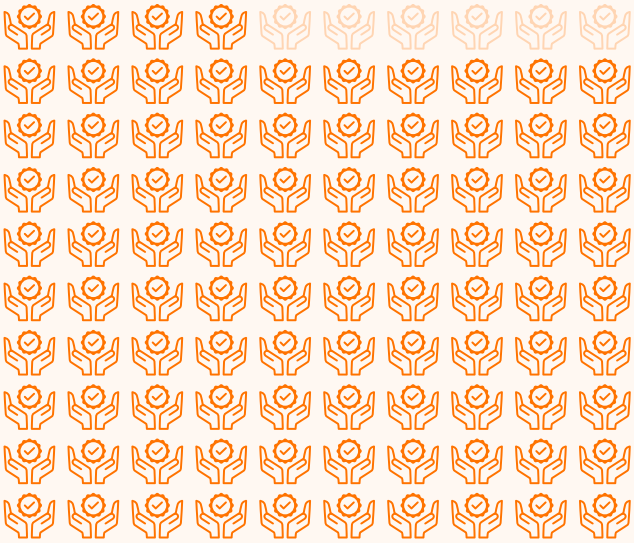
Embed lean competence throughout the organization

As the current Staufen study shows, companies are well aware of these positive effects. However, the degree of lean maturity determines how quickly and efficiently companies can react to new challenges and make forward-looking decisions. And although more than 50 percent of industrial companies now rely on Lean Management in their value creation, there are still major differences here. Staufen partner Sprenger sees the reason for this as follows: "Unfortunately, the terms Lean Management and lean processes are still primarily associated with the production area.

Does Lean Management help manage current challenges?

Lean Management makes companies efficient and fit for the future.

94 %



Lean Management is more important today than ever

The indirect areas in particular also have the potential to make a significant contribution to improving results through operational excellence."

Up to now, only one in five industrial companies has followed the lean principles in the indirect areas. About half of these lean pioneers are already implementing the lean philosophy strategically and holistically. "A sustainable improvement in corporate performance can only be achieved by anchoring the lean and change competence throughout the organization," emphasizes Staufen partner Christian Möllers. Eight out of ten companies say that the communication skills of modern executives play a decisive role. But two-thirds also know that this is precisely where their own managers still have the greatest need for training.

Further development of the organization therefore depends, among other things, on the skills of its own managers. A view shared by the two Binder managers. "Lean is also a mentality issue. As a manager, you have to exemplify constant improvement, otherwise you can't expect the employees to think it's great," says Peter Wimmer. "We are always looking at how we can further slim down. Everything with regard to our goal of becoming faster." Benjamin Jeuthe agrees: "The method used is almost secondary. When it comes to Lean Management, culture matters. Across all hierarchical levels, everyone must be intrinsically motivated in their daily work, otherwise you will not be successful."

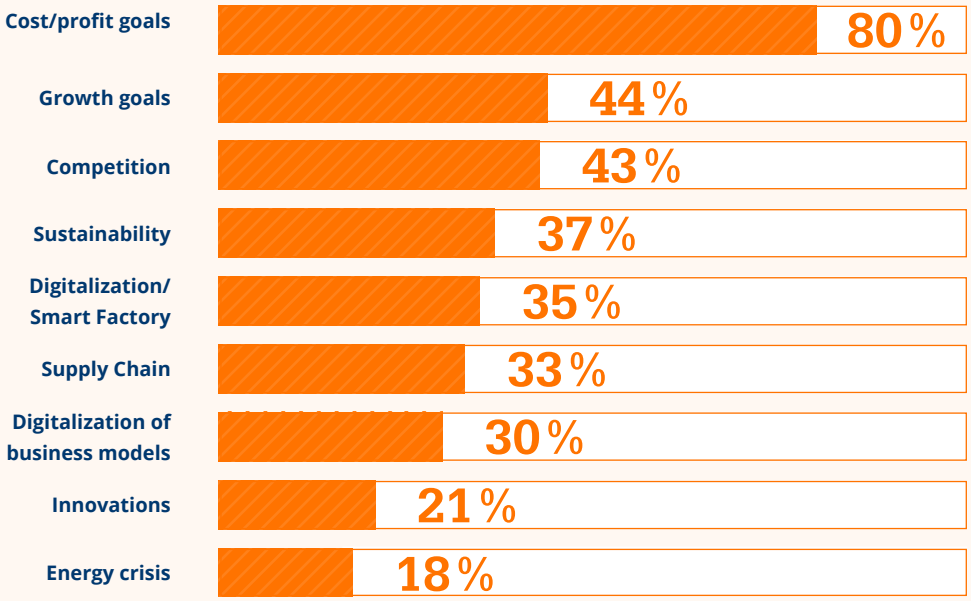
More customer trust through Lean Management

Although the journey at Binder is far from over, the company is on the right track. Digitization helps Binder with the implementation in the relatively young workforce. For example, the desire to digitize shop floor management came from the departments. "Our department heads actively promote lean. They show us where there are still weak points and encourage us to initiate new projects in which we can work out solutions together," says operations expert Jeuthe.

In the next few years, the company also wants to introduce Lean Management in the human resources department and in accounting and integrate it into Shop Floor Management. Benjamin Jeuthe explains the advantages: "If the colleagues in the production see that they are not achieving their key figures, for example because the sick leave is too high, the integrated HR expert can then take countermeasures much more quickly." And what do customers say about lean? "When we take them through the company today and show them how we produce using lean, they suddenly see us with completely different eyes. Lean definitely creates even more trust in our products," says Peter Wimmer. ■

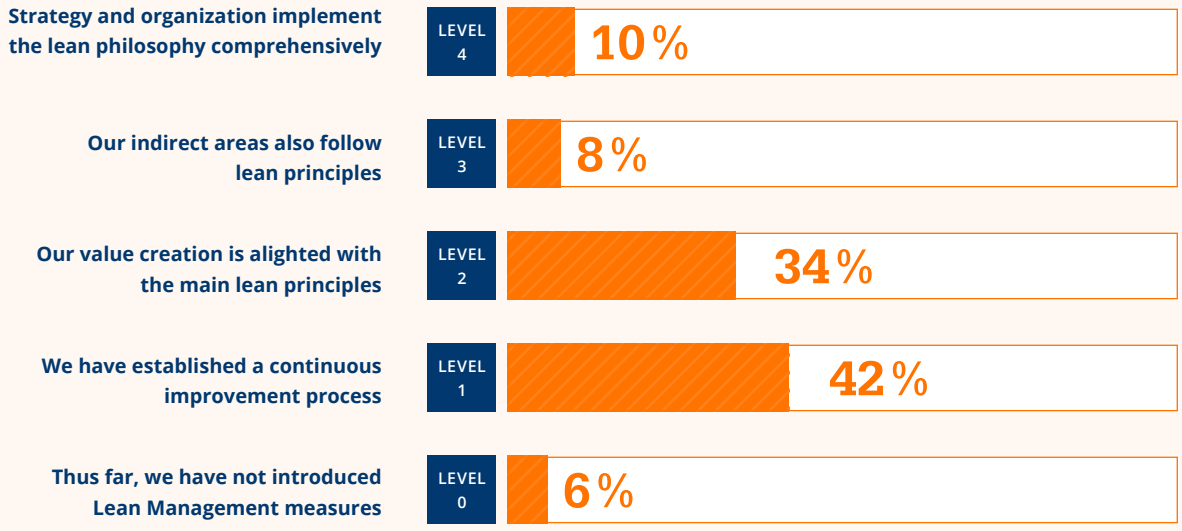
Read the entire study
'Future Industry 2023'
www.staufen.ag/studies

What are the current drivers for the deployment of Lean Management?



Reduce costs and increase competitive capability at the same time.

How “lean” are industrial companies?



More than 50% rely in their value creation on Lean Management.

STRUCTURE FOLLOWS PROCESSES

INNOVATION AS THE CORE OF THE BRAND

VDE INSTITUT

“We are in the middle of a huge change process. **This requires a high degree of perseverance and consistency.”**

ANSGAR HINZ
Chairman/CEO
VDE-Foundation of electrical engineering electronics information technology e. V.

In a nutshell

The VDE Testing and Certification Institute (PZI) is a premium provider of test certificates for products and components with regard to compliance with safety standards. It operates in the area of tension between regulatory requirements and economic necessities. The complicated testing process of the PZI from the inquiry to the certificate has so far led to suboptimal results. In cooperation with Staufen, the PZI has redesigned and measurably improved its processes and structures on a digital basis.

The VDE is one of the largest technology organizations in Europe and well known in the electrical and information industries. It makes an important contribution to product safety, the further development of standards and consumer protection. Its tasks include scientific work on electrical engineering and information technology and application advice, the development of standards and norms and the testing and certification of components, products and systems in electrical engineering and information technology.

Innovation is a brand core of the VDE. It works with the relevant standards committees and provides more than 3,500 valid standards in a variety of areas. The VDE Testing and Certification Institute (PZI) is a premium provider of test certificates. The famous VDE mark, which has just turned 100 years old, is only given to products and components that have successfully passed the testing process of its technical laboratories (TL).

There is no comparable organization in the world with such a broad value chain. The carrier of this value chain is a non-profit organization with a remarkable cross-section, as VDE CEO Ansgar Hinz emphasizes: “This ranges from technology screening to the professional societies to the standardization organizations and the testing and certification institute with its laboratories.” Other areas include the publication of the knowledge gathered as well as events that promote qualifications in school, university, and work. Behind these areas are companies that are exposed to the sometimes strong competition in their specific market environment.

Change process: Enormous degree of perseverance and consistency required

The special feature of the PZI is that it is, on the one hand, a business with classic production, which is made measurable using certain KPIs. On the other hand, due to international regulations and normative constraints, it is subject to many processes that lead to limited degrees of freedom in process design. In cases of doubt, standard methods must therefore be modified and adapted to specific needs. Added to this is the burden on the employees who manage the day-to-day business and at the same time not only accompany the change operationally, but also have to lay the foundations for it. Faced with these challenges, the VDE decided to bring in technical expertise from outside and turned to Staufen.

“The change process is currently in full swing,” says Ansgar Hinz. “This requires an enormous degree of perseverance and consistency.” Marcel Hülsmann, business and project manager at the VDE, adds: “In the past, some approaches have been made, but not implemented with the utmost consistency. It was therefore a major challenge to make it clear to everyone: No, we are serious, we want to optimize the organization in the interests of our customers, consistently and with the help of the enormous specialist knowledge and high level of expertise of the employees.”

Creation of meaning and communication as the basis of the change process

Staufen consultant Sebastian Nett attached particular importance to creating meaning: "The VDE had been involved with lean for a long time. Now those responsible at the PZI wanted to take the next step on their lean journey. But if you don't manage to show employees the added value and the advantages of it, it becomes difficult." Concepts were developed in workshops and many good conceptual drafts that had been developed in the past were used. This was followed by content-related discussions with the various management levels and experts in individual areas. All of this was characterized by broad-based communication.

Structure follows processes – the new way of order processing

In the past, an auditor supervised several projects at the same time, including order clarification, preparation of an offer and implementation of the audit. There were no clear criteria for prioritization. The result: many test orders that have been processed, multiple mental preparations or repeated familiarization with the respective topic, which led to a suboptimal project flow with longer throughput times when processing the projects. To improve the situation in terms of lean, the focus was on optimizing the order processing process in an ideal/real approach in order to then realize further potential with suitable digital support.

New structure, measurable improvements

The numerous good ideas from the previous VDE improvement initiatives on the subject of order clarification and order processing were further developed with the help of Staufen and the VDE experts. One innovation is the "Technical Front-End" with customer project managers. Based on their extensive knowledge of standards and requirements, these experts clarify with the customer what needs to be tested and create a precise offer, view prerequisite articles and only approve orders that are ready for testing for testing in the laboratory. Together with the VDE project team, Staufen has defined this essential clarification process with milestones and described quality checkpoints. At the key interfaces of the process, this forms the basis for fast and efficient deviation management (Shop Floor Management) according to the target/actual delta logic. Based on this target process with control principles according to the pull principle, the order planning tool already developed by the VDE was set up on a digital basis and thus also replaced the classic push system. This order planning tool enables a very high level of transparency of the entire process and provides detailed information about the complex order landscape.

In addition, a number of other technical innovations were developed, the Shop Floor Management was brought to an IT-based platform and newly designed technical laboratory workplaces were created, which are now to serve as a blueprint for further laboratory workplaces, especially in the planned new building for the test laboratories.

The effort was worth it: For example, the order throughput time was reduced by an average of 20 to 30 % and the throughput time of test orders by 15 to 23 %, and adherence to delivery dates was increased by up to 30 % in some cases. These improvements have all been received very positively by customers.

The cooperation with Staufen is also very positive. "Especially when the organization and the employees have already seen one or the other consulting company, it is all the more important that the consultants fit well into the team. And that is definitely the case at Staufen," says Marcel Hülsmann. ■

Project Metrics

- **Reduction in quotation processing time: 20 to 30%**
- **Reduction in test order turnaround time: 15 to 23%**
- **Increase in on-time delivery by up to 30%**

“The structure to be developed must follow the processes, not the other way around.”

SEBASTIAN NETT
Project Manager, STAUFEN.AG

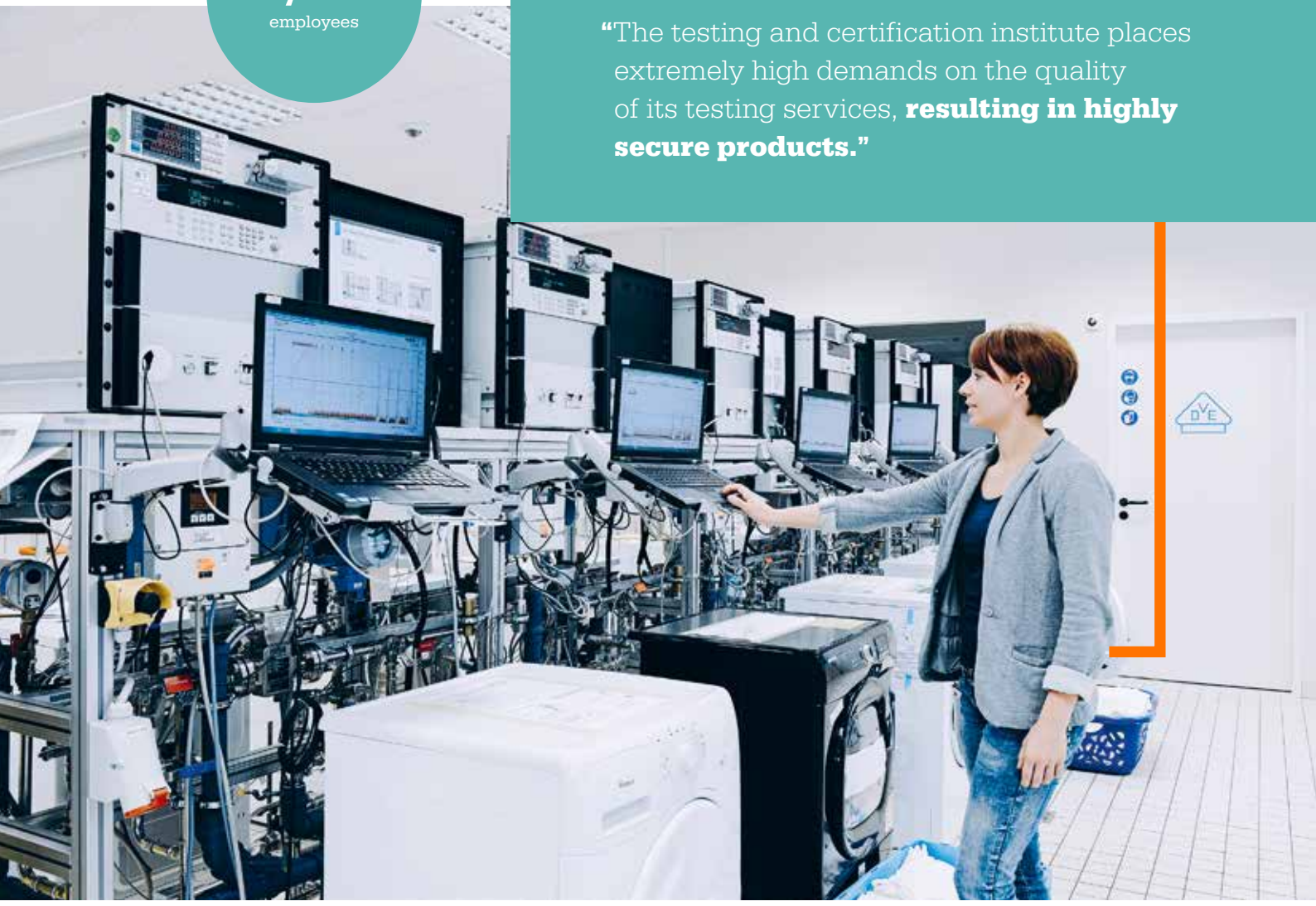
founded in
1893

> 3,500
norms und standards

2,000
employees

MARCEL HÜLSMANN
Member of the Executive Board
VDE Testing and Certification Institute GmbH

“The testing and certification institute places extremely high demands on the quality of its testing services, **resulting in highly secure products.”**



PROCESSES INSTEAD OF PEOPLE:

PRODUCT DEVELOPMENT AT ARBURG

founded in **1923**

875 mio. EUR turnover (2022)

3,600 employees worldwide

A lot is a little different at machine builder Arburg. Because if 80 percent of the purchased materials come from a radius of less than 100 kilometers and the vertical integration is more than 60 percent, that doesn't exactly correspond to a global outsourcing spirit of the age. However, the company from the northern Black Forest is still successful - or perhaps precisely because of this... Certainly also because it cleverly adapts its special business model to changes, for example in product development.

The 100th anniversary year is in full swing. What began as a small precision engineering manufactory for surgical instruments has now grown into one of the market leaders for injection molding machines. The success is probably also due to a special mindset: "The founder Arthur Hehl did not found this company in 1923 because it was so hip to be a start-up company, but like many other Swabian companies at that time, you simply and poignantly designed or invented 'for survival'," says Dr. Christoph Schumacher, Vice President Global Marketing at Arburg, on the beginnings of the company. "Of course, this has something to do with the corporate culture. Maybe this is why we were always able to recognize disruptions and their opportunities, despite Swabian thrift and more long-term planning."

An innovative leap was the first hand-operated injection molding machine from 1954, which went into series production in 1956 - a step from metalworking to plastics processing. The "Allrounder", a unique and very flexible injection molding machine, followed in 1961. In 2023, Arburg launched the - nomen est omen - "Anniversary Machine" just in time for the company anniversary, also as the starting signal for a new machine generation from Arburg. This is a particularly energy-efficient, resource-saving, modular hybrid injection molding machine. Their concept, which combines the advantages of a hydraulic and electric injection molding machine with full optionality, is a unique selling point on the market.

35
locations
worldwide

DR. CHRISTOPH SCHUMACHER
Vice President Global Marketing
ARBURG GmbH + Co KG

ALENA SPRINGER
Technical Project Manager
ARBURG GmbH + Co KG

BERND KOHLER
Director Product Development
ARBURG GmbH + Co KG

ARBURG

"With the new product development process, **we are taking the company's growth into account and making ourselves fit for the future."**

BERND KOHLER
Director Product Development
ARBURG GmbH + Co KG

A company with an unconventional approach

Christoph Schumacher attests to the company's "stubbornness", which is meant in a positive way. While many companies have outsourced more and more in recent decades and have relocated supply chains and production sites to low-wage countries, Arburg is sticking to production at a single location in the Black Forest and a supplier strategy in which 80 percent of the purchased parts are sourced from a radius of 100 kilometers. While business administration students used to smile at this approach when visiting factories, the advantages have been clear since Corona and the Ukraine crisis at the latest: stable supply chains with short distances and no supply bottlenecks. And quite incidentally, Arburg promotes sustainable development in the entire region.

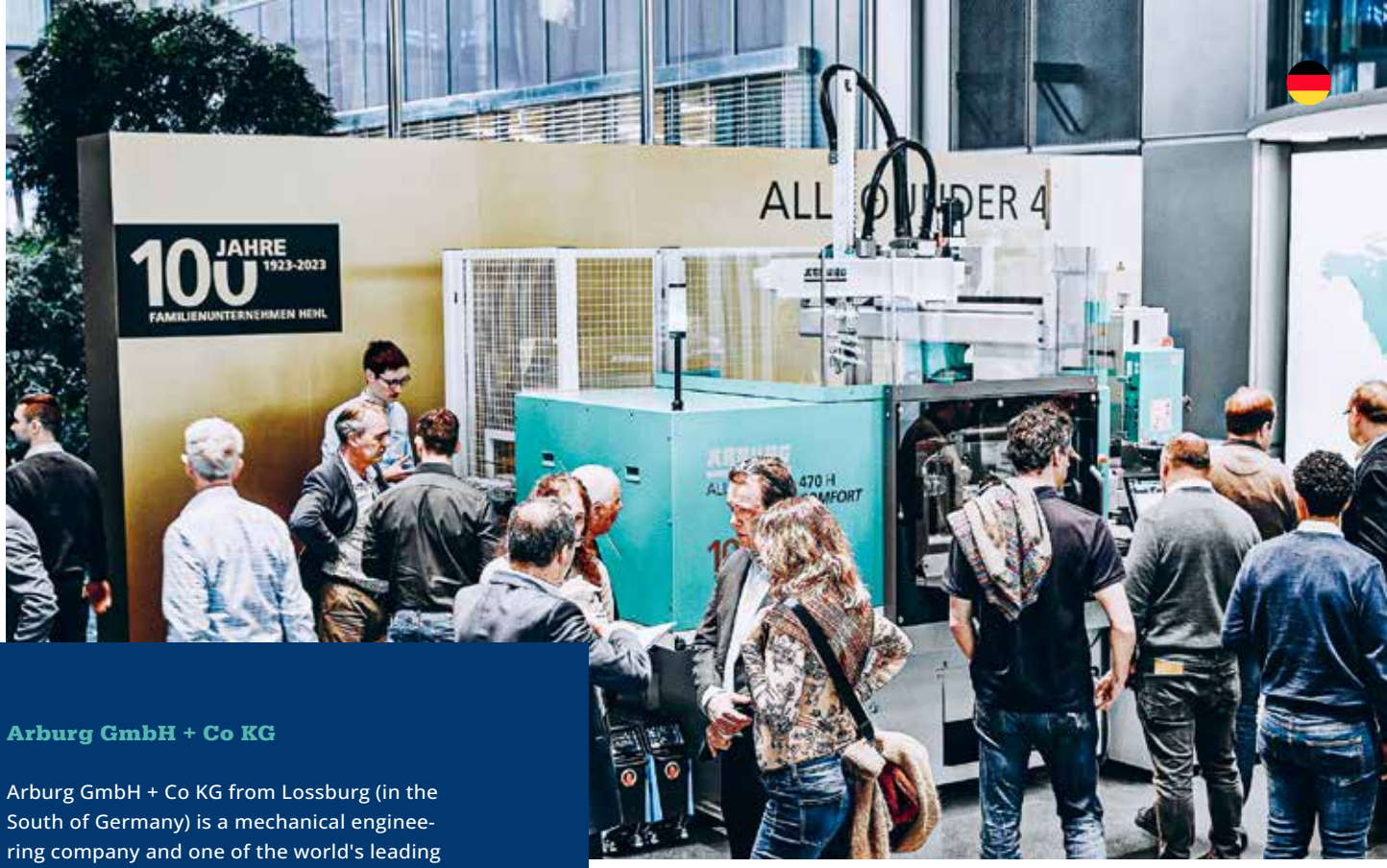
Shaping change with a sense of proportion

However, going your own way does absolutely not mean that Arburg is standing still. As early as 2020, with the support of Staufen, the introduction of an extended Shop Floor Management system covering all technical areas was started, which offers more transparency for those involved and has improved internal communication. As part of the development of the anniversary machine, the company has also relaunched its product development process (PDP) as the next logical step.

"In the past, many processes were based on the accumulated experience of certain people," says Bernd Kohler, "that no longer works from a certain company size, especially when more and more people are involved in the development of a machine." He is Director in the product development department and as a project manager, he was involved in the development of the new process. During the revision of the PDP, new project roles were defined and cooperation was simplified through clear responsibilities. With the help of a performance interface matrix, flowcharts and templates, the process is now clearly described. The status of development is made transparent via maturity levels and enables effective project management. "The project manager is supported by these templates and can ensure that the right departments are involved at the right time," says Bernd Kohler. "In this way, we achieve much greater transparency in development and can uncover critical points very quickly and act accordingly early on." His colleague Alena Springer, the project manager in development, can confirm this: "We are much more efficient. While I used to have to look for the right contact person, today this is clearly defined by the process and we can't forget anyone. The colleagues from the assembly area are also enthusiastic about being involved even earlier and being able to give their feedback before a prototype is created. So they will find out promptly what is coming and what they have to pay attention to, which saves us one or the other correction loop. We are now working even more closely together." This is also an advantage for new employees: the transparency provided by the documented product development process reduces the training period and ensures that everyone works the same way.

"Thanks to clear and transparent processes, we are working more efficiently and **we're shortening the time-to-market."**

ALENA SPRINGER
Technical Project Manager
ARBURG GmbH + Co KG



Arburg GmbH + Co KG

Arburg GmbH + Co KG from Lossburg (in the South of Germany) is a mechanical engineering company and one of the world's leading manufacturers of injection molding machines and additive manufacturing systems for plastics processing. The machines are manufactured exclusively in Lossburg.

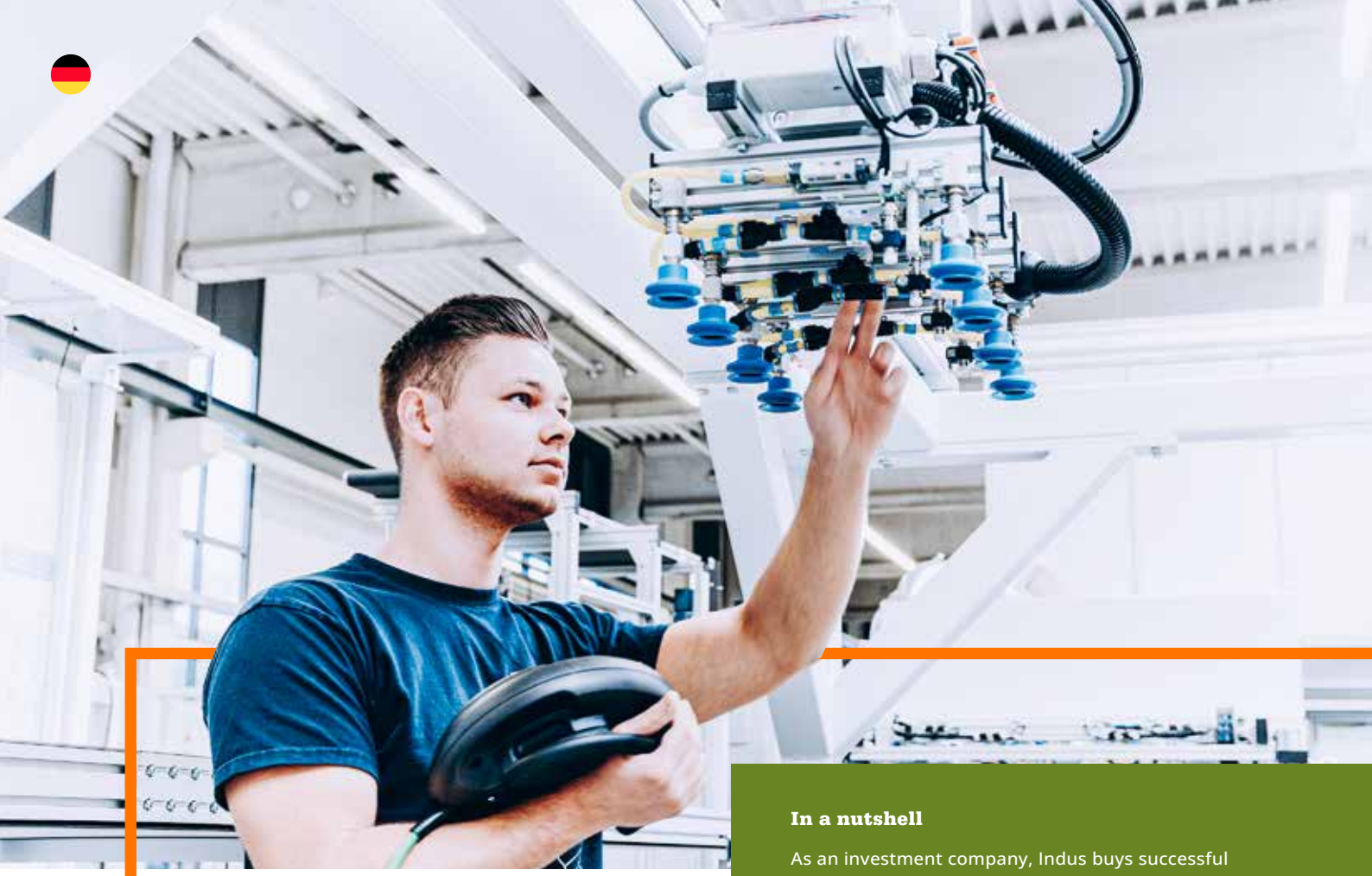
"Especially as a globally active medium-sized company, **you have to be willing to change without giving up the company DNA.**"

DR. CHRISTOPH SCHUMACHER
Vice President Global Marketing
ARBURG GmbH + Co KG

Process optimization means securing the future

But how could the Lean Management approaches of Staufen be integrated into the Arburg model? The high in-house value creation means that many processes are per se different than in other companies. Bernd Kohler explains: "In the project, we had to take the many value streams and interfaces in-house into account and integrate them accordingly. So we tailored the theoretical model for us in a very practical way." For this reason, it is not surprising that the 18 project team members worked on the implementation for more than a year.

Those responsible agree that this perseverance has paid off, and not just for product development: "The new process prevents work from becoming more inefficient and complicated as the company grows. In this respect, it is also a measure that ensures future viability," summarizes Christoph Schumacher. Gerrit Speidel, the consultant responsible at Staufen, sees it similarly: "Arburg is not just a machine manufacturer, but an industry partner who understands the increasing customer and market needs. Complex issues such as sustainability require solutions that can only be created through close cooperation between interdisciplinary teams. And precisely this is why we have created an optimal basis with the new PDP, with which Arburg can continue to scale in the future." ■



In a nutshell

As an investment company, Indus buys successful medium-sized industrial companies and consistently develops them further – in terms of operational excellence together with Staufen. The ultimate goal of the holding for medium-sized companies: to preserve and expand the founder's life's work.

AXEL MEYER
Member of the Board
Indus Holding AG

"WE SEE OURSELVES AS A SPARRING PARTNER

AND NOT AS AN OPERATIONALLY INTERVENING EXECUTIVE FLOOR"

[INDUS]

If, for example, a company owner cannot find a successor for his life's work, Indus Holding is one of the top addresses in Germany. But the holding company from Bergisch Gladbach, Germany, not only buys companies, but also makes them better in the long term – as in projects with Staufen.

Many successful medium-sized companies in Germany are run by families. This often makes succession planning a particular challenge for them. The Institute for SME Research in Bonn estimates that by 2026 around 30,000 family businesses will have to be handed over every year because the owners are leaving for personal reasons. “Many find it difficult to separate from the company they have built themselves. Nevertheless, they should arrange the successor in good time to ensure the success of their life’s work,“ says Christoph Wurst, who heads the private equity division at Staufen.

Long-term home for medium-sized companies

If there is no one in the family or in the management of the company to find a successor, selling it to an investor like Indus Holding from Bergisch Gladbach often helps. “As an industrial holding, we buy and develop technology-oriented medium-sized companies,” explains Axel Meyer, Member of the Board of Indus Holding AG. Indus concentrates on companies in the engineering, infrastructure and materials segments. The group currently has 45 portfolio companies.

“In the industry, we are known as a long-term home for medium-sized companies,” Meyer continues. The high profile of Indus often leads to entrepreneurs calling Bergisch Gladbach directly or, as a first step, simply writing an e-mail. Indus board member Meyer likes this typical hands-on mentality of successful entrepreneurs: “These are the best cases when the owner trusts us from the beginning to continue his life’s work”.

The investor as a sparring partner and coach

When a company is sold to Indus, it retains a high degree of entrepreneurial freedom: “All of our acquisitions are very successful and have established business models. We want to develop them further, for example by promoting their internationalization and thinking about new product families. We see ourselves as a sparring partner and coach, but not as an operationally intervening executive floor.”

Keyword coaching: The Indus initiative “Improving Performance” is intended to support companies in continuously improving their business processes. The aim is to optimize both market positioning and operational excellence. In the area of lean management, Indus has therefore set up a multi-stage training and further education program together with Staufen and has already trained around 100 specialists and managers in operational excellence over the years. “Together, we equip the companies with the necessary methods and the corresponding know-how. This initial training then means that they can independently tackle further improvement issues,” explains Axel Meyer. Staufen consultant Jürgen Endress adds: “Our training courses also offer the specialists and managers of the portfolio companies a great opportunity to learn from one another and to network.”

Exchange with open visor

And what is the relationship between holding company and participation like in rough times? Axel Meyer has no concerns about that: “If the result comes under pressure due to a deterioration in the general conditions – such as significantly higher material and energy prices etc. – we as a holding company move closer to the company. In direct exchange, so to speak with an open visor, we look for solutions together with the portfolio company. And then we drive it forward with all our might, with money and expert knowledge. At the same time, we have the necessary patience to allow things to develop. In contrast to classic private equity providers, we not only support a company for a predetermined period of time, but permanently with the aim of keeping it value-adding.” ■

Indus Holding AG

Indus Holding AG is a German investment company listed in the SDAX. The company was founded in 1989 and is based in Bergisch Gladbach. Indus invests long-term in technology-oriented hidden champions in German-speaking medium-sized companies and currently holds 45 portfolio companies. In 2022, the Indus Group generated sales of around 1.8 billion euros with around 10,000 employees.

A VISIONARY BLUEPRINT

RIB

RENÉ WOLF
CEO
RIB Software GmbH

KIM IMMELMANN
Global Marketing Leader
RIB Software GmbH

In a nutshell

With the support of Staufen, RIB has initiated a change and transformation process to integrate its globally scattered units into one company. The transformation ranges from the legal merger of the individual companies to the technical interconnection of the various IT-landscapes and the harmonization of processes to cultural change. The individual topics are processed in various workstreams. For example, the cultural change was substantially guided and influenced by so-called Change Ambassadors. This allowed the management to fine tune the transformation at all times and drive it in a targeted manner. The goal: One RIB – a collaborative, efficient, and scalable organization, which provides sustained benefits for all participants.

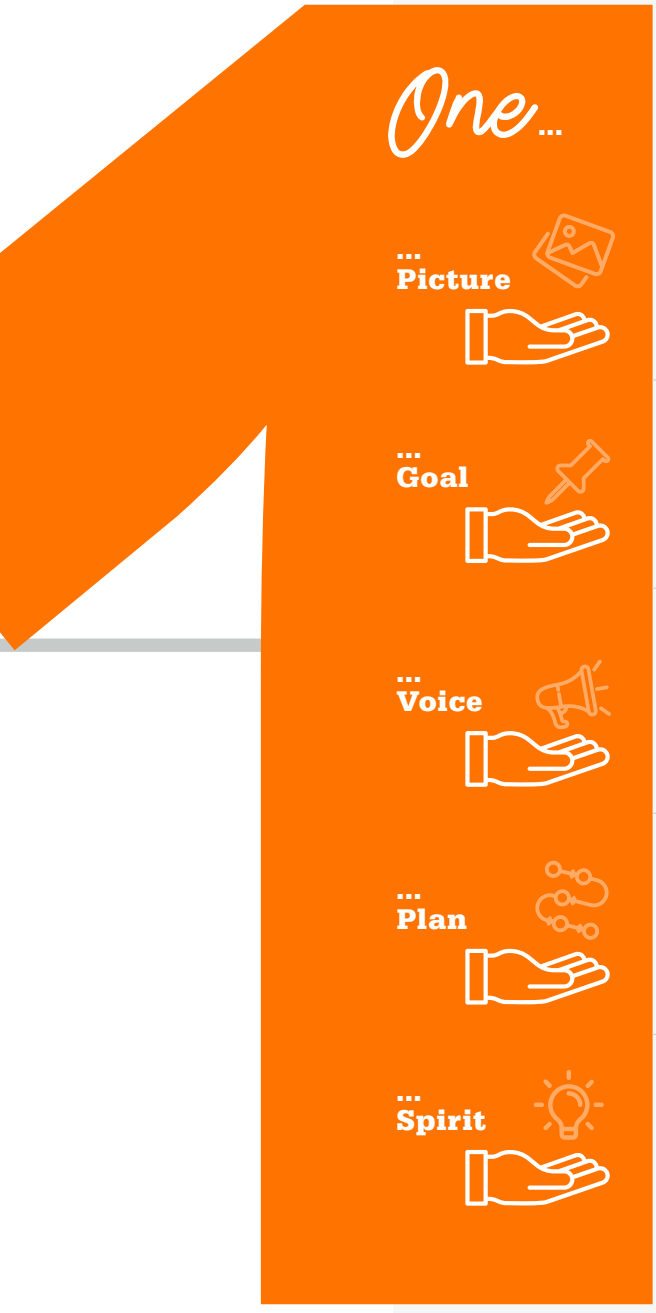
After numerous acquisitions, the software specialist RIB has recognized that it must intensify the integration of its units, which are spread across the globe. With the vision "One RIB", the internationally established construction industry innovator began a comprehensive transformation process together with Staufen. This is designed to create the basis for efficient and productive collaboration and long-term growth.

In the past few years, RIB Software GmbH has been on a huge shopping spree: worldwide, the software specialist for the engineering and construction industry has acquired more than 140 companies and niche suppliers. This allowed the company to offer its customers a broad portfolio of regionally tailored solutions on one hand. On the other, the distribution of the units across the globe prevented the utilization of scale and synergy effects. “In order to optimally utilize opportunities for growth, we have decided to increase the bundling of the competences of the individual units,” says RIB CEO René Wolf. Together with Staufen, the company has begun a large-scale change and transformation process with “One RIB”, which ranges from the legal merger of the individual companies to the technical interconnection of the various IT-landscapes and the harmonization of processes to cultural change.

Change Ambassadors as multipliers and contact partners

Due to capacity issues alone, an individual company unit cannot implement the introduction of such an overall solution. “To successfully transition to a cooperative, efficient, and adaptable company, we have created a change concept, which actively supports the necessary changes in structures and processes,” says Staufen Project Manager Freda von Stackelberg.

The concept quickly led to positive changes in the interaction between the individual units. The key to this was demonstrating the advantages to people and rebutting possible threat scenarios. To ensure that the change is implemented in all regions as a mutual and coordinated process, RIB selected



HOW WE GUIDE YOU THROUGH THE TRANSFORMATION: ONE RIB EXAMPLE

Analysis of Change Culture	· Business Situation · Face Reality · Change Readiness
Vision and Target state	· Targets, Vision & Strategy · Path Compass · Paradigm Shift · Workstreams
Communication concept	· Change Architecture · Communictaion Concept (Global / Local Town Hall) · Change Story
Roles, Implementation plan	· Change Core Team & Ambassadors · Local implementation Plans · Trainings programm · Programm management
Implementation, Celebrating success	· Local Activities · Workstream Committees · Success Stories

around 30 so-called Change Ambassadors from 50 applicants from the ranks of the global workforce. They not only guide the process as change moderators but are also available as contact and sparring partners for their colleagues.

During the course of the transformation, which really took off in mid-2022, the program was continuously adapted and refined. According to Kim Immelman – a member of the core team of the change program and a driving force for internal marketing – the experience of the change ambassadors was especially important for this. “While we ensured our communication platforms reached as many folks from across the group, the engagement was really low. So we relooked our communication strategy and focused on making it more human-centric and way more interactive and approachable.” The fact that such a large change process unsettled the employees is not unprecedented. “The goal is to alleviate fears and explain to people exactly why the company will be more successful in the future as a unified organization,” adds Guido Gratza, a Staufen partner in the area of organization development and also part of the project team at RIB.

“We are seeing progress daily and are now in a much better position”

In the resulting network, RIB can now bundle new or further developments transnationally. In the future, RIB is able to implement even complex projects faster and provide them to the entire organization. Thus, the business model will be updated at the same time that RIB is being transformed into an integrated global player. For René Wolf, this is happening at just the right time, as the software industry is undergoing radical changes. “We are transitioning from selling a license with maintenance fees to subscription models. Over the long term, this will allow us to benefit from recurring revenue and improved planning capability. At the same time, this is also the ideal opportunity to adjust our product portfolio to place increased emphasis on cloud applications in the future. My goal is a large, flexible cloud solution with the ability to create regionalized options.”

RIB Software GmbH

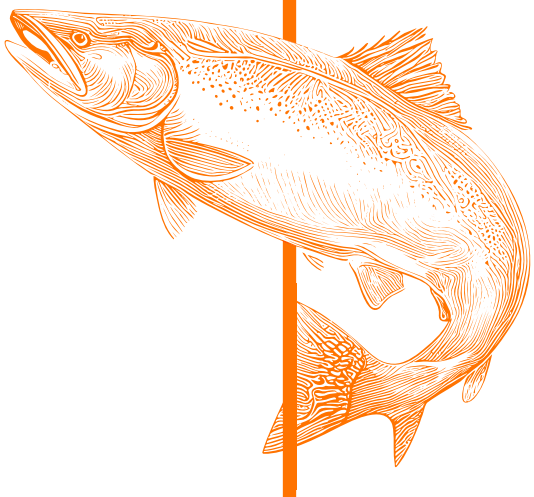
Headquartered in Stuttgart, Germany, RIB Software GmbH is one of the world’s leading providers of software for managing project and company processes in the construction and real estate industry. The company was founded in 1961 and now employs around 2,700 branch and IT experts in Europe, the USA, China, Australia, and South Africa. With a turnover of more than 250 million Euros, the company is now a heavyweight in its industry. Since 2020, RIB has been a subsidiary of the French electrical engineering company Schneider.

In addition to digital construction cost estimation, the future plans of RIB CEO Wolf also call for increased opportunities for digital construction site management. “Many construction plans are delayed because the individual steps are not digitally linked and planned. In our software portfolio, we now increasingly offer solutions for more efficient construction.”

“We are seeing progress daily and are now in a much better position than one year ago. The ball is rolling, and people are accepting the change,” RIB Manager Immelman is pleased with what has been achieved to date. There are areas of the far-flung group where there is still a need for more discussion, but some departments are already much further along than originally planned. One reason for this: “Many employees were afraid of losing their cherished legacy environment and culture. We were able to show them that they can still retain their familiar regional connection within the new organizational structures, but are also integrated into a strong, global construct,” says Immelman.

RIB CEO René Wolf purposely chose an external consultant with practical experience and pragmatism for the company-wide change, in order to quickly create trust and additional operative value at all hierarchy levels. “It was important to me to work with a partner like Staufen, because they not only describe the strategy, but can also implement it and readjust it if necessary. As a company, we are now able to create a global portfolio that benefits from the creative developments of our international offices and is also conveniently scalable. This allows us to expand our regional leadership position to a global level.” ■

CHILEAN FOOD GIANT INVESTS IN OPERATIONAL EXCELLENCE TO GO FURTHER



AGROSUPER

Betting on the excellence of its local operations in Chile, Agrosuper S.A. has grown from a chicken coop to the largest food products conglomerate, present today in more than 64 countries around the globe.

GONZALO VIAL
Founder and President
Agrosuper S.A.

ÁLVARO ORTIZ
Industrial Manager
Agrosuper S.A.

ISAAC VILLABLANCA
Deputy Manager for
Operational Excellence
Agrosuper S.A.

Gonzalo Vial, the youngest of 10 siblings, entered the Catholic University to study agronomy, but dropped out in his first year. It wasn't his thing. He set up a chicken coop on the family farm and started selling fresh eggs. He took care of the production himself and delivered in the back of his car to his customers in the O'Higgins Region, in Chile. His four children were not even born yet. That is how the business began to grow.

Five years later, the business expanded into the raising of live chickens and in 1974 expanded into the processing and marketing of chicken meat, with the firm conviction of making chicken an accessible protein for people.

In 1983, the pork business began; years later, the production of salmon in the south of Chile and, in 1996, the commercialization of turkey products. "I started the egg production business with two employees in 1955. I acted on my intuition. I had no money, but I dared to start. However, boldness alone was not enough, it required a lot of effort, many hours of work and, most importantly, doing it with pleasure," recalls Gonzalo Vial (87 years old) the founder, president, and controller of Agrosuper, about the beginning of what is today an agri-food empire, the largest group in Chile.

Today, almost 70 years later, Agrosuper is present in more than 64 countries, with a portfolio of over 1900 products delivered to almost 60,000 distributors on 5 continents. And, valuing its roots, the company is proud and defines itself this way: "We are a local business with global presence." The numbers prove the greatness of the Chilean company. With almost 14,000 employees, Agrosuper sold more than US$ 2.6 billion in 2022, 60 % of which was for export.

The company summarizes the secret of its success this way: strengthening the distribution network and brand potential by marketing products in all markets, ensuring the highest standards of animal welfare, increasing visibility, building long-term relationships with stakeholders, and adapting to the operations of the future.

Operational excellence and Lean Management to go further

How to get there? Agrosuper invests in the excellence of its vertically integrated production processes, which start with the manufacture of feed for its animals, continue through the breeding farms, processing plants, distribution centers, and end at sales offices and dealers all over the world.

According to Alvaro Ortiz, industrial manager of Agrosuper, being vertically integrated gives Agrosuper several competitive advantages, such as ensuring the traceability and quality of their

products. So that everything works smoothly, Agrosuper has Staufen's support in the implementation of its management model based on Shop Floor Management concepts and for the improvement of its industrial processes in five plants located in Chile. "There are more than 13,000 people at Agrosuper, and particularly in the industrial area, we have more than 7,000 employees. Therefore, it´s not feasible to think of continuous improvement without a model that is constantly engaged in promoting adaptive challenges. OPI (Optimization of Industrial Processes) has been built and strengthened over time with the best methodologies that we have found and that have allowed a constant adaptation, from the cultural to the methodological, allowing us to face the challenge of aiming at improvement," says Ortiz.

Doing things better

Also, according to Ortiz, Agrosuper has defined as a fundamental pillar of its purpose to live day by day under the premise of always doing things better. "Besides inspiring us, this must be translated into tangible actions for the organization," says Alvaro. As part of this challenge, Agrosuper is constantly looking for the best practices in the world related to its industry, such as technological and process improvements in different areas, from production, environmental, energy efficiency, quality, digitalization, to our people and team management processes. "When implementing a continuous improvement model, the first thing to do is to discard the idea that this process is a 'project.' Instead, it's a way of doing things. So, while there may be a start date, there will never be an end date. This undoubtedly helps to keep the attitude and motivation of the teams high, as it is not a task to be performed by just a few, but rather by the entire organization," he concludes.

According to the Deputy Manager for Operational Excellence, Isaac Villablanca, Operational Excellence is one of the fundamental pillars of Agrosuper's strategy, from which arise several initiatives within the Integrated Excellence System - which we call OPI internally. "This model is based mainly on Lean, TPM, and Six Sigma methodologies to leverage the continuous improvement of our processes, strengthen leadership, and enhance the company culture. It is the role of the Operational Excellence area to ensure adherence to the OPI model with the structure of each Agrosuper industrial plant, through monitoring routines focused on productivity, efficiency, sustainability, and standardization, using various tools that ensure the progress of the master plans defined in the annual planning. "In addition, we have quarterly performance results audits and monthly advice from Staufen, progress presentations to the OPI Executive Committee in which the results are reviewed, and new definitions are made based on them," he explains.

Villablanca also explains that Agrosuper's strategy is directly connected through the OPI model to different drivers such as Kaizen projects, Operational Excellence Waves, A3, OKR, and GDA (Agrosuper Shop Floor Management), which help them leverage the company's strategic indicators. "The main challenge is to ensure adherence to the standard of more than 7,000 people working in such diverse industrial processes and with products from different origins – such as chicken, turkey, pork, and processed products - in all Agrosuper plants," concludes the Deputy Manager for Operational Excellence. ■

“DON'T HIDE BEHIND THEORY,

BUT CONVINCE IN PRACTICE”

Mercedes-Benz

The next generation of light commercial vehicles from Mercedes-Benz will also be produced in Düsseldorf. Michael Hellmann, production and plant manager of the plant there, explains in an interview why Düsseldorf was awarded the contract.

Mr. Hellmann, when you took over management of the Mercedes-Benz plant in Düsseldorf, the world was in the midst of the consequences of the corona pandemics. What was your goal when you started your job?

I had a clear priority list. Point 1: protect the employees. Point 2: ensure production in Düsseldorf in the short, medium and long term. My predecessor did an excellent job, so I was able to fall back on a very experienced and well-established team. Despite the delivery bottlenecks as a result of the corona pandemic and the effects of the war in Ukraine, we have achieved our goals and successfully further developed our strategy for digital transformation and the shift to e-mobility. This also means that the next generation of vans will also be produced here in Düsseldorf. This secures the future of the location.

With the current crises, the emergency seems to have become the norm. How does this affect the staff?

The past extreme situations have shown that the workforce can handle difficult situations and knows how to deal with crises. People also support uncomfortable decisions when they are necessary. Together, we have shown that we can shape change in a positive way. At the same time, I am very happy that we have returned to normal in many respects.

About the person

Since January 2021, Michael Hellmann has been running the Mercedes-Benz site at Düsseldorf as a site and production director. Before that, the production expert worked in Beijing as a Director MBC Engineering & Manufacturing at Beijing Benz Automotive Co. He started his career 1988 as part of a dual study program at Daimler-Benz AG and was active for the group at Rastatt, Juiz de Fora in Brazil, Bremen, and various other sites in leading positions.

MICHAEL HELLMANN
Production and
Plant Manager
Mercedes-Benz AG

Keyword positive change: Together with Staufen, you implemented a classic project to increase performance from body shell to painting to assembly last year in Düsseldorf. What were the biggest challenges?

The greatest challenge is always getting people on board, especially when things are already going well. Nevertheless, we wanted to change and adapt our processes, also to be prepared better for future requirements. The key to success in such a process is not to hide behind theory, but to be convincing in practice. That's why we made a conscious decision to work with Staufen, because we know that the Staufen consultants have the necessary industry expertise and enough practical relevance to involve our employees closely in the processes.

Did the plan work?

My expectations were fully met, also because we managed to integrate all employees in Düsseldorf. The consultants led the change process and took everyone with them - not with PowerPoint presentations, but directly on the shop floor. This understanding of a positive change process must now be maintained in the long term. Because even if the current project is completed, we are still a long way from reaching our goal. We want to develop continuously and from our own resources, and adapt the processes to future tasks again and again. With regard to the further conversion and ramp-up of e-mobility, as well as the coming generation of vehicles, we are well prepared for the future.

What did you focus on in this project? Was it about the further development of processes or the people involved?

That goes hand in hand. Of course, we have to further develop products and technology in order to remain marketable. This requires adapted processes that people support and bring to life. That is why the development of the people involved is essential, especially in a transformation phase, and we took this into account accordingly in the project with Staufen. When introducing new systems and processes, managers also have a special responsibility, and they have to work in two directions: on the one hand, constantly questioning and optimizing the process, on the other hand, making the process understandable and usable for employees, for example when using digital tools. Managers must set a good example – not just expecting performance, but also leading the way and showing it. The clear view in the mirror is important!

Is the Düsseldorf location prepared for the challenges of the future?

We are very well positioned, as shown, for example, by the contract for the production of the next generation of vehicles and the trust associated with the signing of the contract. In the area of light commercial vehicles, we will continue to be able to meet all customer requests in the future - with both electric and combustion engines. We have the necessary flexibility in the factory as well as the experience and the know-how to meet demand. ■

“In total, we supported more than 450 group leaders, team leaders, foremen, etc. on the job as a part of the performance project at the Mercedes-Benz plant in Düsseldorf. At the same time, we have trained so-called process facilitators for all trades in order to firmly anchor the knowledge acquired at the site. **The achieved goals, such as the increase in the number of vehicles produced per shift or the further improvements in quality, show that process excellence requires leadership excellence.”**

MARKUS RIEGGER
Board member, STAUFEN.AG

In the Mercedes-Benz plant in Düsseldorf, around 5,600 employees are engaged in the production of light commercial vehicles. Around 111,000 vans were manufactured last year on a production area of 325,000 square meters. The Düsseldorf plant, founded in 1962, plays a leading role in the worldwide production network of Mercedes-Benz Vans. All closed variants of the Mercedes-Benz Sprinter and eSprinter roll off the assembly line here.

VARIANT AND COMPLEXITY MANAGEMENT: LESS IS MORE

The Italian machine builder PAMA has established a leading international market position with customized machining centers and milling and boring machines. In order to leverage previously unused efficiency potential, PAMA decided on modern variant and complexity management. The result: greater machine diversity and quality with lower costs at the same time.

PAMA's goal of drastically reducing the complexity of its own products and processes followed the Staufen motto that inside every company there is an even better one. To implement this, the Staufen consultants, who specialize in variant and complexity management, developed the PAMA Modular System (PMS), a modular system made up of machine-independent modules, together with the company. This means that it is now possible to use pre-developed components and groups of components via clearly defined interfaces instead of designing and manufacturing customized individual parts as it previously was the case.

By dividing machines into subsystems, the individual components could be developed in such a way that they can be used in the company's different models without any adjustments. Put simply, the system resembles a Lego set. So instead of constantly developing new components, predefined modules are used that can be combined in almost any way.

Thanks to the standardization, all customer requests can still be met despite a drastically reduced complexity. An example of this is the ball screw: In the past few years, a total of 161 different ball screws with a length of up to eight meters have been used. The various lengths, diameters, pitches, and bearings have been standardized for the modular system. The new generation of machines now only use screws with a diameter of 80 or 100 mm. Now there is only one uniform bearing block. In addition to a significantly simplified development work, the positive effects seep through the entire company: from purchasing to warehousing and production to service.

Modularization revealed considerable potential for efficiency

According to Michele Dal Ri, director of product development at PAMA, the company has uncovered considerable potential for efficiency through consistent modularization: “We no longer needed a large number of different parts to meet the various customer requirements. The previous system of comprehensive individualization had grown historically and arose from individual technical considerations. In the beginning, I was even proud of having this incredibly complex value chain under control. But over time, we realized that we had to rethink. With standard parts, we can now buy cheaper, keep parts in stock and shorten the delivery time enormously - without the customer having to compromise on quality or choice.”

When moving to modularity in assembly, it became clear that simply changing the technical approach is not enough. In order to

In a nutshell

For many years, the mechanical engineering company PAMA was proud of always having the most complex value chains under control. The main thing was that all customer requests could be fulfilled 100 percent. With the new PAMA Modular Systems, the complexity has been drastically reduced - without compromising on the quality and customization of the products.

fully exploit the advantages of standardization, all areas of the company must be integrated. In phase B of the project, this holistic approach also led to a rethinking among employees: problems were no longer treated as singular issues, but viewed and solved as a chain of interrelated subsystems. “If employees are good at dealing with a high level of complexity, they are not automatically good at reducing complexity. So we had to change the processes and workflows in the direction of personal responsibility and efficiency. In the end, we not only achieved a quick ROI in assembly with the modularity, but also optimized processes in the entire value chain,” says PAMA head of development Dal Ri.

The configurator for the machine of your dreams

With the modular design, the use of a configurator has now also become possible, which above all simplifies the work of sales enormously. While in the past, every sales consultation involved a rat's tail of research and calculation work between sales and engineering, today prices can be calculated quickly and reliably. In addition, production costs have fallen significantly, which even led to the withdrawal of some competitors from certain business areas.

“During the course of the project, thinking in terms of modules and standards was consistently and deliberately extended from machine assembly to the other areas of the company,” says Dr. Klaus Alders, who was responsible for the Staufen project from the start. “Thus, the initial goal of modularizing the products gradually became the modularization of PAMA.”

MICHELE DAL RI
Director Product Development
PAMA S.p.A.

PAMA S.p.A.

The northern Italian machine tool manufacturer PAMA can look back on almost 100 years of company history. The company designs all the main components of its machines itself and produces in two plants (Rovereto and Brescia). Over 80 percent of production is exported, primarily to China, India, Germany, and the USA. The machines are used in industries such as power generation, heavy engineering, machine tools, rail transport, aerospace, shipbuilding, and large diesel engines.

Data and sustainability – PAMA is ready for the future

Customer reactions to the new modular design are positive: “Many were surprised and impressed at the same time. They understand the approach and see the advantages, especially in terms of service, quality, and maintenance,” says Michele Dal Ri. For example, the new modular components make it easier to retrofit machines for specific tasks, and more extensive ESG reports are now also possible. “Data-driven production and sustainability are becoming increasingly important, and with the modularity, we can cover both areas. With machines that consist almost exclusively of individual parts, complete traceability is far too complex, almost impossible. But since we use standard parts, we can collect and retrieve all important data. In addition, we can now enter into a circular economy, because after the life cycle of a machine, certain parts can be reused in other machines, for other components we know exactly the possibilities of recycling or reprocessing,” says PAMA manager Dal Ri, looking optimistically into the future. ■

BATTERY PRODUCTION:

"WE HAVE THE DATA FOR EACH METER ON THE ROLL"

永拓新材料
YONGTUO NEW MATERIALS

In a nutshell

Yongtuo New Materials is one of the pioneers in the construction of state-of-the-art batteries for electric cars. The founding team has been producing ultra-thin separators since 2004. They are among the key components of any battery. The team around CEO Li Hongli is already using artificial intelligence in production and is already eyeing the next market – the storage of renewable energies.

Every battery – including those in electric cars – basically consists of four components. One of them is the so-called separator. The Chinese company Yongtuo New Materials is one of the major producers of this component. In an interview, CEO Li Hongli reports on how his company has become a pioneer in this future-oriented industry.

Mr. Hongli, how long has Yongtuo been in the separator business and how has the market developed since then?

When my team and I started producing separator films in 2004, Chinese companies had a global market share of less than ten percent. Now, more than 70 percent of global demand is covered by Chinese manufacturers. And demand is increasing rapidly: while 20 years ago, around 600 million square kilometers were sold per year, the market now demands 20 billion square kilometers per year.

Does this growth come solely from the area of electromobility?

The Chinese separator manufacturers have long since evolved from technology followers to technology pioneers. At Yongtuo, for example, we are already looking at the storage of renewable energies – an even larger market than batteries for electric cars.

What advantages do you have over your competitors – also in China?

Because we've been around for so long, we've witnessed the entire technology shift and have been able to gain a lot of experience and build up our USPs (advantages).

No. 1 is quality of our products – top intensity whilst thinnest in the world. No. 2 is cost. This industry is extremely machine-intensive thus requires huge investments, today we have significantly lower costs here than our competitors do, as our machines are designed 100 percent in-house. Our time to set up one production line is also only about 50 percent length as our competitors do. In addition, we used the time to continuously optimize our production line, and by today we are able to produce top quality at 20 percent less cost. We also have a fantastic team. No. 3 is our shareholder, Tsinghan Holding Group, which has a complete investment chain in the Electrical Vehicle (EV) battery industry, from the raw materials as nickel to battery producer – this of course brings us a lot of synergy. No. 4 is our unique self-developed Big Data system, it gives so much advantages in quality, standardization and traceability to our products. I think we will talk about it in more details in the following.

You spoke of the claim to always deliver top quality. Does digitization help you with this?

Absolutely. You have to know that the production process is extremely complex – one production line is around 200 meters long with 1,000 plus parameters taken into account. Therefore, it's a big challenge to the engineers as they have to ensure the product's consistency. The finished product is normally between 1000 and 2000 meters of foil fit on a standard roll, in the past, in order to check the quality of the products before delivery, one meter was cut off each roll and checked before delivery. If the quality was okay on that meter, you assumed the rest of it was okay, too. For sure this is not the best way to control the quality and production process.

Today, by using the Big Data system and AI embedded, our quality assurance is drastically improved. The system is able to collect the data of every meter on the production line and compare to the pre-set-up parameters model – this parameters model is built up on massive data and also continuously adjusting itself - on this basis, we can now make predictions of our product parameters with an accuracy of 99.95 percent of the entire roll, instead of only 'one meter' as sample in the past. Consequently, the uniformity of our product is on top level and our production setup optimizes itself continuously, which makes us easily copy to the new lines. This also relieves the engineers and increases transparency.

LI HONGLI
CEO
Yongtuo New Materials

Separator

A separator is an indispensable part of every battery. It physically and electrically separates the negative electrode (cathode) and the positive electrode (anode). This avoids short circuits. At the same time, the separator must be permeable to ions so that chemical energy can be converted into electrical energy. Fine-pored plastics or fleece are therefore predominantly used as the material for the separator.

Yongtuo New Materials

The producer of separators belongs to Tsinghan Industry. He holds the patents for the "ultra-thin diaphragm technology" and the "digital diaphragm technology". In the near future, the separators will be manufactured at three different production sites in China. The CEO of Yongtuo New Materials is Li Hongli, who since 2004 already devoted himself to the diaphragm industry.

How do customers benefit from this transparency?

In the production of batteries for electric cars, safety is crucial, and the separator plays an important role in this. We store the production data for ten years which can be shared with our customers (battery maker). If there is a defect, the customer can read the data via the QR code on the pack and thus more efficiently identify the root cause. This traceability of our products is a real competitive advantage – for us and our customers.

How will the Chinese electric car industry develop?

I am very confident of the Chinese EV industry. With the government's support and guidance, after 20 years development, EV has become a very popular and welcomed products to the market and the technologies have also been rapidly developed, e.g. compared to 20 years ago, cost, efficiency and safety of EVs are all dramatically improved. A big advantage of China: We can now produce all the components of an electric car in our own country – an entire ecosystem.

What do you recommend to German automobile manufacturers on their way to the electric future?

In the production of conventional cars, German manufacturers have always had the advantage of an excellent supply chain and excellent standardization. With electric drives, however, they entered the market too late and reacted too slow, therefore lost partially the advantage in the supply chain – as the supply chain of EV is not 100 percent the same of conventional cars. Therefore, personally I suggest them to be more open to cooperate with foreign suppliers, e.g. the battery is a key component of e-mobility, they should therefore integrate the relevant technology from Chinese, Korean or Japanese suppliers into their supply chain. ■

4 IS THE MAGIC NUMBER

ŠKODA | Škoda Group

"I have been working for Staufen for more than ten years, and this is one of the most impressive projects that I have ever been involved with: **we are creating new processes, revising the entire IT system, and introducing a whole new mentality to the company."**

DAVID GÄNSBACHER
Partner, STAUFEN.AG

Škoda Group was undergoing growing pains after sizeable manufacturing increases and company acquisitions. The train, streetcar, and locomotive manufacturer had to do something and expedite the integration of its production sites, which were scattered across Europe. Together with Staufen, Škoda has now begun a fully integrated transformation, which ranges from process and management topics to a revised IT architecture.

Following a massive expansion – 50 percent more deliveries just in the past year – it became increasingly difficult for the transportation technology company Škoda Group to collaborate with its 14 current subsidiaries and its fragmented supply chain network. In order to be more than the sum of its parts in the future, the company decided to pursue the goal of operational and digital excellence. This holistic and integrated transformation process consists of four blocks, which will achieve their full potential when taken together. The goals are:

- **Optimizing process excellence throughout the group**
- **Bringing management excellence to a new leadership level**
- **Ensuring orientation and stability with a change architecture**
- **Using a new IT infrastructure as a technical framework and efficiency driver for the integrated overall group**

In a nutshell

So that it can continue to successfully develop the business, without being hindered by a silo mentality, process breaks, or fragmented IT, Škoda Group has opted for company-wide integration, in which processes, management methods, and the system landscape are all simultaneously optimized. Staufen was selected to introduce Lean Management at Škoda, as well as orchestrating the standardization of the IT infrastructure. For Didier Pfleger, CEO of Škoda Group, the goal is clear: harmonizing cooperation throughout all production sites and raising efficiency to a new level.

According to CEO Didier Pfleger, this integration course is necessary in order to optimally prepare Škoda Group for the next growth steps: "Numerous stand-alone solutions, which have become established at the individual sites over the years, represented a high risk, also in terms of technology. At the same time, we wanted to harmonize cooperation across all manufacturing sites and increase potential efficiency. For this reason, we chose a coordinated approach in which processes, management methods, and IT systems are simultaneously modernized." With this approach, Škoda improves procedures and becomes more efficient in all units through the introduction of lean methodology on the process and leadership side. With the digital tools of the new IT-infrastructure, the company fills the processes with life, identifies weak points, and can successfully handle the increasing order volume.

"The change in mentality is already taking place"

A company-wide transformation process of this size is not just about tools and processes, but also, and especially, the people involved. CEO Pfleger: "A new culture, revised processes, or the effects of the change architecture require a lot of persuasion. Now that we have completed about a quarter of our journey, the feedback so far has been overwhelmingly positive. The important thing is that the employees accept the new system and recognize its benefits for them. People must understand why previous ways of working are changing and how we can work as one unit across borders."

The workforce of Škoda Group has grown from around 6,000 employees to almost 8,000, spread over many units in Europe. Due to their history, individual departments still worked in isolation in the beginning. Interrupting this kind of silo mentality requires more than changing processes and systems. That is why Didier Pfleger particularly wants to reach the people in the course of the

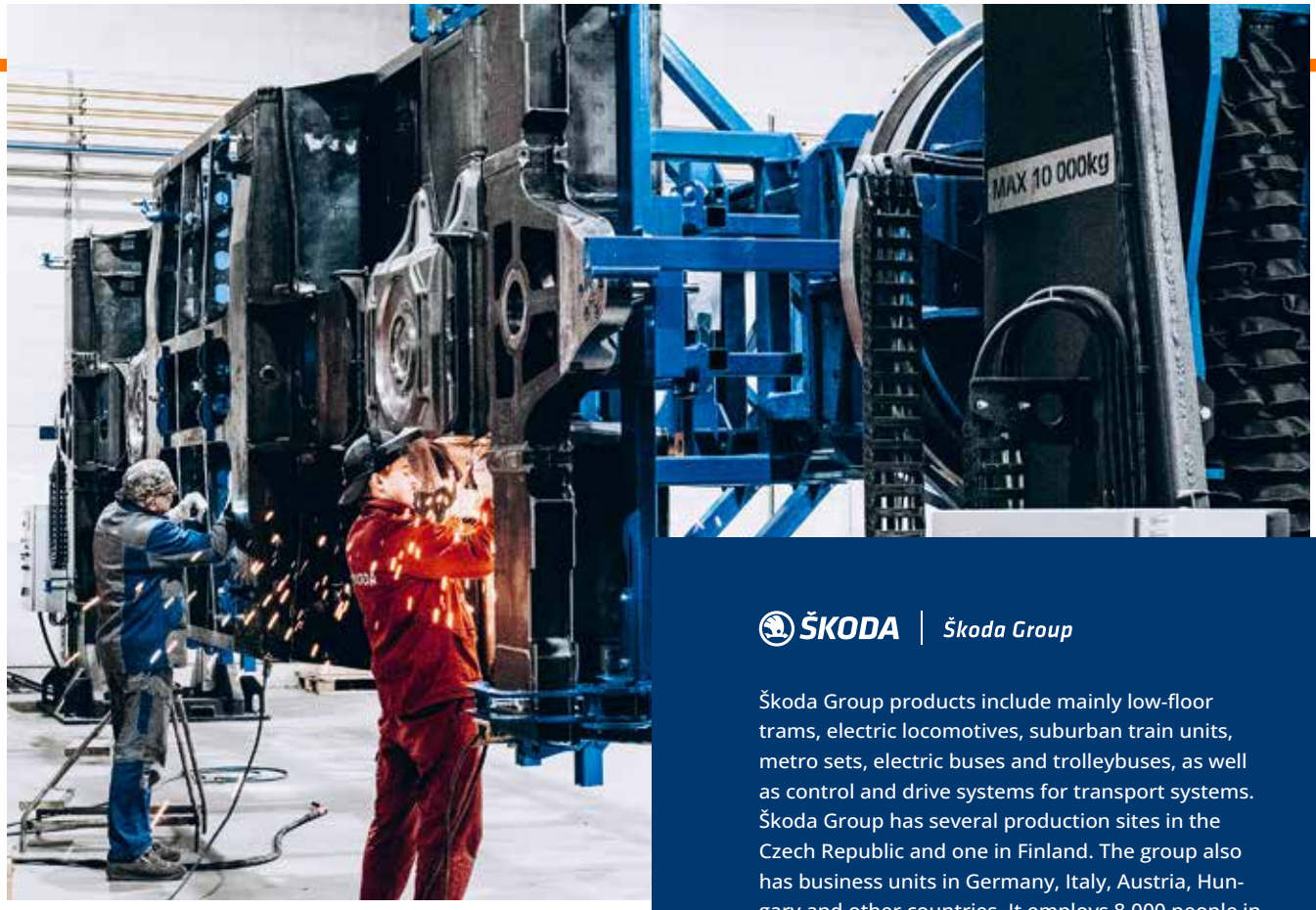
ŠKODA HEADQUARTERS
in Pilsen, Czech Republic

"We chose Staufen because the advisors have a pragmatic approach and don't hold theoretical talk shows. They go into the factory halls, explain, and offer convincing solutions. For that reason, they are accepted both by the manufacturing employees and the management. This operative focus is typical for Staufen."

DIDIER PFLEGER
CEO, ŠKODA GROUP

About the person

Didier Pfleger has been the CEO of the Škoda Group since 2022 and has extensive management experience in the most important European markets, as well as in the USA, Asia, and Africa. Before his time with Škoda, he held management positions at Alstom, GEA, and the ABB-group. Didier Pfleger is a graduate of Ecole Polytechnique in Paris and Ecole Supérieure de l'Aéronautique in Toulouse.



ŠKODA | *Škoda Group*

Škoda Group products include mainly low-floor trams, electric locomotives, suburban train units, metro sets, electric buses and trolleybuses, as well as control and drive systems for transport systems. Škoda Group has several production sites in the Czech Republic and one in Finland. The group also has business units in Germany, Italy, Austria, Hungary and other countries. It employs 8,000 people in its companies. It is only thanks to high investments in research and development that Škoda Group can regularly come up with new and modern products that are successfully finding their place on foreign markets. It invested € 81.1 million in research and development in 2021.

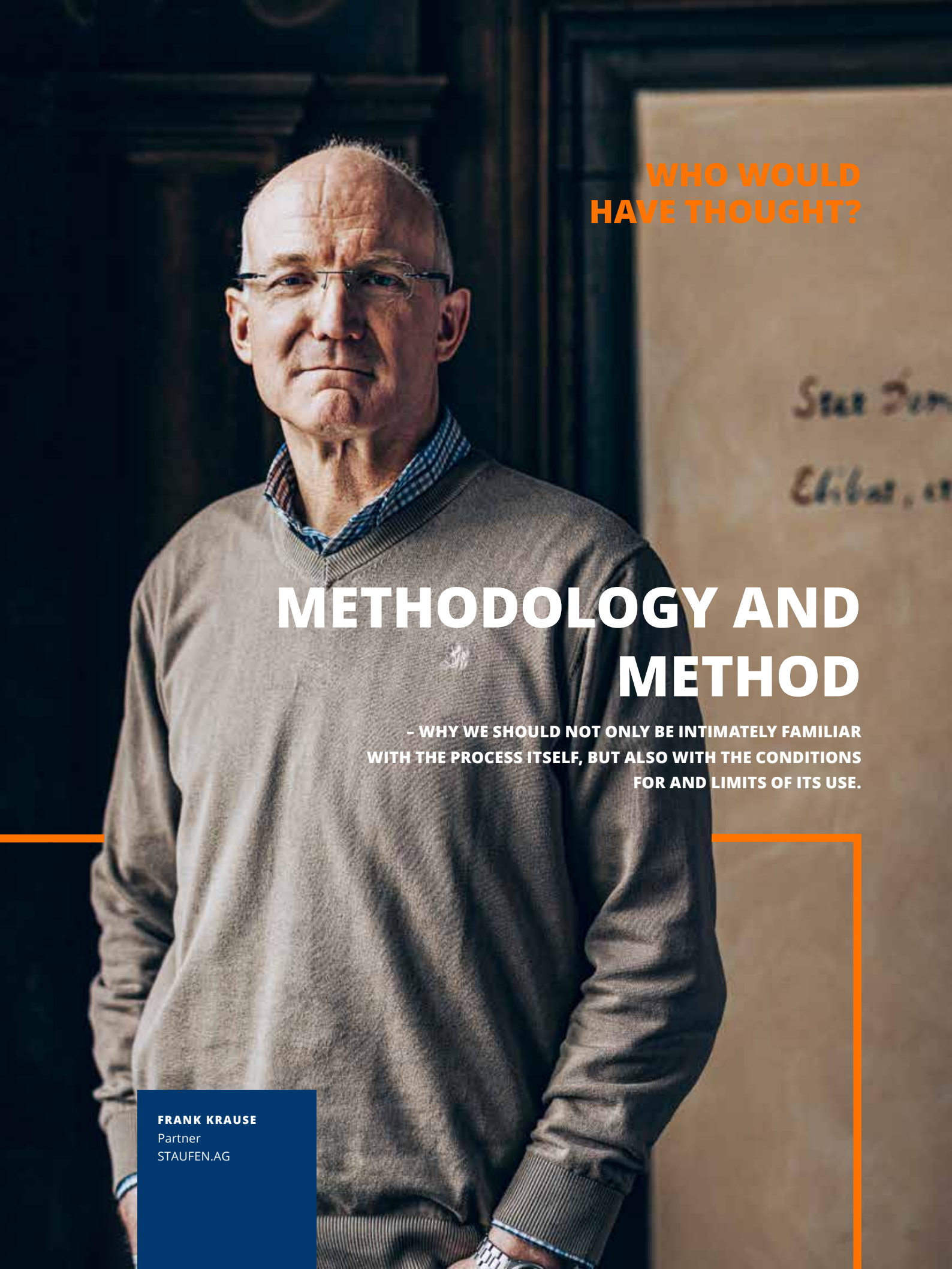
transformation process: "In many people's heads, we are still a Czech company. And the focus is still here, in this country. However, as a group, we are now international, and that requires employees to think differently. Naturally, there are cultural barriers, sometimes communication problems, and uncertainties. But the transformation process and the process improvements through Lean Management show that we are on the right path and that the change in mentality is already taking place."

New IT-backbone for the growth strategy

An analysis of the company-wide IT landscape showed the importance of deeper integration. The experts at Staufen identified more than 100 different applications for the order fulfillment process alone. This situation complicated the harmonization between the subsidiaries, which are distributed throughout Europe, and also increased the manual effort for data transfer. In addition, the multitude of different systems led to functional overlaps and redundancies, which tied up a great deal of capacity in the IT department.

CEO of Škoda Group Pfleger: "The old IT systems were no longer keeping up with our growth. That is why we had to look for new solutions and approach the challenges of the future from two sides: first from the process side in order to improve processes and become more efficient in all units, and second from the side of digital tools." In the future, the basic IT framework of the entire group will be formed by just four systems: a CMS by Salesforce, a PLM by Siemens, an ERP by SAP, and IBM Maximo for asset management. "With these tools, we cover around 90 percent of the organization. They form the backbone of the new system, and all processes must be oriented toward this," Pfleger continues.

The implementation of this large digitalization project in combination with a complete lean transformation is a feat that must be carefully controlled. "We know that we are asking a lot of our employees by making such sweeping changes within a project framework of just under two years. But this simultaneous approach is rational, because the tools, services, and processes all interact with one another. This will achieve the goal faster, and the result is better than if we were to introduce the innovations over a longer period of time," CEO of Škoda Group Pfleger is convinced. ■



WHO WOULD HAVE THOUGHT?

METHODOLOGY AND METHOD

– WHY WE SHOULD NOT ONLY BE INTIMATELY FAMILIAR WITH THE PROCESS ITSELF, BUT ALSO WITH THE CONDITIONS FOR AND LIMITS OF ITS USE.

FRANK KRAUSE
Partner
STAUFEN.AG

As has often been asserted, it is a fact that we find ourselves in an environment of regular operational changes. I don't know about you, but I regularly meet people who speak with some degree of resignation about the "next big thing" to come along? They've seen it all and wonder just what is new about the latest initiative. In addition – and this is particularly stressful – the previous concept hasn't even been given a chance to spread throughout the entire company. The results are still lacking in many areas, and there is an impression that the same goals are simply being pursued under a different name and that one is really "fumbling around in the dark". The new initiative is simply a management whim. It is done because the competitors have recently begun to do it. One sometimes wishes that these "fads" would just go away. It's all been said – just perhaps not yet by everyone.

The science historian and sociologist Stefan Kühl makes a similar argument. He even supports the hypothesis that there have been no major new ideas regarding the structuring of post-bureaucratic organizations since the 1930s. It has all been done before and is simply being reinvented time and again under different names. Does that situation sound familiar?

There are many reasons to use a new method. These range from self-marketing to gaining knowledge, and it is sometimes simply fun to try something new, providing the risks are negligible. But this fun of implementing new ideas shouldn't cause us to lose sight of the issues of criteria and the reasons for the method and its suitability for achieving the goal. Methodology tells us when and why to apply a method. And precisely this is often overlooked. If the Toyota production system has not been adequately effective, this is often due to the fact that its inherent methodology has been overlooked. When changing technical processes in particular, the use of a method is not just strictly for one purpose, but also a part of a comprehensive structure of methods. This means that certain conditions are critical for the utilization of a method. In addition, the effect of methods is fundamentally limited.

What role does this principle play in the transformation to a lean company? I remember the first years of the "Lean Movement". In the mid-90s, I returned from my study trip in Japan, enthusiastic about Kanban, and immediately began sticking colorful cards on every available container. A bit later, I recognized that the material supply management didn't work as we had hoped. We studied the rules for the introduction of Kanban and gradually came to the realization that we perhaps should first have stabilized the processes, maybe even increased the degree of interconnectedness – perhaps some of the Kanban loops could have been avoided. Today – after 30 years of the lean movement – such anecdotes elicit no more than a smile, because we know: every method intended to simplify the value stream needs certain prerequisites to be effective. If these prerequisites do not exist or – worse yet – if they are purposely not created, there will be no sustained success.

"Trivial!" you might think. "Not entirely," I would argue and remind you of the four characteristics of a lean system, which are created by mutually dependent methods and must be applied in a certain sequence. For example, it is nonsensical to vehemently ignore the requirement of interconnectedness and then later be surprised by the poor synchronization qualities and fluctuating processing times. Process stability is an essential condition for interconnectedness, just as interconnectedness is an essential condition for synchronization.

Do you recognize the message? Companies often have just one immediate goal in mind with regard to an application, but that is short-sighted. Because they then overlook the fact that this has consequences for the course of the project. In the next step of the project, the use of a subsequent method will presumably be necessary – we could also call this a "consecutive method". This must be taken into consideration from the beginning. Otherwise, we jeopardize the success of the project and cast doubt on the integrity of the entire initiative. And all of this because we were unwilling to look at the next "hurdle". Ideally, a lean value stream requires the interconnection of all processes. Here, you should do everything possible to ensure that interconnectedness is possible, because it stabilizes implementation pressure in the direction of problem solving and increases dependability.

Moments such as this also show the extent to which the "turning of the pyramid" has been successful. This metaphor stands for the cross-functional interaction of all functions. Each is evaluated on the basis of what they can contribute to the simplification of the value stream. Only when the smallest possible distance between all processes has been achieved is it sensible to think about synchronization. No one would attempt to synchronize processes that are located 10 meters apart from one another. So, let us remember: Every method requires conditions (prerequisites) to be effective. Method structures such as the Toyota production system are only effective when the prerequisites are met, meaning the methodology is observed by all employees of the company. It is just as important for the success of the project as expertise with regard to individual methods. ■

LISTEN!
Podcast with Frank Krause at:
www.staufen.ag/podcast-en

MADE IN BRAZIL

THE UNDISPUTED LEADER IN SEMI-TRAILERS UNDERGOES ITS GREAT TRANSFORMATION

RICARDO ESCOBOZA
COO
Auto Parts Vertical from
Randoncorp

RANDONCORP

Founded in Brazil more than 70 years ago, Randoncorp is a global leader in the sectors of semi-trailers, rail wagons, auto parts and services. Today, despite the cautious scenario in the automotive sector worldwide, the group is strongly investing in its Auto Parts Vertical to achieve the results targeted by 2023 and offer the market increasingly innovative and competitive products.

We talked exclusively to Ricardo Escoboza, COO of Auto Parts Vertical from Randoncorp, about the prospects for expansion of the group worldwide and the investments of the company to leverage its operating results, focusing on the Lean Transformation Journey of one of his companies, Suspensys.

Randoncorp is organized in several business verticals: Frasle Mobility, Suspensys, Castertech, and Jost Brasil. What is the importance of the auto parts vertical within Randoncorp? What does the repositioning of the company – as a large corporation – brings to the auto parts vertical in the group?

The business verticals of Randoncorp are complementary and have several synergies. The Auto Parts Vertical has been one of the growth focuses of the company, in line with its strategy of diversification of solutions and markets. The four companies - Castertech, JOST Brasil, Master and Suspensys - bring together 12 industrial units, of which 11 in Brazil and 1 abroad (Suspensys Mexico), which provide solutions for the main global OEM companies of trucks and buses, implement companies, aftermarket segment, and manufacturers of agricultural equipment.

In the first quarter of 2023, the Autoparts Vertical accounted for about 28% of the company's consolidated net revenue, which was R$ 2.7 billion in the period, a 7.3% increase when compared to 1Q22. The index is a little lower than in 2022. We were impacted by the drop in auto parts sales volumes due to production stoppages by OEMs. However, there are signs of recovery and we remain aligned with the company's transformation movement, moving forward to offer the market increasingly innovative and competitive products. In this sense, the ESG agenda is our priority - we invest heavily in innovation, always looking toward a sustainable future.

Despite the cautious scenario for the automotive sector in Brazil, the auto parts industry is optimistic about the prospects in 2023. Official data from Brazil indicate that the net revenue of the automotive components industry had an increase of 8.5% compared to 2021. For 2023, the estimate is a growth of 6.1%. In this sense, how important is the Group's global positioning as a strategy to expand exports?

In addition to continuous investments in innovation and in the ESG agenda, the internationalization is a priority for Randoncorp for the next years. The goal of expanding our geographical participation is to bring even more resilience to business, thus reducing the volatility of different markets. We have already brought mobility solutions to five continents. Along with the international expansion, our strategy is to maintain a diversified and robust business model, relying on synergies and integration among units as a mechanism for sustainable and continuous growth.

Randoncorp has recently announced that it will expand, until the end of the year, the production of 100% electric trailers. In auto parts, Suspensys seems to collaborate directly in this strategy with the recent opening of a unit for the production of electric axles and batteries, the first one in South America, designed for trailers, semi-trailers, trucks, buses and agricultural equipment. What are the next investments planned and the plans regarding sustainable mobility?

This unprecedented project demonstrates the strategic role of a Brazilian company in the development of new technologies and represents the path towards the internationalization of our company. Randoncorp is currently the eighth largest company in the world in its sector and our goal is to end 2023 among the six major players worldwide. In April, we opened Suspensys E-Mobility, an unprecedented undertaking in Latin America in the segment of electrified products for transportation. This is an e-plant that has inserted us into a new segment: assembly and production of batteries. Through its own projects, the unit is able to supply light vehicles, commercial vehicles, agricultural implements, and other industrial applications, with various manufacturing possibilities and appropriate destination for the components produced. The plant also absorbs the manufacturing of e-Sys, an innovative electric auxiliary traction system developed and marketed by the company.

We are very proud of this project, which is 100% an accomplishment of our Brazilian engineering, with national resources, both from the material point of view and from the multidisciplinary teams of professionals involved.

Still on Suspensys. Suspensys was established in 1997 as a complementary unit of Randon Companies, and initially supplied components for the trailers manufactured by Randon division. The times of crisis (2014 and 2020) proved to be two great levers for the growth of the company. What were the main milestones that drove this growth? And what are the growth expectations for the coming years?

Suspensys completes 26 years in 2023 with a development path that makes us very proud. Currently, the company is one of the leading global manufacturers of axle and suspension systems for commercial vehicles. In 2022, it reached a net revenue of R$ 1.7 billion and produced 186 thousand units, among axles and suspensions. This amount corresponded to 41% of the revenue of Autopeças vertical in that period.

Along this path, some movements were decisive and worked as drivers of growth. One of them was in 2019, when we presented for the first time the Hybrid R line of semi-trailers, manufactured by Randon and equipped with the pioneering e-Sys technology. There, we inaugurated a new phase, which marked our entry into the electrification market. From the disruptive idea that was the e-Sys, we have advanced a lot and will advance even more.

>30
industrial units

2.1
billion EUR
net revenue
in 2022

~16,000
employees

present
in more than
120
countries
in every continent

What does the company expect to achieve with the Lean Transformation? What are the possible impacts of this journey on Suspensys' results and on the group as a whole?

Within its growth strategy, Suspensys has strongly invested in the excellence of its operations and in a robust transformation of its processes. This is how Suspensys' Lean Journey was created, which is divided into 3 pillars.

Strategy: Innovation in production processes (Master Plan, Smart Manufacturing, Detailing of operational projects, Value Engineering)
Execution: principles of Lean Manufacturing (Production at synchronized pace, Maximum value stream, Disturbance-free processes, Structured problem solving, Competitiveness)
Sustainment: Leadership, People and Team Development (Operational maturity management, Cooperation and synergy in best practices, Continuous improvement culture, HSE)

As Randoncorp, we are immersed in a phase of transformation and expansion. To achieve our goals and be successful in our growth strategies, we seek to reflect internally what the market already perceives more clearly.

Innovation is part of our history and is materialized in our products and in the transformation of our culture.In this context, Lean Transformation is necessary and strategic to enhance the consistency of our processes. We are implementing a series of improvement initiatives and, for this, we associate ourselves with the competence of partners who have the same bold vision. Staufen has been very relevant in this process, helping us to enhance operational quality and excellence.

For a transformation to happen, the leadership must be prepared to support their teams, motivating people and driving the change. As COO of the group, how do you see the role of top management in the development of the leaderships that will support the expansion projects of RandonCorp?

At Randoncorp, we encourage a diverse and inclusive environment for our employees, customers, communities and partners, always reinforcing one of our principles: valued and respected people. Within the context of important changes faced by the company, our teams follow up the challenges that arise with dynamism and engagement. There is a collective effort of our leaderships to value and highlight the protagonism of our employees. After all, positive results are possible thanks to the efforts of everyone who is part of Randoncorp. ■

INSIDE EVERY ‘USA’ COMPANY, THERE IS AN EVEN BETTER ONE.

How do you think the economy in the USA will develop in the next few years, and how is this driving your customers needs?

The current US economy is strong, but impacts from the pandemic remain. Fragmented supply chains and high material costs are disrupting delivery and pressuring margins, making efficient operational execution a core concern. Capacity and Lead-times are still a major issue, increasing the need to remove operational bottlenecks and improve planning capabilities to adjust to rapidly changing demand levels.

The future US economy is expected to contract; customers are focused on product cost reduction, and margin improvement. Capital investment to near-shore (or re-shore) for reduced dependency on non-domestic supply chains has increased dramatically. We are seeing a high number of new facilities coming on line, driving the need for process improvement, standardization across sites, and operating model implementations focused on efficient execution, management, and leadership processes.

How can Staufen USA support local companies?

Our service offering is very well matched to the issues companies are facing in the US. We use a partnership-based approach to achieve our customers desired outcomes. Companies are operating in an increasingly complex, uncertain, and challenging environment. The demands on operational and indirect processes in terms of adaptability and performance are constantly increasing. It is essential to increase performance with a stable, and at the same time, flexible processes and thus to sustainably secure competitiveness. Our contribution to support companies in the USA: excellent processes throughout the company, meeting the highest quality standards, at low cost and with top delivery performance. With a noticeable effect on the P&L. We show companies how to effectively counter increasing cost and performance pressure.

Why Staufen?

Staufen is a company relentlessly focused on people, on relationships, and on achieving client outcomes. We are global organization of deep specialization and our team members in the US are an extension of what is so well known in Europe, Asia, Mexico, and South America.

Staufen AG, with its headquarters near Stuttgart, Germany, provides support to companies around the world with its staff of 350 employees. The integrated academy offers certified, practice-oriented training courses. In 2022, Staufen has been honored with the „World's best management consulting firms" award by the "FORBES" journal. ■

About the person

In July 2023, Nick joined Staufen as a Partner in the USA. He has been leading value-based consulting transformations since 2011 and grew up as an engineer in the Automotive industry with Volvo and BMW. He joins Staufen USA from Deloitte Consulting.

Over the past 20 years, Nick has had the opportunity to serve many of the largest Automotive OEMs and Aerospace and Defense companies in the world. When asked to describe his experience, he said "It's been a humbling and incredibly rewarding career solving the difficult issues my customers face. Working through big challenges with people builds meaningful relationships, that's the most rewarding part of consulting."

NICK PHILLIPS
Partner, Head of Industrial Practice
STAUFEN.USA

ZIEHL-ABEGG

WIND

From the left:
JOACHIM LEY, COO / Member of the Executive Board at ZIEHL-ABEGG SE
RALF ALERS, Plant Manager at ZIEHL-ABEGG SE
DR. WERNER LAUB, Partner at Staufen AG

WIND OF CHANGE

In a nutshell

Customers from all over the world are ordering fans from ZIEHL-ABEGG. In order to be able to continue to process the constantly growing number of orders to their satisfaction, the German company from Baden-Württemberg has started a lean transformation at its largest production site in Kupferzell. Greater efficiency and leadership excellence should ensure consistent product quality and high delivery reliability at all locations in Germany and abroad.

Regardless of whether it is heat pumps or data centers – the worldwide demand for efficient fans means that ZIEHL-ABEGG has full order books. In order to be able to continue to meet the steadily increasing demand in the future, the company has now prescribed itself a "fresh air cure", a number of changes in terms of efficiency and leadership.

The royal blue workshops with the striking tower right next to the highway 6 near Kupferzell immediately catch every driver's eye. They belong to ZIEHL-ABEGG, one of the world's leading experts for ventilation, control and drive technology. In the industrial estate near the 6,000 inhabitants community in the north-eastern state of Baden-Württemberg, there is the high-tech production site of the company, which Emil Ziehl founded in Berlin in 1910 and whose inventions more than 100 years ago laid the foundations for the ultra-modern EC Motors that are manufactured and built into fans every day.

Joachim Ley's office is also located in the factory hall. For the ZIEHL-ABEGG COO, who coordinates all of the company's production plants worldwide, it's only a short walk down the stairs to be directly on the shop floor. As on every morning, plant manager Ralf Alers and his managers stand in front of a large shop floor management board to have the managers report on the current status. In addition to the classic key figures such as sick leave and adherence to schedules, today it is also a matter of organizing short-term storage capacities in the plant so that a logistics backlog due to public holidays does not affect production. A solution is quickly found and implemented immediately after the meeting.

In order to be able to keep the processes just as quick and uncomplicated, Ley and Alers started a lean transformation together with Staufen AG in the Kupferzell plant in 2021. Joachim Ley defines the goal as follows: "By increasing efficiency and shop floor management, we want to increase delivery reliability and shorten throughput times in order to be able to supply our customers in the best possible way at all times."

From Kupferzell into the world: The EC factory as a pilot for efficient value creation

The advancing digitization and the associated ventilation of more and more data centers have caused the demand for modern and energy-saving fans to skyrocket, as has the heat pump boom. “With our products we have our finger on the pulse of the times. That's why we're constantly growing and expanding our capacities," says COO Ley. As the location with the largest share of the company's added value, Kupferzell was therefore selected as a pilot for efficient added value. After a potential analysis, ZIEHL-ABEGG started with a flagship project in rotor production. “We looked at the paths. The workstations and containers were redesigned, so we were able to significantly increase the efficiency of the rotors very quickly," reports Plant Manager Alers. Staufen partner Dr. Werner Laub: "Particularly in successful companies

like ZIEHL-ABEGG, the employees must quickly realize what improvements can also be achieved for each individual with such a change. Sub-projects must therefore always be dimensioned in such a way that they can be successful quickly. Because then process and leadership excellence almost automatically becomes part of the daily routine." ZIEHL-ABEGG COO Ley adds: "We never had a crisis with the corresponding level of suffering. However, since we still saw the need to change, we couldn't do without intensive convincing why the path from good to excellent is worth it." Hereby ZIEHL-ABEGG was supported by Staufen consultants based on experience from similar projects. Joachim Ley: "Through their practical experience, they have already experienced all the ups and downs of such a transformation, and as well-trained coaches, they challenge us, but they don't overtax the team."

New US plant: The largest single investment in the company's history

In the meantime, the transformation at ZIEHL-ABEGG has gained speed. "The team understood that we were progressing. The many small organizational things at the beginning have been dealt with, leaving more time for the operational side," says plant manager Ralf Alers. After the assembly, other areas of the plant are to be included even more intensively in the conversion.

Due to international demand, ZIEHL-ABEGG has also started to set up new production sites. The company is building a new plant in Poland for 50 million euros. "Megatrends such as climate change require a significant increase in our capacities," says ZIEHL-ABEGG COO Ley. 300 to 400 jobs are planned at the plant in Łódź. In addition to bionically optimized fans for heat pumps, smaller fans for living space ventilation and refrigeration technology are also to be manufactured here.

ZIEHL-ABEGG wants to massively expand its location in the USA and is investing 100 million euros in a new plant and an administration building in North Carolina - the largest single investment in the company's history. The new factory is being built around 20 kilometers from the previous location. "The aim of the investment is to be able to better serve the sharply increased demand in North America," explains Ley. The North Carolina location will be responsible for the markets in the USA, Mexico and Canada: "This will enable us to shorten delivery times, increase our responsiveness and, in the interests of sustainability, also reduce our carbon footprint."

ZIEHL-ABEGG

ZIEHL-ABEGG is a specialist in ventilation, control and drive technology from Baden-Württemberg. The company's headquarters are in Künzelsau. The manufacturer employs 2,800 people in Germany and 5,100 worldwide. In 2022, the company had sales of 873 million euros, 88 percent of which came from the ventilation technology (fans) division.

ZAvblue motor running
Fan for ventilation with high pressure

founded in
1910

“With our products we have our finger on the pulse of the times. That's why we’re constantly growing and expanding our capacities.”

JOACHIM LEY
COO / Member of the Executive Board
ZIEHL-ABEGG SE

A lighthouse in royal blue

Joachim Ley continues: "Our medium-term goal is to extend the change process to all plants worldwide." Since the company already has 15 production sites on different continents and is building more, the transformation of ZIEHL-ABEGG will continue for a few more years. In order to ensure a uniform level, employees from Germany should in future become multipliers for lean processes and excellent management in the plants abroad. All plant managers should exchange information on a regular basis. The change project in Kupferzell should also serve as a blueprint for the company to find and train suitable employees abroad. "Like this, we want to ensure that customers all over the world have the experience 'Made by ZIEHL-ABEGG'," says Joachim Ley. For Staufen board member Markus Riegger, ZIEHLABEGG is a prime example of how the current hot topics can be consistently and successfully promoted worldwide from the location Germany: "Normally, lighthouses often have red and white stripes, but here in Kupferzell, they shine in royal blue - namely not only for drivers on the highway 6.” ■

873
million EUR
turnover

5,100
employees

SCHAEFFLER

Schaeffler Gruppe – We pioneer motion As one of the world's leading automotive and industrial suppliers, the Schaeffler Group has been driving future-oriented inventions and developments in the areas of movement and mobility for more than 75 years. In 2022, the company group generated sales of 15.8 billion euros. With around 84,000 employees, the Schaeffler Group is one of the world's largest family companies.

LEADERSHIP CLOSE TO THE EMPLOYEES

The qualification of the employees is an important key to ensure the competitiveness of a company. Together with Staufen, the Schaeffler Group has set up a tailor-made learning program for team leaders in production to strengthen them in their leadership role on the shop floor.

SONJA MEHRLICH
Head of Center
for Leadership Excellence
Schaeffler AG

ADELINE MARGINEAN
Schaeffler Academy
Schaeffler AG

In a nutshell

A new, mandatory qualification program is intended to strengthen the production team leaders in the German Schaeffler plants in their leadership role on the shop floor. The program developed together with Staufen conveys the Group's leadership essentials and is very practice-oriented. The team leaders have twelve months to complete the four modules of the program.

Strong, distinctive leadership skills are essential to make a company successful in the long term. The automotive and industrial supplier Schaeffler continuously invests in this key competence. The Group's own Schaeffler Academy provides employees and leaders with a comprehensive range of qualifications (see also the interview on p. 75). "It is of fundamental importance for the success of Schaeffler that our employees are committed and feel connected to the company," says Sonja Mehrlich, Head of the Center for Leadership Excellence. "This is only possible if employees feel encouraged, challenged and valued at all times. So good leadership is the prerequisite for everything else."

Supporting team leaders in their leadership role

"As the first leadership level, the team leader plays a key role in production," says leadership expert Mehrlich. "When a machine isn't running or sick leave is too high, the team leaders feel the pressure most. To effectively manage those situations, team leaders and employees have to function as a team, trust one another and communicate transparently." More than ten years ago, Schaeffler began specifically qualifying the team leaders in the plants to give them the tools for the everyday leadership.

But even the best education program has its' time at some point. "After a while, the established program for the qualification of team leaders no longer fully corresponded to our modern understanding of leadership and our leadership essentials," says Adeline Marginean, a specialist in leadership and talent development at Schaeffler. Schaeffler reached out to Staufen for support regarding the new design of the program. "We were convinced by their expertise in the plant environment and in the area of leadership," says Sonja Mehrlich.

Tailored learning journey: Four modules in twelve months

Together with Staufen, Schaeffler has developed a tailor-made learning journey for team leaders in production. "The aim of the program is to strengthen the first management level in the plant on the shop floor and to enable them to perform their leadership role even more effectively," explains Markus Franz, partner and training expert at Staufen. The specific leadership essentials of the Schaeffler Group are incorporated into the program: take on responsibility, connect for success, empower your team, care for people, manage for results, drive the change. Diversity, equity and inclusion as well as methods such as conflict management and dealing with one's own role are also part of the learning content.

The result: four modules that in future will be mandatory for all new team leaders in production. The focus is on the aspects of "leading yourself", "leading others" and "leading teams" as well as a final practical module to consolidate what they have learned and to connect it with their own cases. "Once appointed, they have twelve months to complete the learning journey. It was important to us to develop a practice-oriented program," says Staufen project manager and lead trainer Marco Pett. The mixture was successful: knowledge transfer and practical application are equally important. After the learning journey and between the training modules, the participants can exchange ideas and talk about how the implementation of what they have learned is working out. This encourages shared reflection and mutual support.

Initial experiences with the new program have been consistently positive. "Our team leaders in production really appreciate that something new is being set up for them and that their leadership skills are being addressed. The fact that Schaeffler grants space and time for this is an expression of the appreciation for this important role, "emphasizes Adeline Marginean. Further steps with Staufen are already being planned. "The next step is for us to introduce a training in Germany that our experienced team leaders in production can use to deepen their leadership knowledge and further develop specific skills. But we also want to support the the leadership levels above the team leaders and the colleagues in the segment management holistically in their leadership role."

THE SCHAEFFLER ACADEMY:

FROM LEARNING NUGGET TO KEY QUALIFICATION

In the course of its long history, the Schaeffler Group has repeatedly reinvented itself. Part of the success is a workforce that sees change as an opportunity and helps shape it through constant learning. The qualification activities are consolidated at the Schaeffler Academy for 170 locations in 50 countries. The following figures show how intensively the employees there deal with further and advanced training: Last year alone, there were 90,000 participants in e-learning courses worldwide and around 7,300 participants in face-to-face training courses in Germany. In an interview, Hanna Peter-Regar, head of the Schaeffler Academy, explains what future training will look like – and not just at Schaeffler.

What is the importance of further and advanced training against the background of the rapid digital and technological development?

Hanna Peter-Regar: Qualification and further training have never played such a major role and the opportunities have never been so great. It is our job as a company and managers to prepare our employees as well as possible for the future opportunities that the change brings along.

How does the Schaeffler Academy ensure that all employees keep up the pace?

Hanna Peter-Regar: It is important to understand employees' concerns and fears and to provide them with techniques and strategies to overcome them. Employees should know what is expected from them and how to achieve their goal. A realistic schedule and support from managers help them to integrate further training into their everyday work and to set priorities. Mentoring programs, coaching or participation in learning events can be a great way to anchor the topic of learning in the organization in the long term. In addition, we at Schaeffler make learning as accessible as possible through so-called learning nuggets. Learning nuggets are self-contained mini-learning activities that cover a topic or question in under ten minutes. This can be done via podcast, video, or online training.

How important is cooperation with external experts like Staufen?

Hanna Peter-Regar: Where it is possible and reasonable, we use internal trainer skills, also from our trainers. At the same time, we have partnerships with renowned training providers with whom we work regularly. With every new topic, we always keep an eye on the current market and look for the right provider for the requirement.

What role does artificial intelligence (AI) play in continuing education?

Hanna Peter-Regar: AI is a disruptive development. As a company, we deal with this and take the findings into account in our further training activities. For example in our "Fit4Digital" program, in which we address the change towards a networked, digital working world. Topics include the Internet of Things (IoT) and cyber security. In this way, we are establishing the use of cloud services or AI more strongly in everyday work and broadening the basis for the implementation of new technologies.

Are there also skills that cannot be digitized and automated?

Hanna Peter-Regar: Yes, for me, these are key qualifications such as agility, resilience, and the ability to moderate and work in a team. Whether at school, university, training or work: the development of such skills is becoming increasingly important. Not just for us at Schaeffler. ■

HANNA PETER-REGAR
Head of Schaeffler Academy
Schaeffler AG

"SOLUTIONS FOR RENEWABLE ENERGY ARE PART OF OUR STRATEGY DEVELOPMENT"

With industrial pumps and valves, KSB has been ensuring efficient power generation from coal, gas and nuclear power plants worldwide for decades. But climate change is forcing the company to change its strategy. In an interview, Thomas Pabst, President Market Area Energy at KSB, explains where it should lead to and how it can succeed thanks to the Hoshin Kanri lean method.

THOMAS PABST
President Market Area Energy
KSB SE & Co. KGaA

Mr. Pabst, in April 2023, the last three nuclear power plants in Germany were shut down. The federal government also wants to phase out coal by 2030, when most of the electricity will come from renewable energies. What influence does the German energy transition have on KSB?

The German market has been changing a lot for a while now because coal and nuclear power are no longer en vogue in this country. This has an impact on our business, but nothing dramatic, because we are positioned worldwide. Take the nuclear phase-out, for example: it's a German phenomenon. Other countries, such as Poland, the Czech Republic and the Netherlands, are planning to get involved or are thinking about expanding again. Because nuclear energy is evolving. Generation 4 reactors, for example, are cooled by molten salt. KSB is investing in these new technologies in order to be able to play a leading role in this area.

Does KSB also deal with business models and products for renewable energies?

Yes, KSB is committed to reducing global CO_2 emissions. Renewable energy solutions are part of our strategy development, also with regard to countries that are not as far along in the energy transition as Germany. We are currently analyzing what opportunities renewable energies can bring us. But a lot is not yet tangible. For example, there are by far too less storage options for electricity from sun and wind. This makes energy availability volatile and prevents a reliable power supply. Although we do not yet know which technologies will be used for this, we want to generate 10% of sales via so-called New Solutions business models as early as 2027.

In a nutshell

The energy transition and the worldwide reduction of CO_2 are also forcing KSB to change its strategy. Instead of continuing to rely on pumps and valves for coal-fired power plants, the company is working on solutions for renewable energies and modern nuclear power plants (small modular reactors). Together with Staufen, KSB has started to implement the new strategy in everyday work using the Hoshin Kanri lean method.

One thing is to set strategic goals, the other is to implement them consistently. Here, KSB got external help. How did the collaboration with Staufen come about?

We have already been cooperating with Staufen in other areas. Among other things, in 2019/2020, we started designing our process from offer to delivery according to lean principles. The current project is about the consistent implementation of our strategy change. We are convinced that Staufen creates the right balance between theory and practice. Together with the consultants, we have broken down the overall goals into annual goals. In this way, we can clearly state what our goal is, where we want to be in the long term and what the individual steps on the way to the goal look like.

How important was the external perspective of the consultants in this work?

As outsiders, the Staufen consultants look at our company in a different way. They question things critically and discuss them with us. At the same time, with their broad practical orientation, they ensure that when going through a process, all main criteria are taken into account. We couldn't do all this alone in the hectic pace of operative business.

When did you first use Hoshin Kanri in strategy transition? What are the individual steps?

Over the past year, we have started to work out breakthrough targets and to break them down into annual targets for 2023. The first measures were started in February, including the detailed elaboration of the activities and their follow-up. This is the only way to determine at the end of the year where we stand and whether we will achieve our goals by 2027. Every month and a half, we also verify our progress in the steering committee – and correct our approach if necessary. So we are very agile here.

How do you take the employees with you on this journey?

By combining strategy implementation with practical orientation. With Hoshin Kanri, we use concrete examples to show how we implement the strategy. In this way, employees understand why we do things the way we do them and why we are rethinking Energy. Our claim today is “KSB Energy – powering a greener world”. It is important that employees are inspired by this spirit and that the entire organization moves away from the old ways of thinking. This enables us to reach new markets and also attract young talents.

Where do you want KSB‘s energy division to be in five years?

We expect traditional business areas to decline. Nevertheless, we want to achieve slight growth. With New Solutions, we are planning to invest in product development, and we are also focusing heavily on digitized solutions in the energy network. ■

founded in **1871**

16,000 employees

turnover approx. **2,6** billion EUR

The company with headquarters in Frankenthal (Germany) is one of the leading suppliers of industrial pumps and valves. The name KSB is made up of the names of the founders: Johannes Klein, Friedrich Schanzlin and Jakob August Becker. The listed manufacturer has a global presence and employs around 16,000 people.

Ready to make the leap to digital transformation?

TRUMPF is leading the way toward digital transformation in Industry 4.0. With our advanced manufacturing solutions, we are helping companies improve the efficiency, productivity and quality of their operations. From laser cutting machines to production management software, our solutions are designed to make manufacturing smarter, faster and more profitable. With TRUMPF, you can be sure you're getting the latest Industry 4.0 technology to take your business to the next level.

More information at: www.trumpf.com

THE BEST STRATEGY? LESS, BUT CONSISTENT!

WHY A STRATEGY IS ONLY EFFECTIVELY IMPLEMENTED THROUGH EXCELLENT PROCESSES.

In the past few years, external influences on the company and its market environment, such as political decisions or shorter technology cycles, have noticeably increased in intensity and speed. For this reason, the added value that companies create for their customers comes under faster and more sustained pressure.
In addition, many companies have growing problems with the implementation of strategic initiatives. The proportion of ineffective strategic initiatives is around 70 %, according to a new study*. This is a waste of resources that a company can no longer afford.
Jan Philipp Stommel, consultant at Staufen, and Max Illies, Vice President Sales at C. Illies & Co., speak about Hoshin Kanri and an effective strategy implementation.

Jan Philipp Stommel: Mr. Illies, we met a year and a half ago through our best practice partner, MUNSCH Chemie-Pumpen GmbH. Munsch utilizes the Hoshin Kanri concept for effective strategy implementation. Why did you take part in this event?

Max Illies: On one hand, we were curious about what Hoshin Kanri is precisely and what methods you used to implement strategies. On the other, we were looking for support with our management strategy. We urgently needed to make our strategic management more sustainable and efficient.

Jan Philipp Stommel: A study by a renowned institute shows that a startling 70 % of all strategic initiatives fail during implementation and do not lead to the strategic goals of the company.* Why do strategies not reach their desired effectiveness in many companies?

Max Illies: In our case, I think it was certainly a question of weakness in the pursuit of the set goals. We set goals for years but then planned too many or too few resources for this, overspent in daily business, and ultimately lost sight of our strategic initiatives. Looking back, we can see that we didn't do enough to truly achieve the desired goals. That was ultimately the big weakness that we had to recognize in our organization.

Jan Philipp Stommel: We hear that a lot. At the beginning of a new strategy, there is an air of optimism; everyone is motivated and committed. The weeks pass, and daily business takes over. The strategic initiatives lose importance, are pushed to the background, or are even de-prioritized. At the same time, companies also tend to take on too many projects without understanding which project is really connected to which strategic goal.

Hoshin Kanri focuses on the introduction and development of employees with emphasis on the vision. It creates a connection between the vision, goals, projects, and factors for success. The X-Matrix is the tool for linking breakthrough goals, annual goals, improvement projects, and factors for success. At the same time, the inclusion of all management levels throughout all company functions serves to establish a holistic company focus and is a central component of Hoshin Kanri.

The white paper about **Strategy Excellence** can be found here: www.staufen.ag/white-paper-strategy-excellence/

* According to a study of the Management Institut St. Gallen

Max Illies: Unfortunately, I can confirm this. We too failed to consistently pursue a common thread with our strategy. It is almost impossible to know exactly where to invest how many resources in order to achieve the planned objective in the end. If you look at the study you mentioned, you see that the strategic initiatives also do not lead to the desired results because the resources for reaching the goal were not correctly planned and utilized.

Jan Philipp Stommel: When you look back now over the past 18 months, since we have introduced Hoshin Kanri in your company, what has changed? How would you describe the current strategy implementation process at Illies?

Max Illies: We use Hoshin Kanri as a framework for setting goals, pursuing goals, and ultimately also achieving them. For us, Hoshin Kanri is a very helpful and versatile set of tools, which we use to determine suitable goals, to create cascading plans for implementation, to keep an eye on progress, and to manage deviations. I would describe the entire method with the two keywords: framework and toolbox.

Jan Philipp Stommel: Yes. The method has proven itself, largely because it is transparent and effective. During the first step, one derives 3 to 5 breakthrough goals on the basis of the vision, which are designed to take the company to the next level. The breakthrough goals are broken down into annual goals and the related strategic projects defined. During the third step, a KPI-system is then set up, which constantly monitors the progress of the projects, so that one can recognize early on which projects are not achieving the desired effect and where one may need to provide support.

"For us, Hoshin Kanri is a very helpful and versatile set of tools, which we use to determine suitable goals, to create cascading plans for implementation, to keep an eye on progress, and to manage deviations."

MAX ILLIES
Vice President Sales
C. ILLIES & CO. HANDELSGESELLSCHAFT MBH

Max Illies: Cascading all of the goals allowed the entire organization to introduce momentum to the change process throughout all teams. One could say: Previously, the locomotive left the station without all the cars attached. Today, all the cars are coupled, and it is not only the locomotive that does the pulling, but each individual car. To achieve this, however, a lot of good communication is necessary. With the newly introduced reporting methods, we were able to very successfully accomplish this.

Jan Philipp Stommel: In order to permanently change a company, all employees must be included and turned into participants. Together with them, one must determine how they can integrate the strategic initiatives into their daily work. What is your conclusion regarding this after 18 months of Hoshin Kanri?

MAX ILLIES
Vice President Sales
C. ILLIES & CO.
HANDELSGESELLSCHAFT MBH

JAN PHILIPP STOMMEL
Project Manager
STAUFEN.AG

ILLIES

C. ILLIES & CO. HANDELSGESELLSCHAFT MBH As a sales and project partner, Illies connects leading global technology providers with the manufacturing industry in Asia. The company specializes in sales and after sales service for technically sophisticated investment goods and technologies. The product and service portfolio ranges from concepts and contracts to risk management and the implementation of systems to turnkey solutions and technical customer support.

Max Illies: I can already say that the process we initiated was worth it. We now have a much stronger correlation between the goal set for a year and the daily work of our team and thus also a much higher level of identification on behalf of each individual employee with our long-term company goals.

In addition, the early indicators we have introduced have increased our awareness of our degree of goal achievement. The derived KPIs provide orientation at all points in our company. For example, our sales and service teams now recognize in a timely fashion whether the sales funnel is still sufficiently full and whether the related sales goals can be achieved and whether additional activities are necessary.

Jan Philipp Stommel: What would you say companies should pay attention to when introducing Hoshin Kanri?

Max Illies: My advice to anyone asking themselves the question "How can I better implement my strategic goals effectively throughout the entire company?" is: pay attention to resource management. Because when you determine your goals and think about what resources are necessary to achieve them, you should also carefully weigh how much change you want to undertake and what is the correct amount to reach the goal most effectively.

Recently, one of my colleagues said, "We overestimate what we can achieve in a year, but we underestimate what we can achieve within five years." That could be a good approach. ■

LISTEN TO THE PODCAST NOW:
"Strategy is a commodity, execution is an art!"
www.staufen.ag/podcast-en

A Podcast for Change by STAUFEN.

“SERVING SOCIETY WITH SUPERIOR QUALITY”

Since its founding in 1931, guided by its unchanging mission "to serve society with superior quality," the Bridgestone Group has been expanding and evolving its business to meet the changing needs of society and continue supporting people's mobility and lifestyle. Quality has always been at the core of Bridgestone's business, as end users’ safety depends on it, not only on the streets, but also at airports.

Bridgestone Latin America North (BS-LAN) manufactures and markets a wide range of Bridgestone and Firestone tires, among other associated brands, to meet the needs of various customers: Consumers, original equipment manufacturers, transporters, and companies in the agricultural sector. It also has operations focused on the retreading of tires for trucks and buses, in accordance with its promise to provide social and customer value as a sustainable solutions company.

Shop Floor Management, a tool for achieving operational excellence

The implementation of Shop Floor Management (SFM) is one of the strategic tools that Bridgestone has implemented at a regional level, seeking continuous improvement in its manufacturing processes and motivating its team to take actions that make the operation more efficient.

Specifically for Bridgestone Costa Rica, SFM seeks to develop high-performance multidisciplinary teams, accompanied by assertive leadership and communication at all levels of the organization, to overcome the challenges of its operation and lay the foundation for achieving the company's strategic Key Process Input Variables.

Mr. Aldrette, what were the main challenges when implementing Shop Floor Management?

Pablo Jimenez Aldrette: When implementing SFM, as in any change process, we perceived uncertainty and resistance to this new form of management. We were faced with questions such as “does it work?” “Is it possible for our process?” “Why should this be done in the plant?” “Why do it every day?” and others. To manage these questions and the challenges that arose during implementation, it was essential to maintain transparent and empathetic communication, and to adapt the system to our processes by explaining it clearly.

What are the three main benefits of implementing Shop Floor Management at Bridgestone?

Pablo Jimenez Aldrette: 1. Communication. At Bridgestone Costa Rica, we have managed to transform communication in order to inspire our leaders and employees to interact assertively. Our team likes to be involved, and this implementation has helped us reinforce the feeling of belonging and credibility by creating spaces in which information is shared openly and transparently.

2. Transparency of processes and performance monitoring. Organization, effective monitoring, and delegation have been essential for working on improvement opportunities. This provides us with accurate information that allows us to act proactively to continue positioning Bridgestone as an industry leader.

3. Timely attention and response. Improvement opportunities must be addressed in the plant, quickly and efficiently. SFM has allowed us to use daily and agile management to resolve the different situations that arise, and at the same time establish an escalation mechanism that allows us to involve the leadership team when employees cannot resolve issues directly on the shop floor. SFM has become one of the tools we use to optimize our plant's performance. ■

PABLO JIMENEZ ALDRETTE
Plant Manager
Bridgestone Corporation

"We had a pleasant experience with the implementation of SFM in our plant, we strengthened our daily management systems with the guidance of Staufen consultants, **who were always willing to provide the best tools to ensure that changes generate value for our processes."**

BRIDGESTONE
Solutions for your journey

Bridgestone Latin America North (BS-LAN) is a business unit that integrates the manufacturing and sales operations of the subsidiaries in Mexico, Costa Rica, Central America and the Caribbean, Colombia and Ecuador. It is a subsidiary of Bridgestone Americas, Inc. (BSAM) and Bridgestone Corporate Japan. The group also has regional offices in Europe and Asia Pacific.

FROM COST FACTOR TO COMPETITIVE ADVANTAGE

Many companies have seen legal requirements such as the EU directive on sustainability reporting primarily as a cost-intensive burden. Axel Banoth and Peter Trick propose a change of perspective.

FOKUS ZUKUNFT

AXEL BANOTH
CEO
Fokus Zukunft GmbH & Co. KG

PETER TRICK
Senior Partner
STAUFEN.AG

"Only if the remaining greenhouse gas emissions of our products are offset by climate protection certificates, we will get the contract extension in 2025."

This statement by the managing director of a medium-sized automotive supplier clearly shows that sustainability is now business-critical (see also the Staufen study "Future Industry" on p. 27). This is primarily due to the new reporting requirements. According to the EU directive "Corporate Sustainability Reporting Directive" (CSRD), which came into force at the beginning of 2023, around 15,000 companies with 250 or more employees in Germany will have to include additional information on sustainability and CO_2 in their annual reports. In the case of manufacturing companies, it can already affect companies with fewer employees if the balance-sheet total exceeds EUR 20 million and net sales exceed EUR 40 million.

Customers, investors, labor market - sustainability pressure from all sides

Sustainability is not trivial. With the amendment of the Climate Protection Act, the federal government has tightened the requirements. The goal is greenhouse gas neutrality in Germany by 2045. By 2030, emissions must have been reduced by 65 percent compared to 1990. No company can avoid this, even if it initially avoids the reporting obligation. In any case, it is not enough to simply deliver some numbers. In order to achieve the sustainability goals, the topic must become an elementary part of the corporate strategy and lead to concrete measures. This starts with energy management to reduce unnecessary emissions and goes all the way to the circular economy to make the entire product life cycle sustainable.

The pressure on the companies comes from four sides: Firstly, many large customers are demanding more sustainability from their partners, since the emissions from supplies and preliminary products will be taken into account in their CO_2 balance. In the near future, it will be difficult to obtain supplier contracts without verifiable eco-success. Second, the company's financing is becoming more difficult. Institutional investors and traditional financial institutions are paying more attention to environmental aspects. In the recent past, professional investors have occasionally refused to discharge board members because they showed too little commitment to sustainability. Thirdly, customers now also expect sustainable products. This applies primarily to the consumer market. But also B2B customers want to keep their own CO_2 balance low. Added to this is public pressure from NGOs and the media. In the worst case, high sales losses and a tarnished reputation are the result. Fourth, the younger generation in particular pays attention to sustainability when choosing an employer. It is quite possible that a company without measurable ecological and social activities will soon have difficulties in winning over the sought-after talents in the competitive job market.

Software instead of a tally sheet – data as the basis of a green strategy

By now at the latest, every owner or managing director should be aware that the statutory sustainability reports are only a minimum requirement. Because they merely state the status quo. Those who do nothing will report very similar figures a year later. Nevertheless, they are a basis for any sustainability strategy. Who wants to avoid CO_2, will have to analyze their emissions regularly. The prerequisite for reporting is sufficient digitization of the company so that the relevant data can be easily brought together in a database – i.e. not manually using a tally sheet.

In addition, there are now numerous software solutions for the CSRD reports that import all the necessary data and process them in accordance with the requirements of the EU standards. In smaller companies, the foundations for data analysis often have to be laid first. Larger companies often already have all the necessary data, but first have to bring it together centrally.

Quick wins: reduce operating costs and CO_2 emissions in lockstep

But then in order to be able to report a significant CO_2 reduction in the following year, really sustainable measures are necessary, in both senses of the word. To reassure everyone responsible: Even small steps are important, all measures for a CO_2 reduction or avoidance as well as better product cycles make sense. However, this only applies to a limited extent for CO_2 certificates. They are more of an interim solution for emissions that have unfortunately been unavoidable up to now.

So instead of relying exclusively on certificates, companies should rather develop a strategy for reducing emissions from the outset. It is not only allowed, but even sensible to pick the low-hanging fruit first. Quick initial successes can be achieved, for example, by taking measures to reduce electricity and heat consumption. At the same time, these are quite impressive cost-cutting programs. An example: The construction of a solar system on the roof of a hall reduces the tax burden through depreciation and the ongoing energy costs through self-use. Supplemented by further power-saving measures and modern, smart energy management, the operating costs can be reduced to a similar extent as the CO_2 entry of the company.

Decarbonize the whole value-added chain

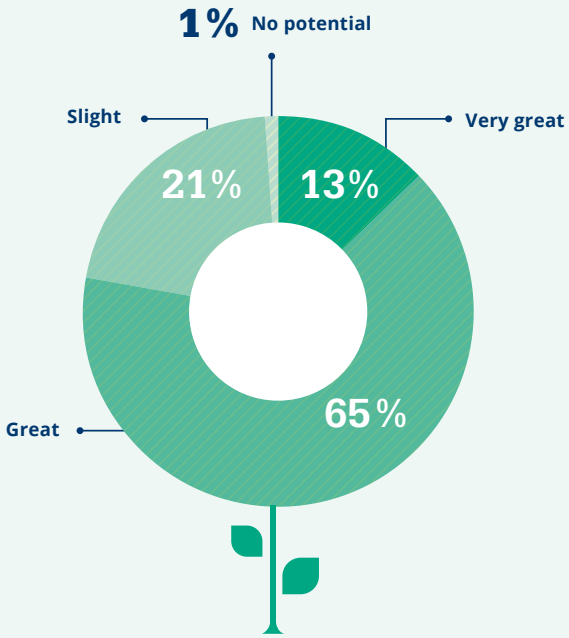
Such measures are included in Scopes 1 and 2 of the CO_2 footprint of a company. Scope 1 includes the direct release of greenhouse gases, for example through combustion processes or your own power plant. Scope 2 is the indirect release from energy suppliers. Both of these areas of application are relatively easy to address and yield good results, even in the short term. Scope 3 is more demanding. This scope includes upstream and downstream greenhouse gas emissions along the entire value-added chain. They are more difficult to measure and account for, because hardly any company knows all the processes in its environment.

Scope 3 requires significant changes in the use of precursor products and in disposal. Additionally, there are things like business trips or the commuting habits of employees. Ultimately, companies have to check all processes and also hold their employers responsible. Also here, there are initially simple measures: helpful is, for example, replacing business trips with conference calls in management and doing remote VR connections for maintenance technicians or an internal support program for an e-company fleet that also charges in the company parking lot. The companies must check in each process at where the avoidable CO_2 occurs, and then react accordingly.

Target: Green innovation leadership

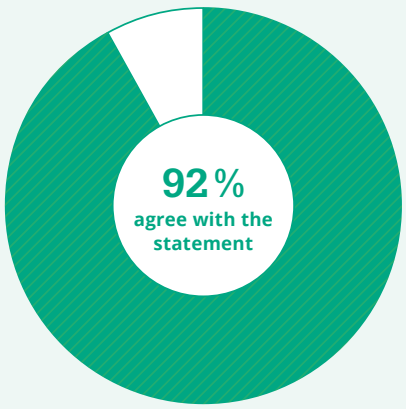
These are also more of a quick win, because major interventions in the value-added chain require staying power and innovative spirit. Many companies are now pursuing circular economy approaches. In this model, products should be shared, leased, reused, repaired, refurbished and recycled for as long as possible. In this way, their life cycle is extended. In order to enter the circular economy, sustainability must be integrated directly into the design and construction of products. Ultimately, a company has economic advantages from it. This has not yet arrived in all companies. Sustainability is too often perceived as a cost factor. The opposite is true: companies can increase their market importance by presenting themselves as pioneers and innovation leaders in the field of sustainability - without greenwashing! ■

How great is your company's potential to do more sustainable business?



Companies have by no means exploited their ecological potential.

Is Lean Management also the basis for sustainable action?



Lean Management and sustainability have a common goal.

From analysis to green transformation

The first step to becoming a net-zero company is to calculate your current CO_2 footprint. Staufen customers will be able to draw on the expertise of Fokus Zukunft in the future. Since 2016, the Starnberg sustainability consultancy has already accompanied 1,800 companies on their way to sustainability. "We are pleased to be a key partner in Staufen's goGREEN approach in the future. The cooperation is based on common values such as long-term customer relationships at eye level," says Axel Banoth, Managing Director of Fokus Zukunft.

Based on the current emissions, Staufen and Fokus Zukunft identify suitable levers to reduce the CO_2 emissions together with their customers. In the implementation of the Green Transformation, the Staufen consultants will help with the proven hands-on mentality. "The experts of both houses are bundling their collected knowledge so that our customers are both green and lean in future", says Staufen consultant Peter Trick.

You will find more on the subject of goGREEN in the whitepaper **"goGREEN – competitiveness and future viability": www.staufen.ag/white-paper-gogreen**

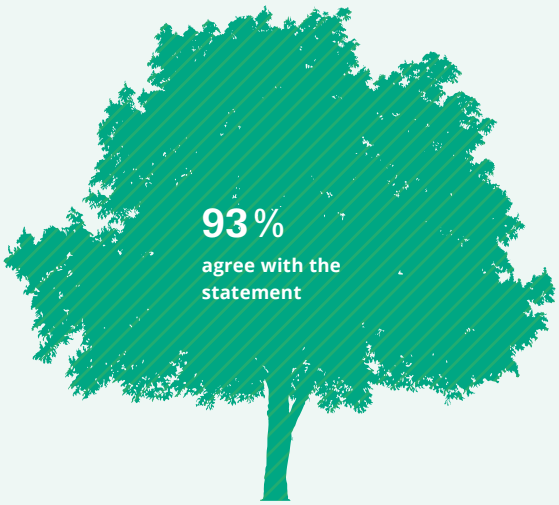
Quick Check Sustainability

Sustainability measures should be well prepared in order to be able to implement them in a structured and efficient manner. Many companies lack the knowledge to develop the appropriate staff and the necessary time to get a comprehensive overview of their sustainability potential.

The Quick-Check offers focused and well-founded results as well as instructions for action to prioritize and optimize sustainability measures.

SUSTAINABILITY

As a result of the slowing economy, there is more of a focus on costs. This is not without influence on sustainability activities at many companies.



Sustainable business is the basis for future economic success.

18 %
agree with the statement

We have put sustainability projects on ice or canceled them.

Not every company can currently afford "green."

LEAN, DIGITAL, GREEN: A PIONEER OUT OF CONVICTION

HANSPETER EBNER
CEO
EBCO GmbH

FABIAN KULBE
Head of Production
EBCO GmbH

In a nutshell

Whether lean processes, digitization or now sustainability: The foam specialist Ebco is always one of the pioneers. After the medium-sized company determined its CO_2 footprint, production and products are now becoming more sustainable step by step.

Hanspeter Ebner always likes to be ahead of his time. Even at Ebco GmbH, which he manages, waiting is not an option. The most recent example: the manufacturer of PU foam products, together with Staufen, has determined its CO_2 footprint - even if his customers are still cautious when it comes to sustainability.

Whoever frequently travels by aeroplane, has most likely already been in contact with Ebco products. The manufacturer from Albbruck in Germany, near the border to Switzerland, manufactures among other things the armrests and dining tables installed by many aircraft manufacturers. But not only the aviation industry, but also the automotive and furniture industry are convinced by Ebco products of polyurethane (PU) foam.

"Together with Staufen, Ebco now has determined its own CO_2 footprint, although the company has not yet been obliged to do so by its customers or by legal requirements," says Staufen partner Helena Reichmann, and managing director Hanspeter Ebner adds: "Nevertheless, we take the issue very seriously." The founder of Ebco would like to hand over a sustainable company to the next generation of leaders.

Short decision-making processes and long breath

Sustainability is one of a number of issues that the medium-sized company tackled early on with Staufen compared to other manufacturers of its size. Around ten years ago, the initial aim was to establish lean processes. "We were already on the right track back then. But we had the feeling that we weren't doing everything right and could be even more efficient," remembers Ebco boss Ebner. Then the lean processes were digitized. Now, for example, every employee can call up the next order on the screen and, if necessary, get help, without having to leave their workplace. "With us, the decision-making paths are extremely short, ideas are implemented without much bureaucracy. This has been distinguishing us for years and is fun," says Head of Production Fabian Kulbe.

Polyurethane

Polyurethanes (PU) are plastics that can be hard and brittle or soft and elastic, depending on how they are made. Soft foams are mainly used as upholstery material, for example for car seats or mattresses. Rigid foams are used for thermal insulation. Relatively new areas of application can be found in the aircraft industry and in vehicle construction.

PURe Innovation ebco®

Ebco is a leading manufacturer of polyurethane foams. The medium-sized company employs over 100 people at the Albbruck site (Germany). Ebco is certified according to DIN EN 9100, among others, and works with well-known customers from the aviation, automotive and furniture industries.

above: Ebco products
below: Digitalized workstation

Ebco has also been working together with Staufen on the company's strategic direction for several years. As part of this planning, the topic of sustainability was also taken into account and a corresponding project was set up. The determination of their own CO_2 footprint that now has taken place helps the manufacturer to find the biggest adjustment screws to consistently reduce its emissions. "A photovoltaic system for our own electricity at the site is important and easy to implement. But there is still a long way to go, the challenges in which are in the details. Here, for example, it is important to procure sustainable components for the PU foam and also to recycle it later," explains Hanspeter Ebner.

The right product at the right time

With a more sustainable production of PU foam, Ebco could soon reduce the ecological footprint of its products by one third - if the market cooperates. "The sustainability project can only succeed together with the customers," Staufen consultant Reichmann is convinced. "Here, Ebco, as a passionate pioneer, must continue to persuade." Especially in the aviation industry, customers are still reluctant. "In aircraft construction, the restrictions are very rigid. Since ongoing projects are rarely changed, there are opportunities in new projects," says Ebner. He hopes that customers will pay more attention to CO_2 with the next generation of aircrafts, then the orders for sustainable products will also come. A newly created strategic sale will help Ebco to offer and deliver the right product to customers at the right time - and a sustainable and recyclable one at that. Fabian Kulbe's vision: "In five years at the latest, we want to be significantly more sustainable and have implemented many measures from our CO_2 footprint project. We also want to become even more digital and position ourselves more broadly as a system supplier in terms of product technology." ■

LATIN AMERICA ON THE PATH TO ENERGY TRANSITION

SUSTAINABILITY

In a nutshell

We conducted an exclusive interview with Andre Clark, Senior Vice President for Siemens Energy Latin America, and Vice President of Siemens Energy Brazil, about the company's challenges in Latin America on the path to energy transition. Clark also told us how the new management model, created with the support of Staufen in Brazil, is part of its strategy to consolidate Siemens Energy as a one-stop shop that provides services ranging from generation and transmission to an extensive portfolio of products to decarbonize industry.

ANDRE CLARK
Senior Vice President for
Siemens Energy Latin America
Vice President of
Siemens Energy Brazil

The demand for energy is increasing around the world, especially demand for renewable energy as countries work to reduce their carbon footprints, provide an affordable energy supply, and strive for energy security.

Mr Clark, the Ukrainian War caused a huge crisis regarding the commercialization of natural gas, which was largely supplied by Russia. In Brazil, natural gas production is still in its infancy. How does Siemens Energy see natural gas, especially in view of the energy transition issues?

Natural gas is an excellent substitute for coal, so it is an energy transition gas.

Today, Siemens Energy does not have a client in the world who, when buying an infrastructure to transform gas into electric energy, does not ask us if the structure is already prepared for hydrogen. So, gas is not only the transition fuel, the exit from coal, it also provides the opportunity for the arrival of hydrogen because the infrastructures are similar. And our products are already prepared for this leap.

Here is a classic transition situation: Brazil discovered a very large amount of offshore oil and gas, which is the famous pre-salt, in 2006. By 2025, Brazil will be the fifth largest petroleum producer in the world - and there is a lot of gas associated with this. However, given the wealth of green resources, the question today is whether Brazil will jump straight to green hydrogen. That answer is not clear yet. But as we are increasingly petroleum pressured by climate change, a scenario in which Brazil will skip the gas transition and go straight to hydrogen cannot be ruled out. This may be possible in the next 10 years. And this timeframe, in the energy world, seems like a long time.

What are the key points of Siemens Energy's strategy for the coming years regarding renewable energy investments, and how do you plan to achieve these goals?

First of all, the first and most obvious strategy of Siemens Energy was to acquire 100% of the shares of Siemens Gamesa, because we believe that wind power is a very important business for the future.

Siemens Energy's strategy is to do everything - from generation to transmission to decarbonizing the industry. We want to be a one-stop shop. We generate energy from wind and gas, we transport this energy, and finally we help industry to use hydrogen, take fossil fuels out of their processes, improve their equipment by compressing gas, by doing carbon capture storage, for example. We are an equipment company, a technology company dedicated to the energy transition of its customers, of its countries, and so on.

** Siemens Energy is a trademark licensed by Siemens AG.*

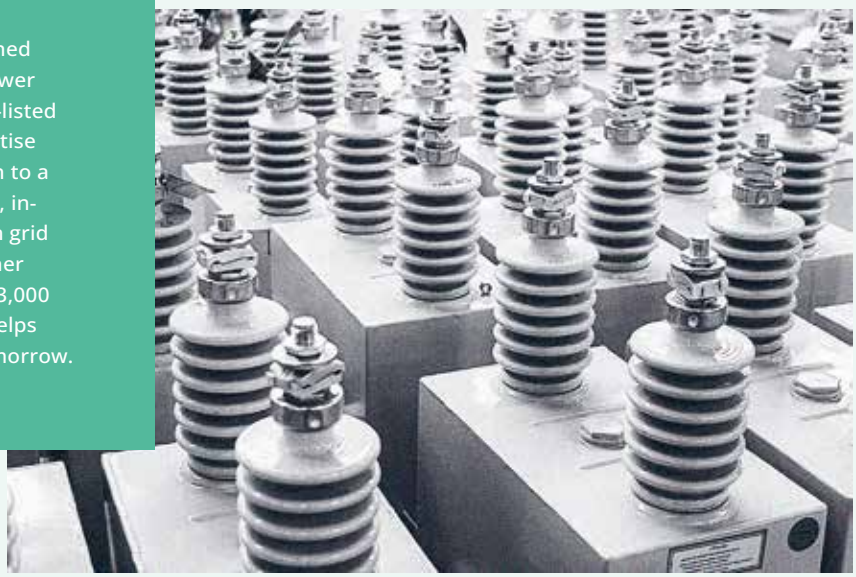
Demand for this equipment has been growing very fast thanks to green packages in the European countries and the United States, as a consequence of the Ukraine war and climate change. Since the start of the war countries have been preparing for a new energy matrix. For the world's energy transition, we will need 22 times more copper and 30 times more steel, for example. This will change the way value chains are organized. Besides these countries realize that it is very important to have at least a certain self-sufficiency, to have several partners. This also sheds light on Latin America's role.

For Siemens Energy, this means that we need to prepare our industrial processes, our plants, for a much higher level of productivity, competitiveness, and reliability. What we are doing today, together with Staufen, is exactly that, going to work there on the shop floor, there in the value chain, where things start, to ensure that we have a well-coordinated value chain, one of high quality.
The world has become more demanding, riskier, and costlier, with high interest rates, so today you must make a lot more profit because money has become more expensive. Our value chains have certainly become more volatile, less predictable. This means that our production must be more agile. Any really important problem on the shop floor must be communicated to management so that it can be solved quickly. It is no longer that ultra-efficient just-in-time chain with everything running like clockwork. It is almost a "just in case" chain, where, if something happens, we can change it quickly. We hired Staufen to do this change management on our production floor. How do we react fast? How do we solve problems quickly? These are the goals of Staufen's work. And the question for us is how you treat the worker not only as labor, but with intelligence and heart simultaneously.

Siemens Energy emerged from the breakup of Siemens Gas & Power in 2020. Since then, we know that you have been investing heavily in the development of your leadership and management models. How do these initiatives contribute to supporting the growth that the company expects to achieve in the coming years?

This is at the heart of this goal. Siemens Energy is undergoing a profound reorganization, flattening hierarchical levels. In a nutshell, it is proximity, which is to say, less hierarchy. We are transforming a hierarchical and pyramidal company to a much flatter structure, in which the leaders are closer to the workers on the shop floor - to those who produce, deliver, and sell.

This organizational change, where several hierarchical levels were removed, requires a very different management model, an easy, fast, agile method. So, it is accompanied by a lot of exercises about changing culture, behavior, values, that is, leadership essentials, and the new management model we are building with Staufen brings the practical results of this transformation, in a very concrete way, to the factory floor. Communication and change management must be



Siemens Energy

The spinoff of Siemens Energy in 2020 opened a new chapter in the history of Siemens power engineering. As an independent, exchange-listed company, Siemens Energy has broad expertise all along the energy value chain, in addition to a comprehensive portfolio for power utilities, independent power generators, transmission grid operators, the oil and gas industry, and other energy-intensive industries. With around 93,000 employees worldwide, the new company helps shape the energy systems of today and tomorrow.

much more concrete, and leader have to go to the shop floor to implement, listen to what the problem is, solve it together, in a systemic way, and develop an appropriate solution. Lean Management is transparent, more methodical; problems are escalated from the shop floor to the higher management levels quickly, and when necessary, has everything to do with our cultural change.

How have employees accepted all this change that is happening?

The teams' reaction has been as good as it can be. They are already applying a management style that we are rehearsing, and when you apply things, you take away a certain anxiety. We had feedback from culture surveys that showed that we had a two-class citizenship model; that is, the employees in the factory felt they were treated differently than employees in the office. One important change was to move the whole office into the factories. So, this division no longer exists. All employees are in the factories, closer to the client, closer to the projects, closer to reality. We need to see that our employees at the base of the pyramid are thirsty for knowledge, want to climb their career ladders, want to educate their children. We need to be more attentive to them and make sure they have this opportunity. Valuing people increases productivity, brings more quality, allows us to increase traceability. ■

SUSTAINABLE DIGITALIZATION

In a nutshell

The sensor technology specialist ifm has built a new factory in Sibiu, Romania, in which production is not only flexible, but also very energy efficient. Everything has been considered in the green factory: from the use of green concrete to an active foundation for temperature control to sustainable power supply. This makes the green factory an example for the entire ifm group.

As one of the leading providers of innovative automation technology, ifm has been setting the standard in matters of digitalization for years. With a highly modern green factory in Sibiu, Romania, the sensor technology specialist has now also placed itself in the pole position with regard to sustainability.

If you build a factory on an empty plot, you can do a lot of things correctly from the very beginning. An example of this is the ifm group, which primarily provides sensors for industrial applications. In addition to the central office in Essen, Germany, and the development and production in Tettnang on Lake Constance, the group has numerous locations abroad. One of these is Sibiu in Romania, where position and pressure sensors are manufactured. When it became obvious a few years ago that the production capacities there would soon reach their limits, ifm

decided to build a new factory in the immediate vicinity. And this wasn't to be just any factory, but rather a true green factory. "The company management wants to leave a sustainable footprint for coming generations and was prepared to bear the additional expenses compared to a conventional factory, which amounted to around €3 million for a CO_2 neutral factory," says Bernd Hausler, Managing Director at ifm.

The attractiveness of the site is one reason for investing this money in Romania. "So far, we have never had any problems attracting a sufficient number of skilled workers for the factory in Sibiu. The illness rate is low, as are wage costs in comparison to other European countries," says Alex Magdoiu, executive director of ifm in Romania. "In addition, many companies are currently moving to Eastern Europe and especially to Romania."

Central logistics center in the heart of the cloverleaf

There was intense planning before the excavators broke ground on the 13,000 m² construction site in March 2022. It was important to the responsible parties that the new factory have a flexible design, so that the broadest possible spectrum of ifm products could be manufactured there in the future. This was accomplished by means of the so-called cloverleaf principle, in which a logistics center is located at the center of the factory site, from which all of the production halls located around it can be supplied directly.

The German Sustainable Building Council (DGNB) was on board from the beginning. Among other things, they ensured that as little waste as possible was produced on the construction site, the groundwater was not contaminated, and low-emission materials like green

BERND HAUSLER
Executive Director
ifm efector s.r.l.

GERHARD DEIERLING
Executive Director
ifm prover s.r.l.

PRESSURE SENSOR
PA Series

DR. ALEX MAGDOIU
Managing Director
ifm efector s.r.l. | ifm prover s.r.l.

The ifm group develops, produces, and sells sensors, control systems, and software & systems for industrial automation. Its products and services are marketed in 165 countries. Essen is the main headquarters of the family-owned group. The main site for development of production is Tettnang. The company has further production sites abroad and most recently had a turnover of more than €1.4 billion with around 8750 employees.

concrete were used. Because the goal of ifm was certification in accordance with the international DGNB system. The plan was successful: as a green, CO_2-neutral factory, Sibiu was awarded with a gold medal by the DGNB when it was opened in May of this year.

Presenting all consumption up to the production line in figures

Power supply plays an important role in the creation of a green factory. “As an electronics manufacturer, we must meticulously control the temperature and humidity,” explains Gerhard Deierling, both the production manager of ifm in Germany and the Executive Director of ifm in Romania. Cooling, in particular, requires a lot of energy. For that reason, the basic temperature of the production area is controlled via an active foundation in the new factory. The necessary heating or cooling is therefore carried out efficiently via an appropriate ventilation system.

A photovoltaic system on the roof, heat pumps, and a modern gas system, which can be upgraded with new technologies, round out the energy concept. Due to the steep increase in energy costs, the additional investments will pay for themselves quickly, Bernd Hausler is certain. “After we have created the basis for green production with this, we plan on additional expansion levels in the future,” Gerhard Deierling adds. “For example, we want to measure the consumption of compressed air, cooling volume, and power up to the production line and present these in figures. Then, we can constantly work on optimization and give every product a stamp stating how much energy went into its manufacture.”

Climate-neutral operation by 2030

ifm is using its extensive digital expertise to reach its sustainability goals by digitalizing building management and production – and not only in Romania, but throughout the entire group. Alex Magdoiu is proud of what has been achieved in Sibiu. “If we here in Romania have profited greatly from the experience of our German colleagues, we can now provide a great deal of knowledge on the topic of sustainability on our end.” His colleague Bernd Hausler stresses, “The customers expect us to provide a roadmap to decarbonization in manufacturing. It is therefore our goal to have climate-neutral operation by 2030.”

In addition to ifm customers, other companies will also be able to see what is currently state-of-the-art in green factories. Because, as a BestPractice Partner of Staufen, ifm will soon open its factory doors in Sibiu to interested parties. “When it comes to the triad of lean, digital, and green, there are few companies that have made as much progress as ifm. And regardless of whether we support ifm with Lean Management in Romania or within the scope of the digitalization project in Tettnang, we learn something each time,” says Staufen consultant Dr. Werner Laub, who has assisted the development of ifm for many years. ifm manager Bernd Hausler expresses it like this: “Constant exchange and the establishment of a good network are very important for securing one’s own competitiveness.” ■

SUPPLY CHAIN NETWORKS: NO RISK MANAGEMENT, NO FUN

CANAN JUNGEL
Head of Supply Chain
Network Management
STAUFEN.AG

PROF. DR. CHRISTOPH GLOCK
Professor im Fachgebiet Produktion
und Supply Chain Management
TU Darmstadt

The past multi-crisis years have shown that focusing solely on the factors of time and costs does not go far enough. Only companies with a networked and actively controlled supply chain network will remain competitive in the future.

Currently and in the past, the supply chain is strongly cost-driven and for most companies global sourcing is an integral part of the purchasing strategy. "Even before the multi-crisis, however, it had become apparent that this approach was no longer viable, and companies are once again pushing the local-for-local approach more strongly. The global value networks of many companies are too inflexible, intransparent and risk-prone to be able to react to threats and thus remain capable of delivering," says Canan Jungel, Head of Supply Chain Network Management at Staufen.

Events such as the corona pandemic and the war in Ukraine have now relentlessly exposed the failings of manufacturers. The consequences were painful, ranging from delivery bottlenecks and production stops to damage to reputation and claims for damages. The results of the current Staufen study "Future Industry" (see also p. 27) paint a clear picture. "More than two thirds of the companies surveyed are currently not satisfied with their supply chain network," says Staufen consultant Jungel.

Digitization of lean processes as a decisive lever

In view of the fact that the complexity in the value-added networks will continue to increase, companies fear a loss of competitiveness. Because negative effects and influences on the supply chain network cannot be avoided in the future either and lead to new challenges and bottlenecks to which no answer can be found with the classic "competitive priorities" alone.

But how can the efficiency of the network be sustainably increased? "This is only possible with the help of proactive supply chain network management. It knows the value chain, builds a resilient network and has strategies for risk avoidance and problem solving at hand," says Prof. Dr. Christoph Glock from the Technical University of Darmstadt. In times when information in many companies is still recorded in Excel lists and forwarded by e-mail, work steps are error-prone and processes inefficient. In the event of a disruption, these companies then lose too much time.

The digitization of lean processes is a crucial lever for more resilience in the network. "If processes are digitized, problems can be identified and resolved earlier. Information is shared faster," says the professor at the TU Department of Production and Supply Chain Management. Manufacturers could then make decisions based on data rather than relying on individual gut feelings. However, according to Glock, data quality is a problem in many cases. A suitable data strategy should therefore first regulate where data is collected, stored and processed.

Building on digitization, AI can offer further opportunities in the supply chain network. "Faults will then be easier to predict and identify, and artificial intelligence can also help prevent faults in advance or initiate automated countermeasures," scientist Glock is convinced.

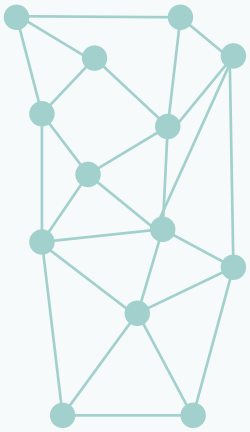
Supply Chain Network Management as a new networking platform in the company

In order for the supply chain network to function smoothly, it must also be connected to customers and suppliers. This is where Supply Chain Network Management takes on a new meaning in the company, where it has mostly played a subordinate role in the past: up until now, Purchase and Distribution has mainly been supposed to get percentages and sell products. Strategically positioned correctly, however, Supply Chain Network Management becomes a networking platform. It helps to advance the processes with the suppliers and clients to understand the customers even better.

Wingtra, a Zurich-based drone specialist, is impressive with its enormous growth rates. Purchasing is the central contact there for both the operational area and development. Purchasing is integrated into product development right from the start in order to leverage further efficiency potential later in the product cycle. The department standardizes contracts and defines clear replacement procurement rules. "Purchasing is also responsible for maintaining relationships with suppliers. We send the buyers to the key suppliers in order to better integrate their processes with ours," says Marco Schicker, COO of Wingtra AG. The company uses its ERP system to initiate orders and define framework conditions.

How do companies handle crises in the supply chain network?

66 %

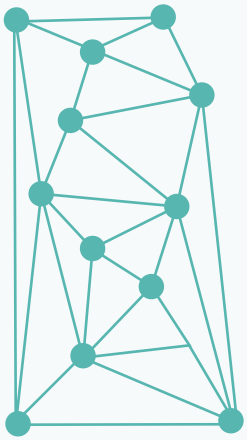


Such crises as we are experiencing now cannot be detected in advance

58 %

We have implemented professional risk management to detect unexpected threats in timely fashion

67 %



We are aware of our weak points and we have appropriate alternative scenarios ready if necessary

Only every other company identifies its risks systematically.

For many other companies, however, networking with suppliers and customers has faded into the background during the multi-crisis. Only four out of ten decision-makers surveyed in the Staufen study stated that stronger control and networking with partners is currently a starting point for increasing efficiency.

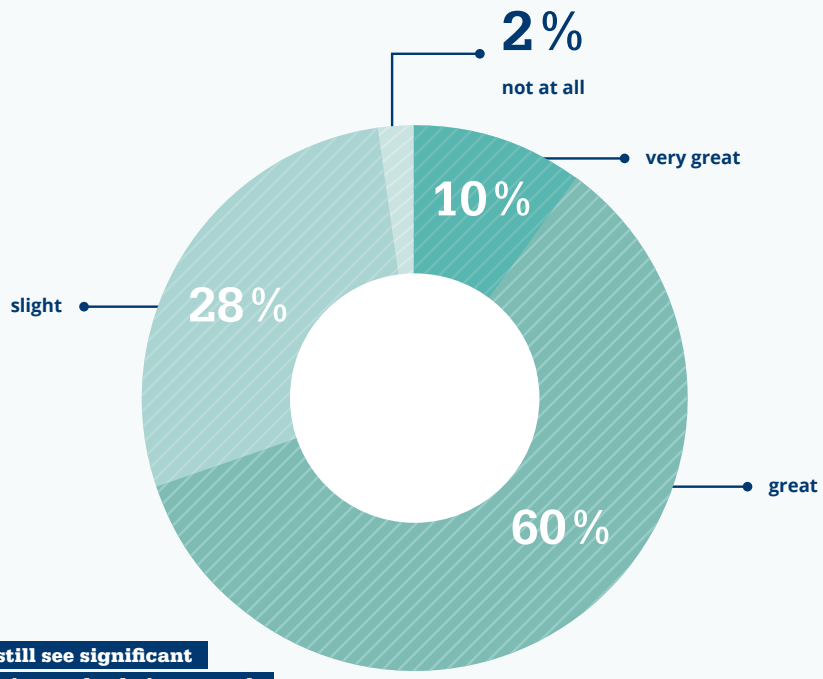
Risk management identifies critical nodes

In any case, political, technological, environmental and social risk factors will continue to have a significant impact on supply chain networks in the future. According to Christoph Glock from the Technical University Darmstadt, companies also have to deal with disruptions in the value chain beyond global crises: "Risk management should proactively examine threats and not wait until problems have arisen, which can then only be solved with great effort." Companies that keep an eye on the entire value chain can identify critical nodes due to the transparency in their processes. This enables them to develop special security measures in order to be able to react more quickly to disruptions. "It is important to be aware of which risks are most critical for a company. Then you can decide whether and with what measures to react to individual risk factors," says supply chain expert Marco Schicker from Wingtra AG. And with a better understanding of the most important corporate risks, employees would be able to make decisions much more independently in their day-to-day work.

At the same time, the value-added networks will change significantly over the next few years, says Supply chain and warehousing expert Glock: "We see a trend towards nearshoring in some industries; Firstly, because you want to reduce the risks of global value-added activities, and secondly, because you want to improve the sustainability of the value-added chain through shorter transport routes." Digitization will also continue to influence value-added networks. TU Professor Glock: "But this certainly does not diminish the relevance of network management." ■

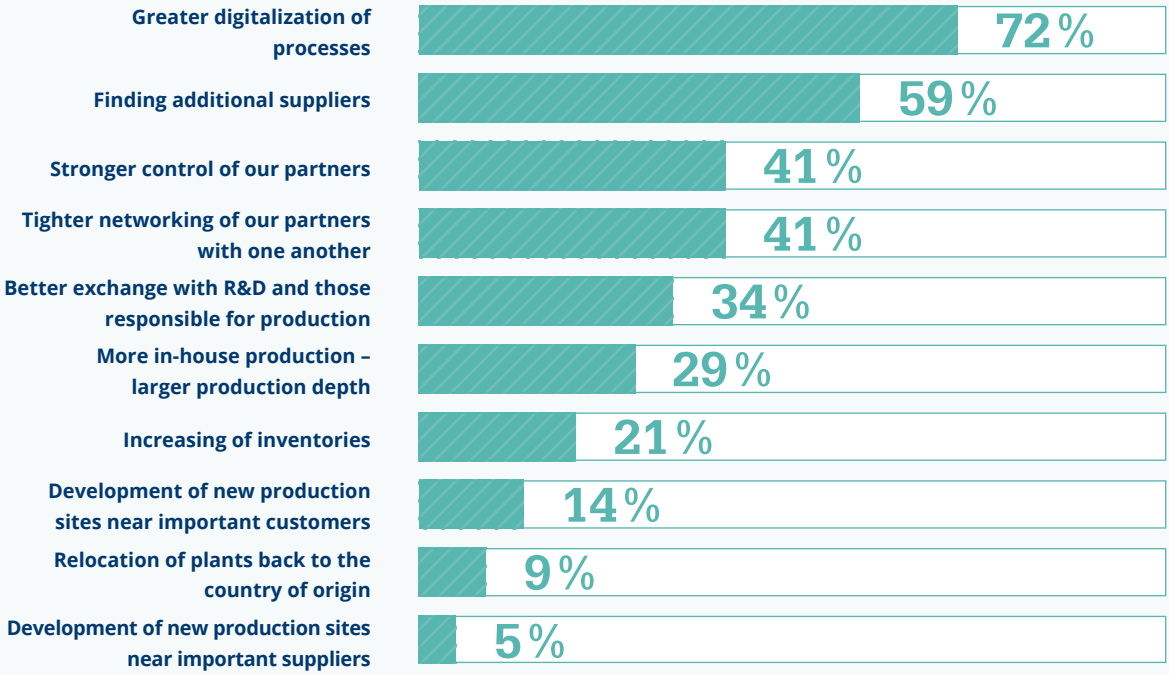
You can find out more about this topic in the white paper **"Supply Chain Network Management"**
www.staufen.ag/
white-paper-scnm

How much potential does your company have to make the supply chain network more efficient?



Seven of ten companies still see significant efficiency potential in their supply chain network.

Which measures have the greatest potential to make your supply chain network more resilient?

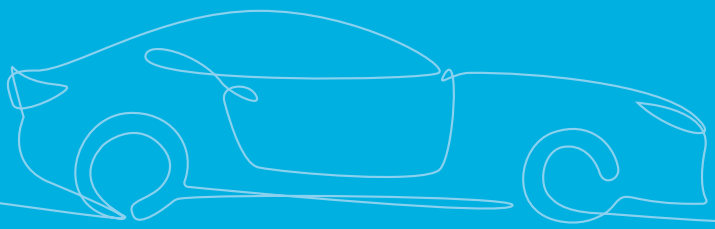


The digitalization of processes takes priority.

REGIONALIZATION OF THE SUPPLY CHAIN:

"NO VEHICLE IS MANUFACTURED IN EUROPE THAT DOESN'T CONTAIN AT LEAST ONE PART FROM ROMANIA."

ADRIAN SANDU
General Secretary
Romanian Automobile Manufacturers Association ACAROM



Since the outbreak of the multi-crisis, OEMs and automobile suppliers have begun to regionalize their supply chains. Suddenly, there is a greater focus on countries like Romania, instead of China. The Eastern Europe experts at Staufen help companies put their best foot forward. In this interview, Adrian Sandu, the General Secretary of the Romanian Automobile Manufacturers Association (ACAROM), explains why his country is a solid location.

Mr. Sandu, the Covid 19 crisis has demonstrated how fragile global supply chain networks are and thus provided an impetus for greater regionalization. Has Romania benefited from this?

Supply chains have been negatively impacted by COVID and the war between Russia and the Ukraine. For example, components supplied from China were blocked or plastic parts supplied from Ukraine were not delivered on time. As a result, OEMs like the Audi Group, have started to look at alternative sourcing of components from Romania, Serbia and Hungary.

How will supply chains develop in the future? Will the trend toward regionalization continue or will European manufacturers and suppliers look to the Far East once more?

The exodus began during the financial crisis of 2007/2008, because it seemed more efficient at the time to have the components manufactured in the Far East. Now, suppliers are beginning to bring manufacturing back to Europe. This is true for plastic parts, as well as batteries and electronic components, and especially semiconductors. In this context, the European Commission has initiated several financing programs in order to attract investors. Large suppliers like Bosch have already announced that they intend to manufacture semiconductors and other electronic components in Europe. This trend must continue if Europe is to avoid logistics crises like those of the past few years in the future.

In a nutshell

OEMs and suppliers in the automotive branch are moving their supply chains back to Europe. Instead of China, Romania and other Eastern European states are sought-after locations. This trend must continue if Europe wants to avoid additional logistics crises, explains Adrian Sandu, General Secretary of the Romanian Automobile Manufacturers Association (ACAROM).

What specific advantages does Romania offer to companies that want to invest and conduct manufacturing there?

Romania still has the lowest labor costs in Europe. More importantly, though, we have a tradition with supplier products. The Romanian automobile sector creates an annual total revenue of 41 billion Euros, more than 70 percent of that is generated by suppliers. They supply the parts for the OEMs in Europe. I always say that no vehicle is manufactured in Europe that doesn't contain at least one part from Romania. That's why this tradition is our biggest advantage. We have proven that we can manufacture any part in Romania. In addition, we are efficient and have the necessary political, fiscal, and investment stability.

In which branches, other than the automotive sector, is Romania particularly strong?

IT and electronics are important sectors. But we are also strong in the production of textiles, furniture, and transportation equipment, such as streetcars and locomotives.

What effect is the switch to electric drives in the automotive industry having? How does Romania plan to take advantage of this?

If the industry moves primarily toward electric drives, the suppliers in Romania will adapt to the requirements of the OEMs. Ford has already announced that it will manufacture fully electric vehicles in Romania starting in 2024, Dacia plans to initially produce hybrid vehicles.

The acronym ACAROM stands for Asociația Constructorilor de Automobile din România, the Romanian Automobile Manufacturers Association. The association was founded in 1996. It represents the national and international interests of its members and promotes development and innovation. In addition, the association offers its members various services, such as market analyses and training measures.

What has been done in Romania to attract skilled workers?

All of Europe has a deficit of skilled workers, and each country is trying to find suitable solutions. Romania, for example, has partnerships with universities and schools in order to attract young workers with the necessary skills. In addition, we are searching for talent in Moldavia, Serbia, and Bulgaria, as well as India and Pakistan.

On which regions in Romania has the automobile industry concentrated?

Depending upon their manufacturing, many suppliers are looking for good connections to highways, airports, or train stations to be able to ship quickly. The automobile industry is primarily located in the western and southern parts of Romania. In particular, the West and East have regions with very large numbers of workers. Companies that do not require high-speed deliveries can set up development centers there. For example, Continental. With 21,000 employees, the supplier is the largest employer in this region and has four development centers. In addition to Continental, Bosch, Renault, and Siemens also operate such centers, employing around 15,000 engineers.

Where is there room for improvement in Romania?

Even though progress has been made, we need to accelerate the pace of infrastructure buildup and cut through bureaucratic red tape more quickly. With the knowledge that the industrial landscape will change due to climate change and electromobility, suppliers will be faced with new challenges. ■

SWISS MADE GOES USA

BRUSA HyPOWER

BRUSA HyPower wants to do big business in the USA with power converters for electric trucks. To accomplish this, the Swiss e-mobility specialist first plans to set up a new supply-chain network abroad.

SUPPLY CHAIN NETWORK MANAGEMENT

In a nutshell

The Swiss specialist for power electronics and power converters, BRUSA HyPower, plans to manufacture DC/DC-converters for electric trucks in the USA by the end of 2025. The company must first set up a new supply chain network for local production and intends to optimally position itself from the beginning.

DR MARZIO LOCATELLI
Vice President Central Division
BRUSA HyPower AG

In this time of climate change, there will be no way around freight transport by road in the foreseeable future. For that reason, the future belongs to the electric truck. According to a McKinsey study, more than half of all newly registered trucks in Europe, the USA, and China will be electrically driven by 2035. This presents challenges not only for truck manufacturers, but also their suppliers.

Founded in 2021 as a carve-out, BRUSA HyPower AG, whose original company BRUSA Elektronik AG has been shaping e-mobility for decades, sees great opportunities in the growing market. "As specialists, we are in a pole position for the growing market in the USA. We want to establish ourselves as global suppliers. For that reason, we must expand our current capacities and also expand beyond Switzerland," says Dr Marzio Locatelli, Vice President Central Division at BRUSA HyPower.

"As an engineering firm, we have produced prototypes and extended small serial production with thousands of units annually in Switzerland," says Locatelli. "In the future, we will need an annual capacity of several hundred thousand in order to serve our customers around the world." In the past few years, the company has invested in setting up its own facilities in China and has relationships with experienced manufacturers on-site.

Trade restrictions make market entry more difficult

Due to the trade war between the US and China, there are now high tariffs on the import of electronic products. Marzio Locatelli says, "We have decided to expand our capacities in the USA to be able to provide additional benefits for our local customers." BRUSA HyPower has a flexible reaction to the challenges. The consultants of Staufen.Inova provided support in the development of the concept. "We will now set up production capacities directly in the USA," says Locatelli.

"The idea of offering a local product is behind this new concept," says Staufen.Inova consultant Thomas Spiess. "The complete setup of a new supply chain network offers the company the

BRUSA HyPOWER

Headquartered in Buchs (Swiss canton of St. Gallen), BRUSA HyPower AG was founded in 2021 as a spin-off of BRUSA Elektronik AG, a leading provider of power electronics in the area of e-mobility since 1985. BRUSA HyPower specializes in electrical power converter systems, such as DC/DC-converters and onboard charging systems. The company develops power electronics products for its international customers for On-Highway, Off-Highway, and stationary applications. BRUSA HyPower has around 300 employees, primarily in Switzerland and has locations in Stuttgart and in the Chinese industrial centers of Shenzhen, Huizhou, and Suzhou.

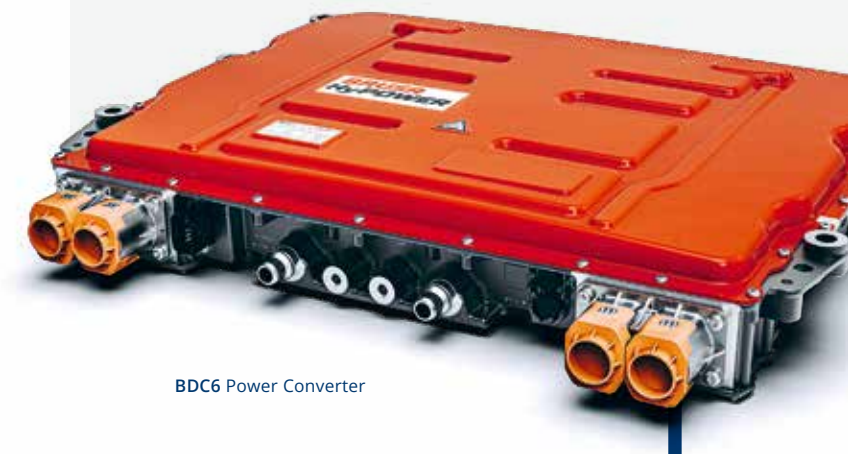
opportunity to optimally position itself." This includes setting the supply chain up with regard to transport and energy costs so that the CO_2-footprint of the product is as small as possible. Marzio Locatelli says, "As a traditionally sustainability-oriented company, we are always looking at the efficient use of resources." BRUSA was the first in the branch to analyze a power converter for CO_2-footprint and set a benchmark with this.

First product line in the USA starting in 2025

The setup is progressing rapidly. The first product line in the USA is planned for the year 2025. Marzio Locatelli says, "We have a challenging program ahead of us. For this reason, the supply chain network will be set up in numerous steps." ■

High-performance, high-efficiency equipment

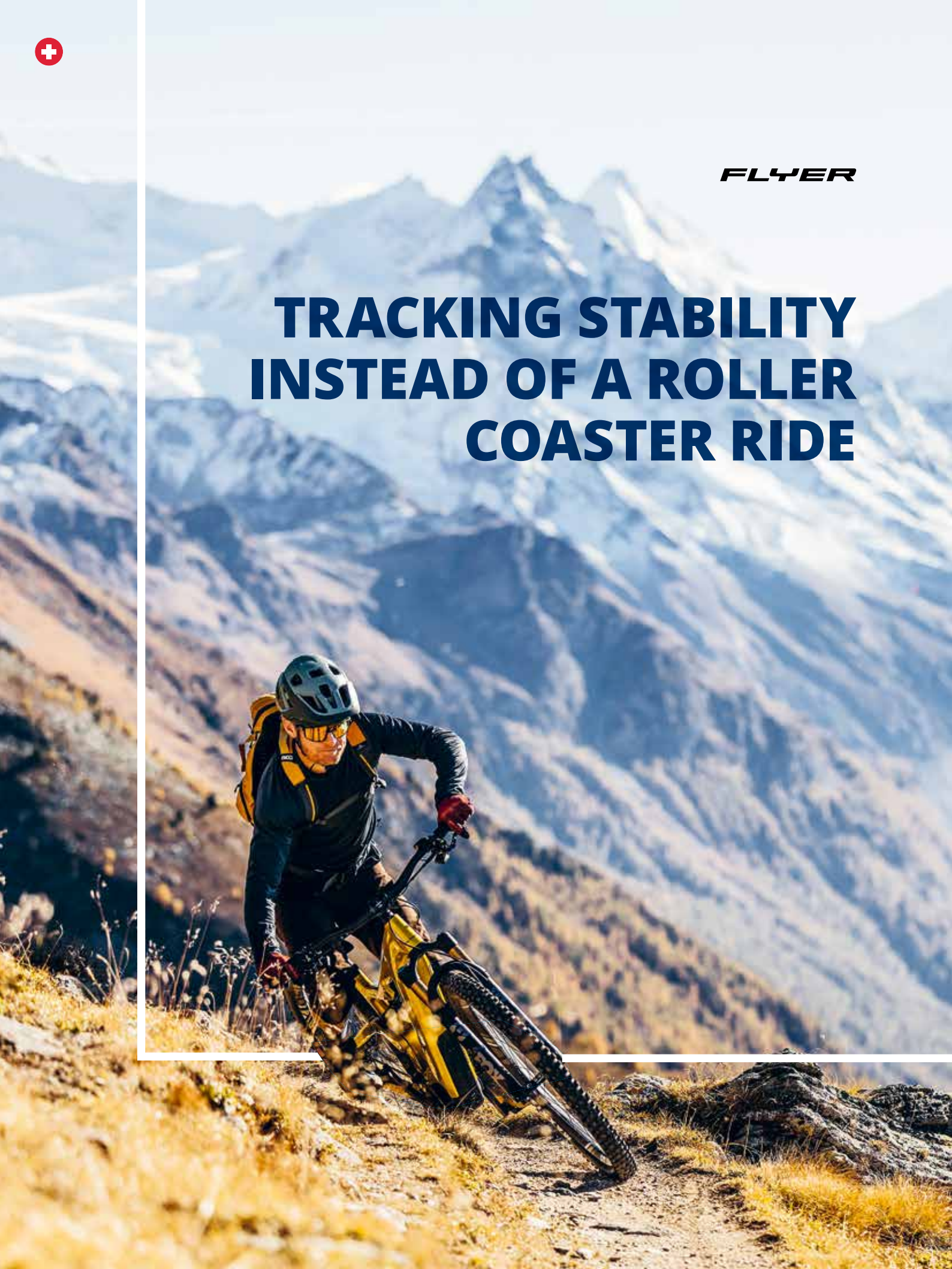
BRUSA power converters, which were developed for battery-electric and hydrogen powered vehicles, are small, extremely dependable, long-lasting, and particularly efficient, with an efficiency of 99 %. These special products are required to convert different voltages. The voltage from an outlet is not the same as the voltage from a battery. Whereas an outlet utilizes alternating voltage, a battery requires direct voltage. On one hand, there are onboard charging devices, which convert alternating current into direct current to charge a battery. DC converters (DC/DC), on the other hand, convert different DC levels, which can also be done bidirectionally. BRUSA has particular expertise in the area of high-voltage and has worked for a number of well-known international automotive and industrial customers since the company was founded.



BDC6 Power Converter

FLYER

TRACKING STABILITY INSTEAD OF A ROLLER COASTER RIDE



During the Coronavirus pandemic, bicycle manufacturers ordered so many components from their suppliers that they could no longer keep up. The bicycle industry is still feeling the effects of this. E-Bike manufacturer FLYER is using its experience to make its own supply-chain network more transparent and resilient.

More and more people are using bicycles, not just in cities, but also in rural areas, and traveling longer stretches with them. The reason for this is the runaway success of e-bikes. One out of every two bicycles now sold in Germany has an electric motor. For years, one could scarcely purchase one of these high-end bikes. The reason for this was the pandemic. Because during the entire coronavirus period, companies in the industry like the Swiss e-bike manufacturer FLYER had huge problems with their supply chain networks. “We often felt like we were riding on a roller coaster,” remembers Chief Operating Officer Marco Furter.

In a nutshell

During the pandemic, all bicycle manufacturers struggled with supply chain problems, as the demand for e-bikes in particular increased dramatically. This led to long waiting periods for components and increasing prices. FLYER, a Swiss e-bike manufacturer, is now working on making its supply chain network more transparent and resilient. For example, the company is converting its assortment of annual models to generational models, among other things. Reshoring is also currently being examined.

MARCO FURTER
Chief Operating Officer
FLYER AG

"We should have planned more carefully and in a more structured way. Everyone knew that you can't ride the wave forever, but no one wanted to descend too early."

350
employees

production capacity:
480
e-bikes per day

founded in
1995

Up to a 24-month delivery time for a gearshift

Although demand had already been steadily growing before Covid, it hit "like a bolt of lightning" at the beginning of the pandemic. Furter says, "Sports were suddenly front and center. Everyone wanted to be outside in the fresh air." But the manufacturers' delight over their full order books quickly faded. "The suppliers were inundated with global orders and delivery times skyrocketed." For example, the delivery time for an e- bike frame was 12 months, up to 24 months for gearshifts. Fearing that they wouldn't be able to keep up with demand, dealers had ordered a much larger number of e-bikes and manufacturers ordered more components than needed from the suppliers. This led to supply bottlenecks and sharply rising prices for e-bikes.

Now, delivery times are slowly swinging back toward normalcy, but the industry is still experiencing aftershocks from the pandemic boom: dealer warehouses are full, models from numerous years are lined up next to one another for sale. Because, after ordering in vain during the pandemic, the dealers and manufacturers then had to take delivery once everything became available again. "We should have planned more carefully and in a more structured way. Everyone knew that you can't ride the wave forever, but no one wanted to descend too early," says Marco Furter, looking back.

Automobile manufacturers as an example: generations instead of annual models

FLYER has drawn specific conclusions from the experience gained during the past few years. Together with Staufen.Inova, the manufacturer has begun to optimize its supply chain network. For example, FLYER has gotten rid of its annual models. COO Furter says, "In the bike industry, it has always been customary to bring out new models each year. We are now following the example of the automotive industry more closely and offer so-called generational models, which are on the market for several years and have differing lifecycles."

Bike component suppliers are primarily located in Taiwan, China, and Vietnam. There is a noticeable lack of related know-how in Europe. Together with a frame manufacturer, FLYER is planning a project in Europe. Through reshoring, the manufacturer hopes to save 6 to 8 weeks on future manufacturing and create more resilience in the supply chain network.

The business model of the manufacturer was also adapted: "make to order" became a hybrid solution with "make to stock" portions, based on a systematic sales & operations planning approach. Monthly inspections ensure coordinated and uniform planning for the next 18 months. "For this, both the situation in our own assembly departments and the delivery performance of the suppliers are analyzed very precisely," says Thomas Spiess, Senior Manager at Staufen.Inova. Instead of going by gut feeling, market information and data from forecasts are now used to decide which models and configurations are pushed and how to optimally synchronize the phasing in and phasing out of models. The newly established product lifecycle management also provides an overview of the next 36 months. "In the past, our planning horizon was relatively unstructured. Now, we take a structured approach, even to long-term decisions, and consider where we are headed with FLYER and how we reach this goal," says FLYER COO Furter. The bike surplus in stores and warehouses is expected to have eased by 2025, at the latest. ■

FLYER

FLYER is a Swiss manufacturer of e-bikes, headquartered in Huttwil (Canton of Bern). In Switzerland, FLYER is the market leader for e-bikes. Each year, the company sells between 70,000 and 90,000 e-bikes in Europe, about half of these in Germany.

In a nutshell

Decentralized growth led to problems in the supply chain network at ABICOR BINZEL: the service quality and margin declined. The company utilizes the optimization software ADD*ONE made by INFORM, to dismantle existing data silos and restructure data operations. This also benefits ABICOR BINZEL in the current multi-crisis. The cutting and welding torch manufacturer was able to deliver at all times. In addition, the company utilizes artificial intelligence in sales planning.

AI IN THE SUPPLY CHAIN NETWORK:

PRECISE FORECASTS INSTEAD OF GUT FEELINGS

In order to be able to plan and act in a proactive manner, ABICOR BINZEL adopted digitalization in its supply chain network early on – including artificial intelligence. As a result, the welding technology specialist created the necessary transparency to not only weather the past few years, but to remain on a clear path of growth, as COO Philip Röhrig reports.

ABICOR BINZEL is a leading international manufacturer of cutting and welding torches. During the past few years, the company from Buseck, Germany, has grown continuously. “We now have 38 subsidiaries and are represented in more than 50 countries,” says Chief Operating Officer (COO) Philip Röhrig. The company’s global transactions place large demands on manufacturing, sales, and service. The individual subsidiaries had optimized their supply chain networks locally, but the management had recognized even before the outbreak of the current general multi-crisis that the inventory in the global network was not being optimally managed with regard to cost and transparency. Both the delivery speed and the margin were suffering as a result. “We are familiar with the situation in which ABICOR BINZEL found itself at that time from many projects,” says Sebastian Perez, Senior Consultant at Staufen.Inova. “The problem is that although companies often operate internationally, they are not internationally networked,” says the Process Mining Data Engineer.

Inventories reduced by 20 percent

The company decided to actively address this problem and digitalize the complete supply chain network. Data silos were broken up and the data operations were restructured through the use of optimization software. Now, all of the subsidiaries use the software, and processes are linked. As an example, worldwide uniform material numbers ensure transparency throughout the network. An overview of the entire inventory makes it possible to find goods locally and send them from one subsidiary to another, if necessary. “Today, we are better able to manage inventory worldwide,” says COO Röhrig. “Due to the measures we have taken, we have been able to reduce the capital commitment at the individual sites. Inventories have gone down by 20 percent without a reduction in service quality for ABICOR BINZEL. In addition, we have cut our air freight in half.“

“We were able to deliver at all times”

The company’s success proves the management right. Philip Röhrig lists the additional advantages: “The transparency that was created allows us to continue to grow, to improve customer loyalty, and make faster deliveries.” What sounds so easy requires a lot of sensitivity on the part of the management. The changes had to be introduced to the individual subsidiaries carefully. “It wasn’t easy for the subsidiaries to give up part of their self-sufficiency. They first had to be convinced,” remembers the ABICOR BINZEL COO. Ultimately, the multi-crisis triggered by the pandemic and the Ukraine war helped the management with its plan: “Here, the individual subsidiaries really saw the advantages of the newly created transparency clearly for the first time. Thanks to intelligent networking, we were able to weather this time well from the beginning and were able to deliver at all times.”

PHILIP RÖHRIG
Chief Operating Officer
Alexander Binzel Schweisstechnik
GmbH & Co. KG

represented in more than **50** countries

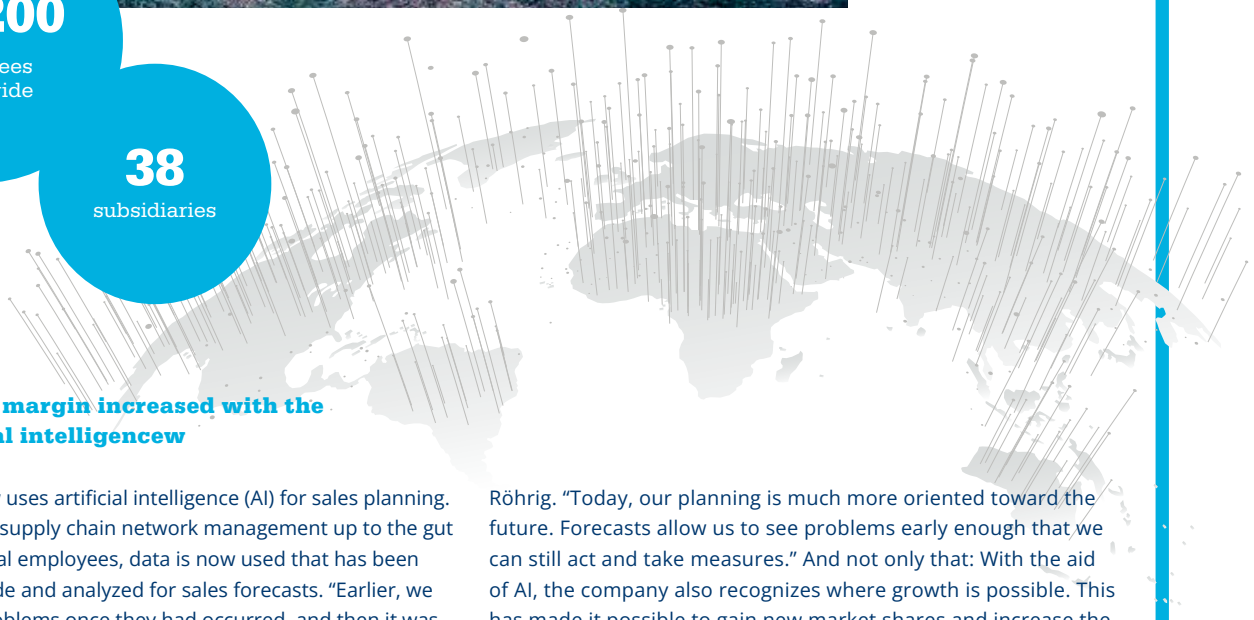
ABICOR BINZEL is a leading provider of welding technology and welding accessories. Its products are manufactured and assembled at various manufacturing sites around the world, including in the USA, China, Brazil, and India. The main headquarters of the company is in Buseck, Germany. Around 450 employees work there in manufacturing, research, development, sales, and administration.

founded in **1945**

SCNM

> 1,200 employees worldwide

38 subsidiaries



Turnover and margin increased with the aid of artificial intelligencew

The company now uses artificial intelligence (AI) for sales planning. Instead of leaving supply chain network management up to the gut feeling of individual employees, data is now used that has been collected worldwide and analyzed for sales forecasts. “Earlier, we often only saw problems once they had occurred, and then it was sometimes already too late,” says supply chain expert Röhrig. “Today, our planning is much more oriented toward the future. Forecasts allow us to see problems early enough that we can still act and take measures.” And not only that: With the aid of AI, the company also recognizes where growth is possible. This has made it possible to gain new market shares and increase the turnover and margin. ■

STAUFEN.

INSIDE EVERY COMPANY THERE IS AN EVEN BETTER ONE.

staufen magazine **ONLINE**

Read the Staufen Magazine conveniently from anywhere:
www.staufen.ag/magazine-en

CONTACT

WILHELM GOSCHY
CEO
w.goschy@staufen.ag | +49 7024 8056 0

MEDIA CONTACT

STEPHANIE KÖNIG
Deputy Head of Marketing
s.koenig@staufen.ag | +49 7024 8056 152

IMPRINT

RESPONSIBLE EDITORS:
Werner Bärtle, Stephanie König

EDITORIAL CONTRIBUTIONS:
Thöring & Stuhr Kommunikationsberatung GmbH,
Antal Adam, Text & Konzept,
Isolde Bacher, text_dienst

IMAGE EDITING:
Sebastian Junge, Büro FL

ART-DIRECTION & LAYOUT:
www.buero-fl.de

EMAIL EDITOR:
magazin@staufen.ag

RESPONSIBLE FOR ADVERTISING:
Stephanie König

PRODUCTION MANAGEMENT:
Stephanie König

PRINT:
C. Maurer GmbH & Co. KG
Schubartstraße 21
73312 Geislingen an der Steige

PICTURE CREDITS:

Title illustration: Azul Type | p. 4 – 5 : Freepik @rawpixel.com, shutterstock @FCG, Freepik @petrmalinak, @tawatchai07 | p. 6 : Freepik @rawpixel.com | p. 7: Celonis AG | p. 10 – 11: AppliediT S.L., Freepik @originalmockup | p. 12 – 14: ©BSH Hausgeräte GmbH, ©Bernd Effenberger/GlassDollar, Freepik @2designbcn | p. 16 – 17: Boeing Jeppesen, shutterstock @CoreDESIGN | p. 18 – 21: SEW-EURODRIVE| p. 22 – 25: TRUMPF Werkzeugmaschinen SE + Co. KG | p. 26 shutterstock @FGC | p. 27: BINDER GmbH | p. 30 – 33: VDE Prüf- und Zertifizierungsinstitut GmbH | p. 34 – 37: ARBURG GmbH + Co KG | p. 38 – 39: Indus Holding AG| p. 40 – 42: RIB Software GmbH | p. 43: Freepik @unika06072014, @chokniti | p. 44 – 45: Agrosuper S.A. | p. 46 – 49: Mercedes-Benz AG | p. 50 – 52: PAMA S.p.A. | p. 53 – 55: Yongtuo New Materials | p. 56 – 59: ŠKODA GROUP | p. 62 – 65: Randoncorp Holding | p. 66: Feepik @wirestock | p. 67: iStock @seamartini | p. 68 – 71: ZIEHL-ABEGG SE, STAUFEN AG @HellwigStudios | p. 72 – 75: Schaeffler AG, Freepik @mulyasriwahyuni | p. 76 – 78: KSB SE & Co. KGaA | p. 80 – 83: C. ILLIES & CO. HANDELSGESELLSCHAFT MBH | p. 84 – 85: Bridgestone Corporation | p. 86: Freepik @petrmalinak | p. 87: Fokus Zukunft GmbH & Co. KG | p. 90 – 91: ebco GmbH, Freepik @freepik | p. 92 – 95: Siemens Energy Brazil | p. 96 – 99: ifm efector s.r.l. | p. 100: Freepik @tawatchai07 | p. 101: TU Darmstadt | p. 104-106: ACAROM, Freepik @Phonlamaistudio, @anatolir, @anna2003, @coffeemill | p. 107 – 109: BRUSA HyPower AG | p. 110 – 113: Flyer AG | p. 114 – 116: AlexanderBinzel Schweisstechnik GmbH & Co. KG, Freepik @artistdesign13 | p. 118: University of Michigan | **Flags:** Freepik @vectorplusb, @bell_aood | **Icons:** flaticon

EDITORIAL OFFICE & ISSUER:
(also service address for the person responsible and the authorized representative)
STAUFEN.AG Beratung . Akademie . Beteiligung
Blumenstraße 5, D-73257 Köngen

DIRECTORS WITH REPRESENTATION RIGHTS:
Wilhelm Goschy (CEO), Markus Riegger.
Chairman of the supervisory board: Martin Haas.

3 QUESTIONS TO DR. JEFFREY LIKER

1. We often hear that lean is a fundamentally different approach, but what does this really mean?

On the surface it seems simple enough. One pillar is just-in-time (JIT) which means attempt to flow value in a one-piece-flow without interruption through various stages until it gives the customer what they want, when they want it, in the amount they want. The second pillar is Jidoka which has to do with stopping when there is an out of standard condition and working to quickly solve the problem. JIT deals with flow.

DR. JEFFREY LIKER
Professor Emeritus,
Industrial and
Operations Engineering,
University of Michigan

Jidoka deals with variation. But the third critical piece is in the center of the house the people who run the process and car react with thoughtful analysis of the problem and creative solutions to continually improve toward a new level of performance. Toyota puts enormous resources into developing people to think and act scientifically continually improving toward challenging goals.

2. How lean are companies in the USA? Is lean thinking already sufficiently widespread in the US economy?

Unfortunately, lean is one of many management fads that become programs to solve some particular short-term problem – often related to cost and efficiency. There are plenty of internal and external "experts" eager to sell their pet approaches to lean. Usually these involve vigorously applying the tools of lean to operate on the people and processes, rather than provide enabling tools and coaching people to be better thinkers and problem solvers. Thus, the tools are there but what is missing is the culture and leadership to make the system work toward achieving breakthrough goals. Only a minority have incorporated lean into their operating philosophy and worked to continually learn and develop for 10-20 years and they are getting the real benefits.

3. What should manufacturing companies in the USA take to heart, if they want to become excellent?

They should consider that whatever their processes and approach to excellent performance, even with largely automated processes run by computers, people are still at the center to keep the system running at a high level and improve its performance. There are always many unanticipated problems. These problems need to be solved in an adaptive way by people who really understand the equipment and processes. That could be highly trained maintenance people or operators on the floor. Generally, this works best when teams of people with different knowledge have a degree of responsibility and autonomy to keep operations running and continually improve them. ■

OPERATIONAL EXCELLENCE

SIMPLY. WELL. DONE.

Learn more at:
www.valuestreamer.de

WITH DIGITAL SHOP FLOOR MANAGEMENT BY

valueStreamer

VIDEO

www.valuestreamer.de

Prüf- und Überwachungsgesellschaft
K24715
PÜG
DIN EN ISO/IEC 27001
Informationssicherheitsmanagement

CAN A CITY FALL IN LOVE WITH A TRAM?

YES, IT CAN.
JUST MEET OUR DESIGN.

skodagroup.com/meetourdesign

ŠKODA | Škoda Group