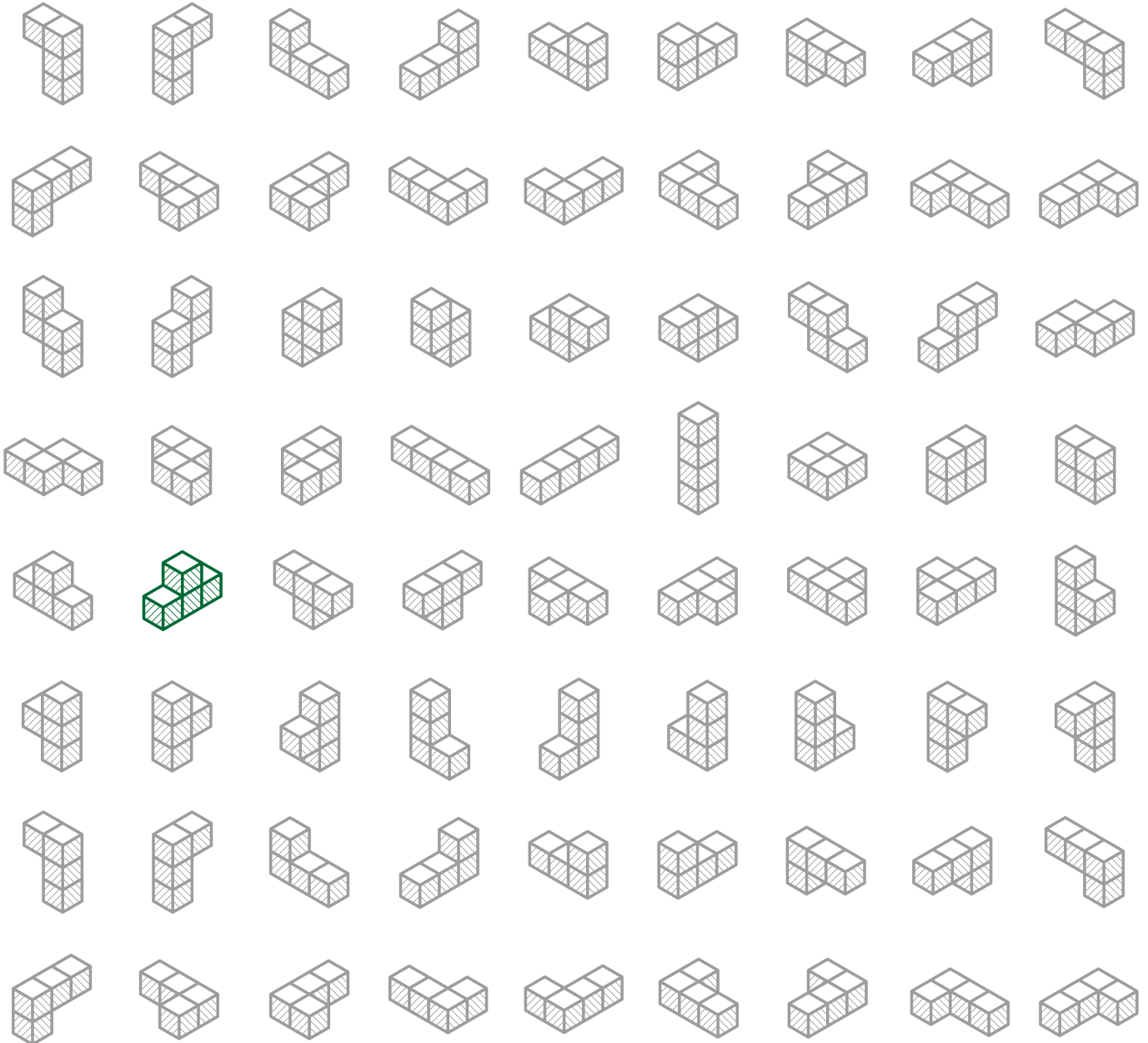


SCHNELLECKE

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Insights into the Schnellecke Group

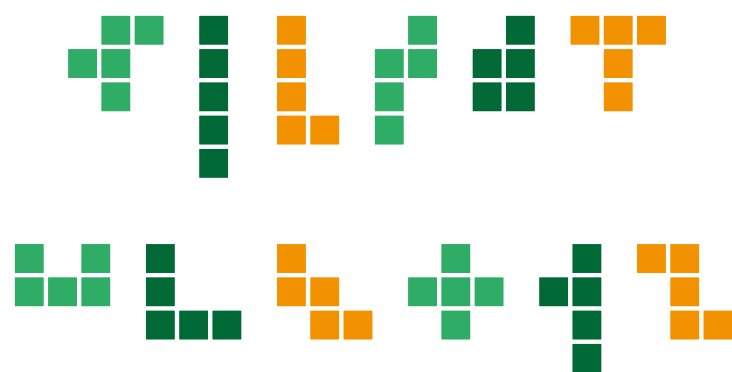


MODULES FOR MOBILITY

Module Supplier Schnellecke: More than Just Assembly

TOGETHER IN GYÖR
Schnellecke in Hungary

OVERCOMING SILO THINKING
Operational Excellence at Schnellecke



Pentomino is a puzzle for one person. There are 12 different pentominoes. The word pentomino was invented by the mathematician Solomon W. Golomb and first used in 1954 in an article in the American Mathematical Monthly journal. In Pentomino, the object of the game is to create certain figures – similar to Tangram – out of the twelve pentominoes as game pieces.



In the spring of 1984, the Russian Alexei Paschitnow came up with the idea of turning the puzzle game Pentomino into a computer game. The first version, developed by Paschitnow on an Elektronika 60 without any sound or color, was soon finished and gradually captivated the entire staff of his institute. Paschitnow gave the game the name Tetris. It consisted of seven game pieces, the tetrominoes. A short time later, Vadim Gerasimov ported the game to the IBM PC. Tetris became world famous through the Nintendo Game Boy, as the first Game Boys were delivered together with a Tetris cartridge.

Dear Readers,

This year Schnellecke is celebrating its 80th company anniversary. Looking back on the founding year makes clear how much has changed since 1939. The family business, which was founded in Wolfsburg as an “official railway cartage company”, first started its operations as a local furniture forwarding company before developing into a leading international logistics service provider in the automotive industry over the following decades.

It is a great joy and our good fortune that we have been able to develop as a family business and preserve our corporate DNA to this day. Supported by our employees, we have succeeded over generations in preserving the values that distinguish us. With courage, team spirit, and by always taking responsibility, we have managed to make the brands Schnellecke Logistics and KWD Automotive valued outsourcing partners of the automotive industry.

Our business partners and our employees well remember the big celebrations on the occasion of the 75th company anniversary. Now, five more years have passed. The momentum with which the company is developing has remained unbroken.


This issue of the Schnellecke magazine shows that we were able to set new milestones last year. For the first time we received an order from Volkswagen as a module supplier for the center console of the Golf A8. As a module supplier, we are transcending the previous limits of value-adding logistics and assuming responsibility for quality and

supplier management, in addition to process control. Generally, we are in demand on the market with our modules and sequences service product. In Győr, we were awarded the contract for a complex and challenging bumper project. As a logistics service provider, we have earned an excellent reputation and created a truly unique position for ourselves.

We are also driving forward important initiatives with a view to the future. For years, Schnellecke has been improving its services using modern information technology. Just this spring we were awarded the SAP Innovation Award. In the context of Industry 4.0, networking in particular is becoming increasingly important. In this respect, we will provide you with an insight into our platform strategy and our Schnellecke iX+ overarching framework. Furthermore, we strive to continuously improve our logistics processes. To this end, we established the OpEx division last year. OpEx is derived from Operational Excellence and is dedicated to achieving the highest quality and efficiency. In particular, it strengthens our operational units, which are supported by our proven experts in the areas of project, process, and quality management.

I hope you enjoy reading about these topics and other interesting articles about our company.

Yours truly


Nikolaus Külps
CEO Schnellecke Group



◀ COVER STORY: MODULE SUPPLIER

PAGE 6

“NO OTHER LOGISTICS PROVIDER CAN DO THAT.”

As a module supplier Schnellecke is an important partner of the automotive industry



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WITH GLOVES AND A POLISHING CLOTH

Schnellecke assembles bumpers for SMP and Audi in Győr



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OVERCOME SILO THINKING

Operational excellence at Schnellecke



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ON THE DOUBLE TOWARDS GREATER SUSTAINABILITY

New structures, more investments, more influence



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“THERE WAS A BIG CRASH”

A visit to the Multi-JIS Center in Düsseldorf or: Why simplicity can sometimes be quite difficult



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IT ALL STARTED WITH A HORSE AND CART

Schnellecke was founded 80 years ago



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SCHNELLECKE iX+

Digital Logistics for the Smart Supply Chain



“NO OTHER
LOGISTICS
PROVIDER
CAN DO THAT.”

AS A MODULE SUPPLIER SCHNELLECKE
IS AN IMPORTANT PARTNER OF THE AUTO-
MOTIVE INDUSTRY

If you sit in a VW Touran or Tiguan and look up, you won't find anything special there. You can see the inside of a car roof just like many others. But what looks like a simple interior trim is a construction consisting of numerous individual parts. "Finished headliner" is the technical term for the structure that is assembled at Schnellecke in the Sandkamp district of Wolfsburg.



At a rate not perceptible to the observer, state-of-the-art AR technology is used to produce what is installed in the vehicles a short time later on the assembly lines at the Volkswagen plant. Women and men assemble the raw headliners and add handles, make-up lamps, sun visors and other components. The cables for the electronics are also welded together before the finished headliner is hung in a special container that is placed directly on a truck.

Just a few minutes' walk away, the visitor encounters another product: center consoles for the VW Golf are assembled there, also every minute, also made of numerous components, from the storage compartment to the switch panel. As soon as a transport container is full, it is picked up and loaded a little later onto a truck that shuttles back and forth to the nearby VW plant.

Schnellecke as a trailblazer

In 1990, Schnellecke became the first logistics service provider to take over the highly innovative assembly of door and side panels, thus breaking new ground in the forwarding industry. The project became a blueprint for modern value-added logistics and has been copied many times while remaining

the standard in automotive logistics today. 28 years later, Rolf Schnellecke was inducted into the Logistics Hall of Fame: "With Value-Added Logistics, Rolf Schnellecke broke completely new ground in the freight forwarding industry and developed a successful business model with great foresight that shaped an entire industry. His early approaches to enrich the pure transport and warehouse processes with additional added value and to offer services and production activities as an outsourcing partner are visionary and had a groundbreaking influence on automotive logistics."

Complex responsibilities

"The terms 'module supplier' and 'system supplier' are often confused," says Markus Westphal, who heads the Module Assembly and Sequences (MMS) department at Schnellecke. "A system supplier develops a component together with the automobile manufacturer and then manufactures it. A module supplier, on the other hand, receives the plans for a finished component and then develops a logistics concept for the assembly of this part. As a module supplier, we receive the parts like a Lego construction kit with a model of the finished part and then assemble it".



"The terms 'module supplier' and 'system supplier' are often confused."



Here, too, there are several levels that depend on the extent of the supplier's responsibility. At the same time, however, they are also legally relevant, because liability varies from level to level. "And that is particularly important," emphasizes Westphal. "If a driver's headliner falls down in traffic, causing an accident with property damage or personal injury, then of course an investigation is carried out to see how this could have happened and who has to pay for it."

Depending on the structure of the supply chain, this can be the automobile manufacturer (OEM) itself, its system supplier (tier 1), a sub-supplier of a component, or even the module supplier.

Three variants of module assembly

The simplest variant for module assembly is that the OEM equips a hall with the required equipment, defines the processes for module assembly, and takes care of delivery and transport. In this case, the logistics provider only provides the personnel. "This is the case with us, for example, in Bremen, where Mercedes provides IT and the production hall, specifies the processes, and delivers all parts; we only provide the personnel and the industrial trucks," says Westphal.

In the second case, the OEM releases the assembly of a module to the market and commis-

sions the tier 1 supplier to deliver the finished components. Whether the system supplier assembles the parts themselves or subcontracts them is then up to them. Westphal cites Győr as an example. The system supplier SMP commissions Schnellecke to assemble the bumpers that SMP supplies to Audi and specifies the equipment to be used. On the other hand, Schnellecke is responsible for the processes.

This means that there is a smooth transition to the third level, where Schnellecke not only assembles the modules, but is also responsible for purchasing, scheduling, and quality inspection of the customer-specified components[®] and has

complete process sovereignty. "While the first two variants focus on module assembly, the accompanying activities are included here as well," says Westphal. "That's why we call ourselves a module supplier only at this level. Otherwise we call ourselves a module assembler."

Contract with OEM or tier 1 supplier

Westphal stresses that there is no pure logistics company with which Schnellecke competes in this respect. "As a module supplier, we are more in competition with tier 1 suppliers, but when it comes to pure assembly, we also have to deal with logistics companies."

Schnellecke's unique position has become well known in the market. As a result, it can happen that an OEM prefers Schnellecke as a module supplier over its tier 1 suppliers. "This is mainly due to the fact that a system supplier is often more expensive in terms of logistics than we are, because that is not its core competence," explains Westphal. "In this case, we then talk to both the OEM and the tier 1 supplier to see who we are signing the contract with."

Separate department for module assembly

Westphal's MMS department is not only the company's central point of contact for everything to do with module delivery, it is also closely integrated into Sales. Not only for inquiries from customers, but also long before that. "When we learn that a new model is to be launched on the market, we already start collecting information," explains Westphal. "We look at which component assemblies we have in our portfolio, who has supplied the parts to date, and which service providers are involved. We also look at the production location; for example, if there is a tier 1 supplier on site, then we strike the component because the manufacturer has an advantage there. In the end, we have a list of assemblies that we can offer. On this basis, we can calculate a hall size and then approach the customer."

In doing so, even unusual requirements have to be met. Westphal talks about how a system supplier in Düsseldorf wanted to sign a contract with Schnellecke to supply Mercedes. "But that wouldn't have paid off. That's why we contacted the other suppliers and succeeded in setting up a multi-JIS center for several of them – in coordination with Mercedes, of course."



OEM-SPECIFIED COMPONENTS – NEW CHALLENGES FOR THE SUPPLIERS

In the automotive industry, OEMs often tell their suppliers which components they have to use from which sub-suppliers. These are called OEM-specified components. In contrast to the conventional procurement model in which the supplier procures the components independently from the subcontractors, here the OEM intervenes in the operational business of the suppliers.

“That doesn't sound dramatic at first,” says Markus Westphal. “However, the shift in responsibilities for complaints regarding OEM-specified components has created new requirements for suppliers. Therefore, in cases of liability, roles and responsibilities must be clearly defined. We negotiated this with an automobile manufacturer for almost two years in order to achieve a uniform regulation. Who makes the contracts with the subcontractors? Who controls the quality of the parts supplied? This is also important for pricing. The responsibility for quality in relation to OEM-specified component suppliers is an expenditure that cannot be ignored.”



WITH GLOVES AND A POLISHING CLOTH

SCHNELLECKE ASSEMBLES BUMPERS FOR SMP
AND AUDI IN GYÖR





After driving for about half an hour from the Vienna airport, we are already at the border. Fortunately the currency exchange office is still open. We push a 20 euro bill over the counter and receive several thousand and five hundred bills in return: they are forints. Welcome to Hungary.



On this April evening, an icy wind whistles through the alleys and across the squares of the old town of Győr. Only a few passers-by are walking through the streets closed to traffic, escaping at the first opportunity into one of the many restaurants or bars from which the tempting smell of food and the promise of warmth waft.

The 130,000-inhabitant city on the banks of the rivers Raab and Little Danube has three universities, plus an old town well worth seeing. And an unemployment rate that tends towards zero. The main reason for this is the Audi plant, around which numerous suppliers have settled. One of them is SMP, the abbreviation for Samvardhana Motherson Peguform, a leading expert for high-quality interior and exterior modules in the automotive industry. The company is part of the Samvardhana Motherson Group, one of the 23 largest automotive suppliers in the world.

In Győr, SMP supplies bumpers to Audi. It sounds simple – but it's a highly complex business, because such a bumper consists of dozens of parts, from amplifiers, to cameras, to sensors. SMP has entrusted Schnellecke with their assembly.



Ralf Keils

150 employees work in the large buildings on the outskirts of the city, which we visit the next morning. Here it looks like in any industrial area, far and wide no trace of the old town or cobblestones.

“My office is the production hall”

We are welcomed by Ralf Keils, Europe Regional Manager at Schnellecke, who also arrived from Vienna this morning. He regularly comes to Győr and intensively supported the start of production last year.

Keils takes us to his “office”, a meeting room on the edge of the goods receiving hall, which he is currently sharing with two other colleagues from Slovakia and South Africa. “My actual office is the production hall,” he laughs. “That’s where the employees are, that’s where the products are made, so that’s where I am most of the time.”

Little importance is attached to status symbols here. Business Unit Manager Gabor Szabo also only has a

small desk with a PC in the corner of the personnel office, and is also mainly to be found in the production hall.

Keils explains to us what makes the job in Győr particularly tricky. The bumper blanks are delivered painted by SMP. That means they have to be treated like raw eggs. “There are certain vehicle parts that a buyer sees immediately,” says Keils. “This includes the paint. Even the slightest contamination, the tiniest scratch, can prevent a purchase decision.”

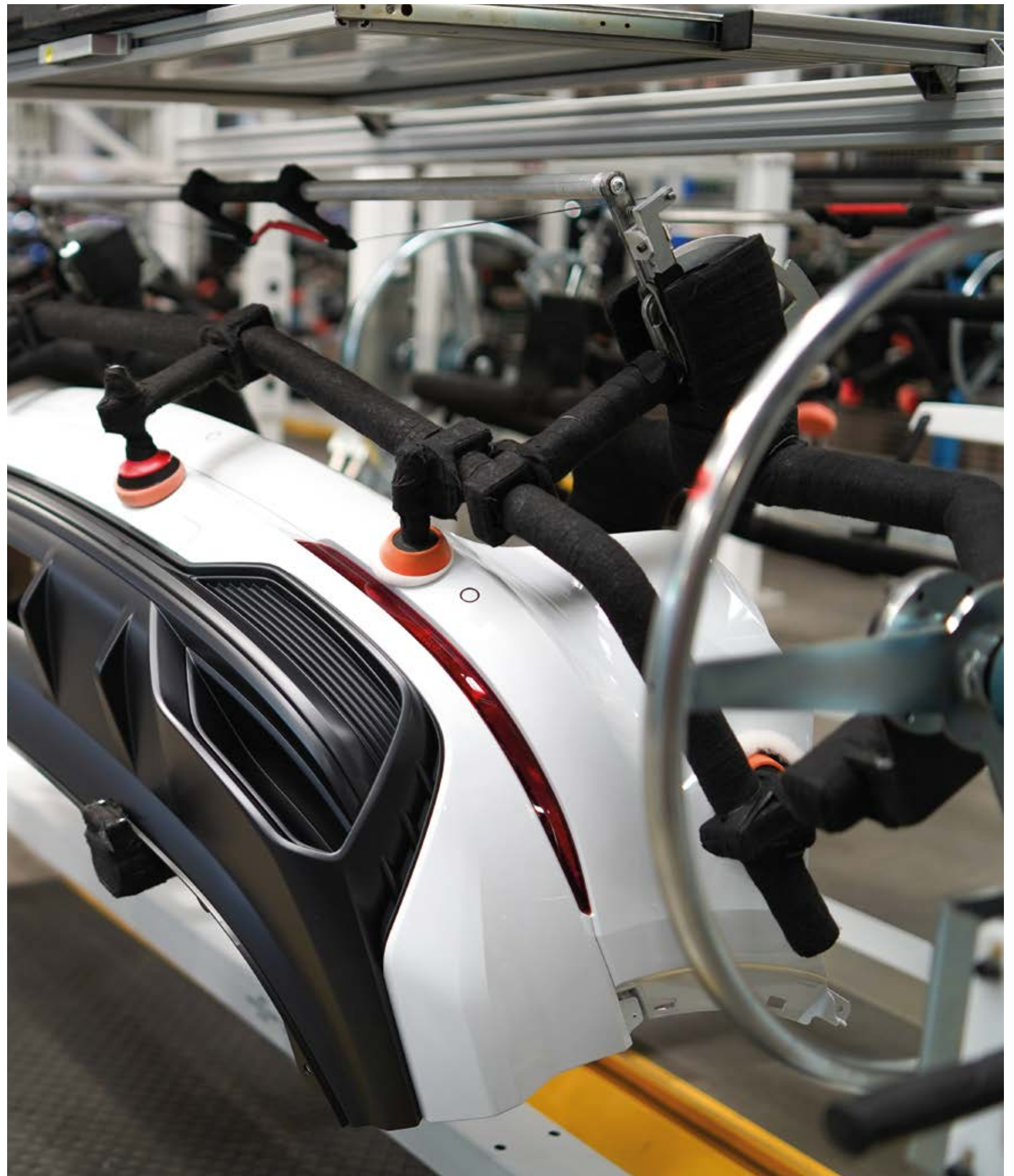
It is therefore not surprising that gloves are used throughout the production process, that shelves and tables are padded, and that soft polishing cloths are available and are constantly used to remove even the smallest dust particles.

Multinational Workforce

At first glance, it is not obvious that people from numerous nations work together here. “This has more or less to do with the labor market situation in Győr,” explains Keils. “We had to start relatively quickly after the contract was awarded. And in a three-shift operation. It was almost impossible to find enough employees at short notice in a saturated job market.”

So other Schnellecke companies stepped in. For example, forklift drivers from Saxony and Bratislava are currently driving in Győr, and the bumpers are being processed by Hungarian and Serbian employees. In addition, there are employees from SMP. “SMP has provided us with and is responsible for the machines. Schnellecke is in charge of the processes,” says Keils, who sometimes gets on a forklift himself or stands at one of the machines if need be.

The cooperation with SMP is excellent. “After all, it is our common interest to supply Audi with the highest quality,” emphasizes Keils. Eric Prantner, Module Center Manager at SMP, confirms this. “If something doesn’t



“If something doesn't work, we don't push it back and forth, but solve the situation together as quickly as possible.”

work, we don't push it back and forth, but solve the situation together as quickly as possible. We are a team.”

One can feel that these are not just empty words when one observes the cooperation and interactions between the partners. Only by their work clothes can you distinguish between the employees of the two companies. In addition to looking after the machines, SMP currently also carries out the end-

of-line inspection of the finished bumpers with mainly German employees. “We also want to take on this task at the beginning of 2020,” says Keils. “For this, we are also currently looking for employees.”

Production in Sync

In the halls, everything is clearly synchronized. Purchased parts arriving in the entrance area in Hall A must be taken to their place in the high-bay warehouse within two hours. There they are stored chaotically. The pallets



from which the parts are picked are located in the lowest row. This pre-sequencing is completely in the hands of Schnellecke.

The first step is to clean the bumper parts, as dust cannot be avoided during transport from the SMP plant in Kecskemét to Győr. Quality control also takes place at the same time. If a defect is detected in the paint, the part in question is moved to a rejects container. However, this rarely occurs, as the small number of rejected parts shows.

Then the parts go into the production process. There are two production lines, one for the front bumper and one for the rear bumper. Both are exactly matched with each other, because at the Audi plant matching front and back bumpers must be mounted. And if you take a look at the sequencing frames, you can immediately see that not many bumpers are the same. There's red next to blue next to black next to grey, and of course that has to be exactly coordinated to each other.

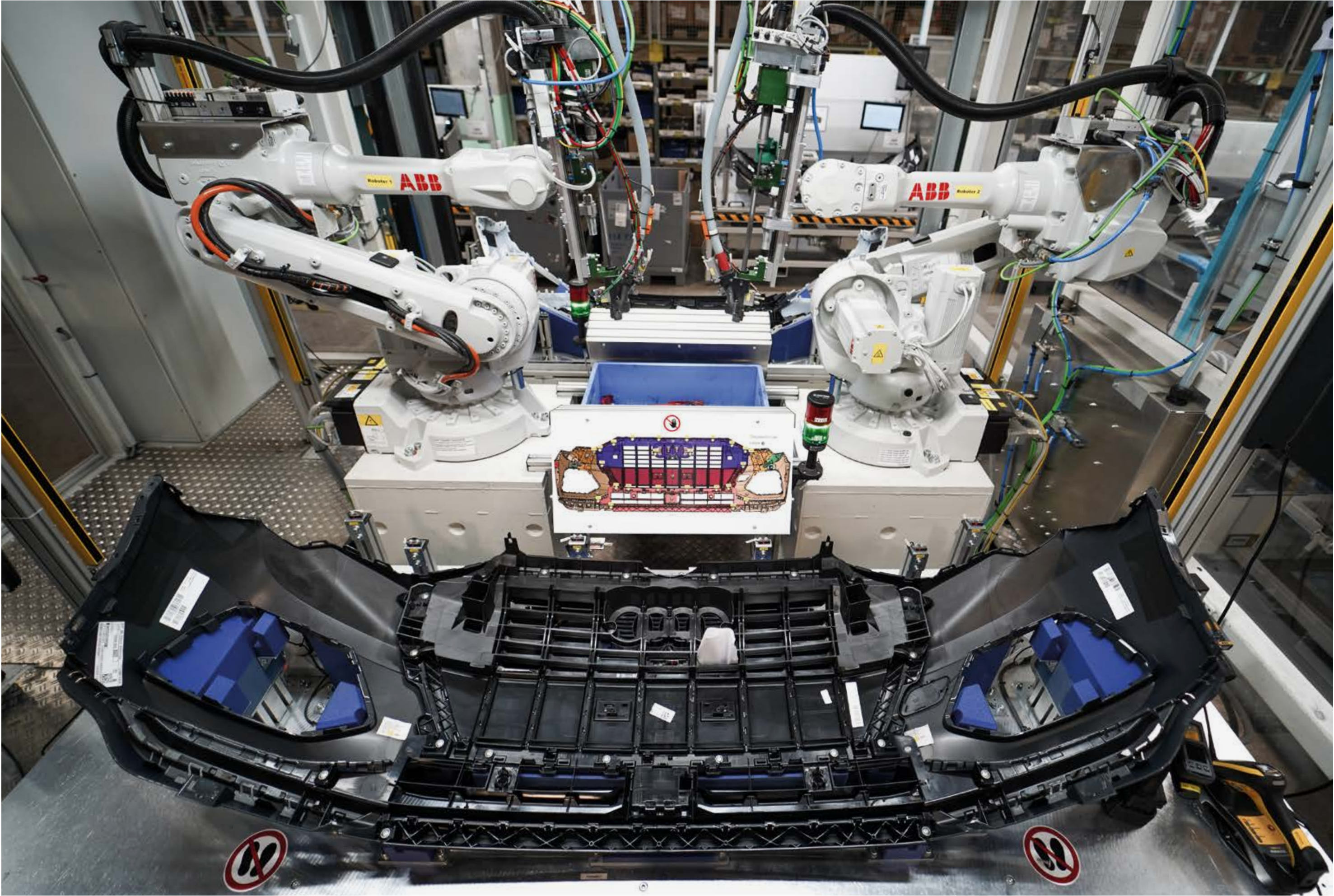
What immediately catches the eye is that all the machines used here look new. “That's how it has to be,” smiles Szabo. “The machines must be spotlessly clean so as not to contaminate the paint again.” Several stations are used for gluing and pressing, others for automatic screwing. “Every screw and every turn is recorded and stored,” emphasizes Szabo. “In the event of damage, it will still be possible in a few years' time to determine whether a screw that has been tightened too tightly or too loosely may have something to do with it.” The screws are also tightened by hand, then with battery-operated torque wrenches, which also store all data via WLAN.

The carousel goes quickly

Before the carousel can be loaded, the polishing cloth must be applied once again. A worker inserts the bumper into one of the carriages and places



Gabor Szabo





the first individual parts in it. After 100 seconds, the carousel rotates further. A second worker then continues the assembly with further components at their station. At the end of the round trip, the bumper is almost complete.

It is placed in a closed chamber where cameras and sensors check whether the adhesive seams are tight, that nothing is missing, and that all components are properly fitted. The results are displayed on a screen on the opposite side. There are several SMP employees here to correct any minor impurities and install the last parts before the bumpers are placed in a sequencing rack.

The finished and quality-checked bumpers are stored in an adjacent hall section, where they wait to be picked up. This usually doesn't take long, because there is a short time buffer. "For us, however, this is sufficient," emphasizes Keils. "We have significantly increased our cycle times since the start of production, also because we have almost completely changed the layout of the production hall once again. And we have enough leeway to absorb unforeseen delays."

There's a shift change at 2:00 pm. It's as quiet and effective as everything else here. The machines only stop for a short time. Then they start moving in sync again. It is noticeable that many women are employed here, not only in administration, but also on the machines and at management level. And despite the many nationalities, communication works well, mostly in English, but also in German.

We leave the factory and drive back to the city, impressed by the multicultural teamwork. This is Europe in action, just like at numerous other Schnellecke sites.

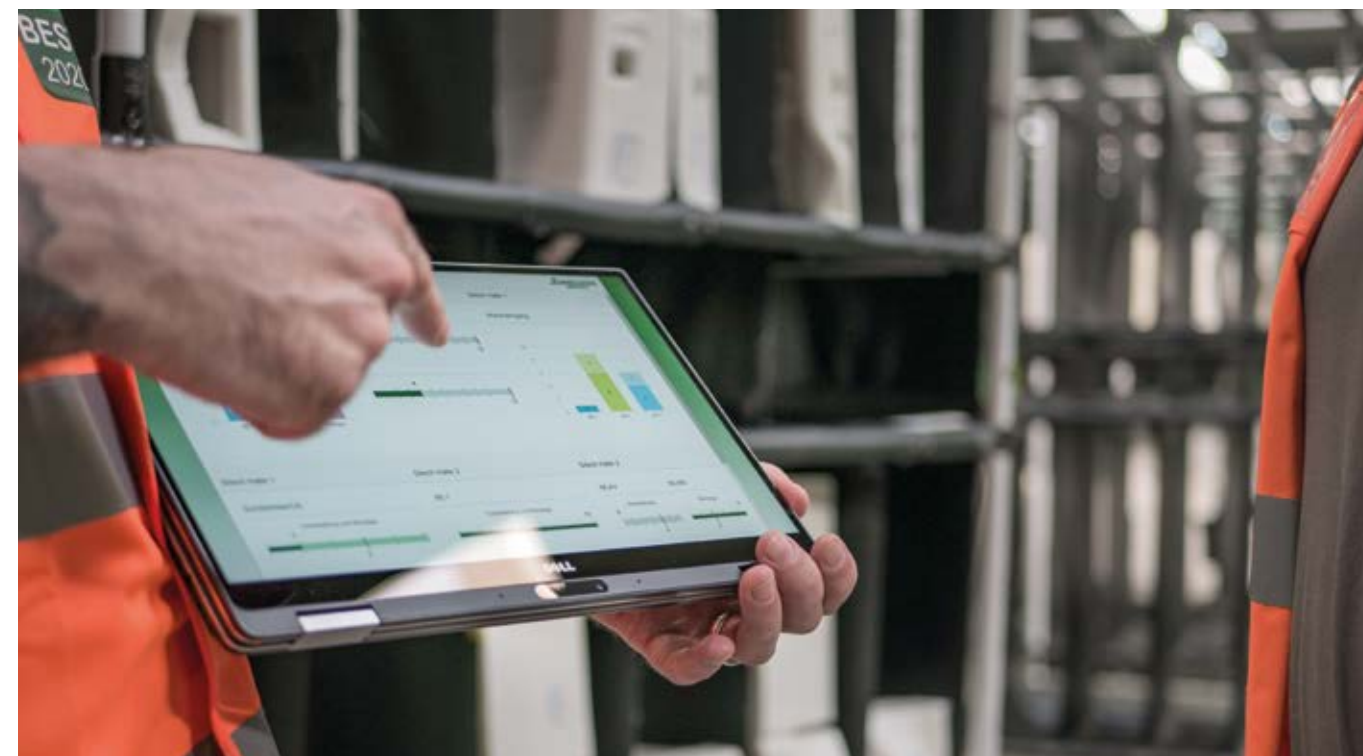


“WE MUST OVERCOME
SILO THINKING.”

THE GOAL OF OPERATIONAL EXCELLENCE
IS TO IMPROVE VALUE CREATION IN THE
COMPANY EVERY DAY ANEW THROUGH
COMPANY-WIDE AND CROSS-DIVISIONAL
CHANGES



Since Tom Peters defined the pursuit of excellence as a core issue for companies in his bestseller of the same name in 1982, there have always been new approaches to anchor this in the respective corporate culture. Schnellecke Logistics is now following an unusual path – since the beginning of this year, there has been a division dedicated exclusively to operational excellence. Its logical name is OpEx. We spoke with Sven Virgens, who heads the division.



Mr. Virgens, what is new about OpEx?
Sven Virgens: At first glance not so much, because it's not as if we haven't done anything for operational excellence in the past. The OpEx division is first and foremost a restructuring. We have brought existing divisions under one roof in order to be able to better exploit synergies through closer networking and coordination as part of a holistic management approach.

Which divisions are these?

These are the previously independent divisions of Lean Management, Project Management, Quality and Environment, as well as Process Management, which was previously part of IT.

What does Process Management mean?

We created Process Management because we had to clearly define the administrative processes for SAP. With OpEx, we now want to roll this out to the operative processes in order to be able to better control and optimize them.

Like many other companies, we are continuously growing, but we still use Excel and Word for most of our quality management. Although this works well, it means a tremendous amount of work. After all, we have around 5,000 processes, and going through them once a year is a huge effort.

In addition, we do not yet have a hierarchy of process definitions and no connection between the sites in this regard. Although they are in the shared Quality Management System, it does not take a controlling role with regard to process design.

In practice, this means that each site develops its own processes even if there may be a model else-

where on how to do this optimally. This is a waste of resources. We have to learn more from each other and develop a best practice culture just as we already have in Lean Management.

In this respect, Process Management and Lean Management complement each other well.

Right. Process Management ideally complements Lean Management. That's why we have now combined this under the term Business Process Management with our Lean Management, i.e. the use of Lean Tools, and Shopfloor Management.

Digitalization already provides many good tools for this today ...

That's true, but digitalization doesn't make Lean Management redundant either. There is no algorithm that can replace Lean Management, no artificial intelligence. So far, only a person can do a gemba walk. Let me give you an example: On a conveyor line with an automatic barcode scanner, there was always an increased frequency of errors at a certain time. Nothing could be deduced from the data, but when one looked at it on site, one noticed that the sun was shining in at this time, causing the scanner difficulties in reading. An algorithm wouldn't have found that out.

And what does Shopfloor Management mean?

Shopfloor Management means managing operative teams using key figures and implementing corrective measures immediately in the event of deviations. The team is responsible for measuring performance, analyzing the causes of errors, and defining and implementing measures to correct them. This means that not only specialists, but also





those involved in the process are working on continuous improvement. The experts can support, but the teams act.

Why is Project Management also in your division now?

In recent years we have often had unnecessarily high costs for new start-ups. High staff turnover, lack of qualification, processes that are not properly planned and documented, errors in plant planning, unfavorable layouts and material flows, missing equipment, and ineffective Shopfloor Management to name but a few. Through the close interlinking of Quality Management, Lean Management, and Project Management, we want to significantly reduce these errors in the future. The aim is to introduce the idea of quality at a much earlier stage of a project than previously and to check processes accordingly. If we do everything correctly right from the start,

we will have a powerful lever to combat error costs, especially on the shop floor.

And then there is the subject of Environment and Health ...

Environmental management, CO² emissions, water protection, occupational safety, hazardous substances, and energy management – these are all very important topics for us. In line with our sustainable responsibility as a company, we want to give this a higher priority, even if not all our customers demand the same. Irrespective of this, however, we must do more than in the past. In the first stage, we want to raise awareness of these issues at all levels of the organization, drive forward measures, and implement sustainable systems. We want to send a clear signal to the organization as to how important this issue is.

What is the connection between the “digital twin” of processes, as it is currently being developed in IT, and your activities?

IT is more aimed at direct operational control through the digital twin: You can see where there are potential disruptions and where there is the threat of a stop that has to be rectified. However, the collected data can then be used later to implement optimization approaches.

Yet, we have to make sure that the “digital twin” is linked to our activities so that we don't have two worlds again. By the way, this also applies to Business Development. We know that the way processes are planned there is not yet compatible with the real-time measurements carried out by Lean Management. We have to consolidate this. It is the only way we can effectively recognize whether the personnel expenses in the individual pro-

cesses correspond to our calculated values – which are the basis of our contractually agreed prices – and where there is potential for optimization in individual processes. We have to overcome silo thinking. That is one of the tasks of OpEx.

So it's also about standardization and transparency across the board?

That is a very important goal. With OpEx, we are setting the framework for many activities and defining minimum requirements. But what we are striving for one hundred percent is an improvement in EBIT. That is our primary goal: by reducing error costs, start-up costs, energy costs, and by improving efficiency and productivity.



ON THE DOUBLE TOWARDS GREATER SUSTAINABILITY

NEW STRUCTURES,
MORE INVESTMENTS,
MORE INFLUENCE

Now that sustainability has been firmly anchored in the current SMART25 corporate strategy, the necessary structures are developing from this within the company. Philipp Unger, Project Manager for Sustainability at Schnellecke, talks to the editorial team about the momentum this issue has already gained.

All regions of Schnellecke around the world have now appointed Sustainability Officers. This is intended to simplify reporting and bring the topic to the workforce in a structured manner. “We follow two guidelines for this,” explains Unger. “These are the requirements of the Carbon Disclosure Project (CDP) and the NQC. This is the NQC Ltd, a globally operating service provider that uses online tools to evaluate the sustainability of supply chains.”

CDP has four levels for this: Disclosure, Awareness, Management and Leadership. These are designated by the letters D to A, with D representing the lowest level and A the highest. “Our goal is to reach Level C by 2020,” says Unger. “From there, we want to quickly work our way up to Level B.”

The basic prerequisites for this are the systematic recording of all energy consumption, the definition of clear sustainability targets, the development of an appropriate strategy, and regular reporting to

the Board of Management. “We have already put all of this into motion or are currently working on it,” emphasizes Unger.

Sustainability review for investments

One concrete project that is about to be completed is the introduction of a supplier commitment. “Together with the legal department and ourselves, our purchasing department has drawn up a supplier self-disclosure form in accordance with uniform criteria,” says Unger. “Each supplier must provide written details of its CSR policy and other aspects relevant to us. We have defined different escalation cycles if the information leaves something to be desired.”

The situation is now similar for investment processes. “In the future, a signature from us will be mandatory when it comes to new facilities or machines that consume energy, insofar as the in-

vestment exceeds a predefined framework," Unger is pleased to report. "It ranges from forklifts to complete buildings. This means that life cycle considerations are now also included in the investment decision. If, for example, forklift A is cheaper but more energy intensive than forklift B, which costs more but consumes less, then we will calculate the ROI over the entire period of use and include this in the decision."

Cultural change through younger generation

One of Unger's favorite projects is scheduled to last several years. It is his conviction that young employees will drive the process of change towards sustainability. "We see great interest in this issue among our apprentices. And we can only make a real cultural change with the younger generation."

Together with the person responsible for training, we have therefore developed our own program for apprentices which, in addition to the topic of energy, also includes the areas of environment, quality, lean management, health, social issues, and occupational safety. Apprentices attend internal training courses and learn, for example, measurement methods for energy consumption and the identification of energy saving opportunities.

The program consists of three three-day training courses on different subjects. The apprentices are then asked to choose their own project, which they complete by the end of their apprenticeship. The best projects are then awarded prizes – that is the idea.

The first pilot project results have already been reported, as Unger details. "One of our apprentices recorded the number of lamps in the Wolfsburg buildings and determined the illuminance. On this basis, he calculated the required lighting, which now serves as the starting point for the conversion to LED lamps. And one of our students in a dual course of study took an energy snapshot at another site to measure the electricity consumed by electrical devices. From this, she extrapolated the total energy consumption of the site and compared it with the energy

bills. The results were almost identical, which proves that the apprentices' measurements are absolutely reliable."

Once the first phase has been completed in 2021, the program will be rolled out worldwide.

Near real-time overview of resource consumption

Sustainability is another topic that can no longer be tackled without software. Schnellecke opted for the special program Quentic, which has numerous modules. After having worked with the Occupational Safety module for quite some time, the Environment, Hazardous Substances, and Sustainability modules have been added this year. "This gives us the opportunity to create a central waste register for the entire group as well as a real-time overview of all resource consumption," says Unger. "We have also created an interface from Quentic to our HR system. In the Germany region, accidents at work are now also reported directly in Quentic, and we can now carry out a weekly accident analysis."

All in all, Unger sees Schnellecke on the right track. "We have a leadership claim in logistics, and we want to do justice to this claim as quickly as possible when it comes to sustainability as well."



The Sustainability Report 2018
can be downloaded here.



"We can only make a real cultural change with the younger generation."



"THERE WAS A BIG CRASH"

A VISIT TO THE MULTI-JIS CENTER IN DÜSSELDORF OR: WHY SIMPLICITY CAN SOMETIMES BE QUITE DIFFICULT



Düsseldorf – you immediately think of the old town and the banks of the Rhine, of Altbier and carnival. But the inhabitants of Düsseldorf can not only celebrate well, they can also work well. For example, at Daimler AG's largest transporter plant, which has been located in the city on the Rhine since 1962.



Around 6,600 employees are responsible for the production of the Mercedes-Benz Sprinter here in the lead factory for all other Sprinter sites. Sprinters are now on the road in more than 130 countries, and more than three million units have been sold. This makes the Sprinter one of the most successful commercial vehicles of all time.

More than 65 percent of all Sprinters produced worldwide come from Düsseldorf; more than 2.5 million of them have been produced here since 1995. This currently amounts to around 150,000 vehicles per year produced on almost 700,000 square meters of factory space. And soon an electric drive transporter will also come off the production line in Düsseldorf.

Call for tenders from the suppliers

Daimler AG relies on numerous external partners to ensure that this huge production operation runs smoothly. "With the Düsseldorf site, Schnellecke has taken the long-awaited step into the Daimler world," site manager Judith van Briel is happy to say. This was helped by the suppliers who awarded the sequencing to Schnellecke after a tender process. The suppliers of the cardan shafts joined the team shortly before the start of production.

A total of seven suppliers now have their modules sequenced by Schnellecke for the VS30 Sprinter model, which has been built since 2018. Exterior mirrors, headlights, steering wheels, loading



floors, and cardan shafts are now delivered just in sequence (JIS) directly from Schnellecke to the Düsseldorf-Derendorf assembly line.

English spoken here

We arrive at the Schnellecke site in the district of Heerdt, an address probably familiar to every artist in Düsseldorf: right across the street from the industrial park is the city's largest artists' supply store, with everything from small erasers to large canvases for the visual arts.

The other side of the street, where Judith van Briel and Junior Planner Marcel Bakker welcome us, is a bit more plain. First we go into the hall, where

employees from different nations put together the next delivery. "The communication here often works better in English than in German," explains van Briel.

The international workforce, around twenty employees per shift, works at a rate specified by the call-offs from the Daimler plant. There are three shifts, apart from on weekends, and modules for almost 700 vehicles a day are sequenced here.

Slow start-up

"After the start we had a very humane start-up curve," recalls van Briel. "In the beginning only about twenty cars a day were built in one shift. That was





Marcel Bakker



Kiril Hadzijew, Judith van Briel

good for us because we had to struggle with our own start-up difficulties.”

The building originally rented by Schnellecke on the other side of the Rhine was exactly tailored to the planned tasks. But then, almost at the last minute, the supplier of the cardan shafts came on board because their logistics partner had dropped out. “So we had to move to a larger building,” says van Briel. “However, this was only possible at the beginning of February, just under a month before the beginning of the start-up phase. And there was nothing in this building: no shelves and no IT. So the start of the run-up phase was already a bit bumpy.”

This was compounded by another problem, which only emerged somewhat later. Schnellecke has developed its own JIS software, which has already proven itself many times in practice. In Düsseldorf it was used for the first time as a cloud version. “In the beginning this was unproblematic, but with increasing volume we noticed the teething troubles of the new software,” reports van Briel. “Among other things, the interface between the picking system and SAP did not function properly in some cases, resulting in inventory differences, which meant that some of the orders could no longer be processed.”

A project team with Schnellecke IT was immediately set up, and the problems identified were dealt with step by step. In mid-August, production of the new Sprinter got off to a good start. “And when we were at almost seven hundred vehicles a day, there was a big crash and the production lines in Derendorf stood still. This was partly due to the lack of experience with the JIS software, but also to the lack of experience of the employees with the JIS principle,” says van Briel. For example, Daimler’s call-offs were not received by the new cloud system, and the employees did not know exactly when they had to react and what they had to do if there were no more call-offs.

Tricky loading floors

“Today everything is stable. We know when to react and have defined emergency processes for such situations,” says van Briel. “We routinely run them through unannounced during ongoing operations.”

Fortunately, this first phase was assessed by Daimler as a start-up problem. “We have a very cooperative relationship and meet once a week,” explains Bakker, who joined the founding

team around Judith van Briel and Quality Manager Kiril Hadzijew in November 2018 after completing his traineeship as Junior Planner. “We have agreed with our customers that we will act as their mouthpiece, even if we do not have a contract with Daimler ourselves.”

Bakker points out that the sequencing of headlights and exterior mirrors is basically unproblematic. “Two of these are needed per vehicle, that’s easy. The steering wheel is not a problem either”. The loading floors, on the other hand, are tricky because there are over 400 different variants, of which around 60 to 80 are called up each week. “We have a 150-minute turnaround time for this, from which, depending on the traffic situation, about 20 to 40 minutes can be spent driving to the Daimler plant about seven kilometers away,” says Bakker. “Due to the fixed cycle time and the short turnaround time caused by the early installation point of the loading floor, we can never sequence in advance and create a buffer here.”

This is connected to a further point: the supplier produces a floor at Daimler’s request. “The supplier then delivers it to us,” says Bakker. “But it can happen that Daimler doesn’t build the vehicle or doesn’t build it as planned, and then the loading floor is sitting

here. And that’s not so rare: We currently have over a hundred loading floors here that have not been installed and for which there is no longer any need.”

“If you have enough space, that’s not a problem,” stresses van Briel. “But we can’t afford any buffers in terms of space. We can only keep a small stock of about five days. That is also the principle of a multi-JIS center. JIS means packing orders promptly. If there are suddenly too many “obsolete parts” sitting around here, we always have to move the material back and forth

by forklift truck, which costs time and staff, and therefore money.”

“We continue to learn”

Negotiations are currently underway with the customer regarding the return. “That’s not always easy, because we don’t know the contracts our customers have with Daimler and the resulting financial leeway,” says Bakker. “But with a project like this, we always learn something new.”

By the time we left after a final tour, we had also learned a lot. For example, even in a seemingly simple project there can be many pitfalls lurking, and the devil really is in the details.

The suppliers unload their goods, quickly repack them, and deliver them to the assembly line – it sounds easy enough that anyone could do it. Our visit to Düsseldorf showed us how right Bertolt Brecht was when he said, “It is the simple thing that is difficult to do.”



SCHNELLECKE iX⁺

DIGITAL LOGISTICS FOR THE SMART SUPPLY CHAIN



Digitalization has become an important value-adding factor – also in logistics. However, current studies show that although logistics companies now frequently use technologies such as warehouse management software, tablets or Google Glass, these are mostly local isolated solutions. A comprehensive framework is seldom found. That's why Schnellecke has now developed Schnellecke iX⁺.

We understand digitalization to be more than just a series of individual measures to automate processes," emphasizes Karsten Keil, head of IT at Schnellecke. "Our goal is to combine all processes in a cloud-based, dynamic, and largely autonomous, self-organizing IT architecture that continuously optimizes the processes on its own."

According to Keil, the prerequisites for this are reliable data analyses and visualizations. This is the only way to control and optimize material flows in real time and to identify and solve problems. Parts of this work are independently taken over by intelligent devices that communicate with each other via the Internet of Things (IoT).

"We already have many individual solutions in use, ranging from Google Glass and the cloud to the IoT," says

Keil. "But so far we have lacked the overall framework. With Schnellecke iX⁺, we are on the verge of creating a framework that combines many individual measures into an integrated whole. The "i" stands for intelligent, the "X" for transparency (x-ray) and the plus sign for the next stage of development.

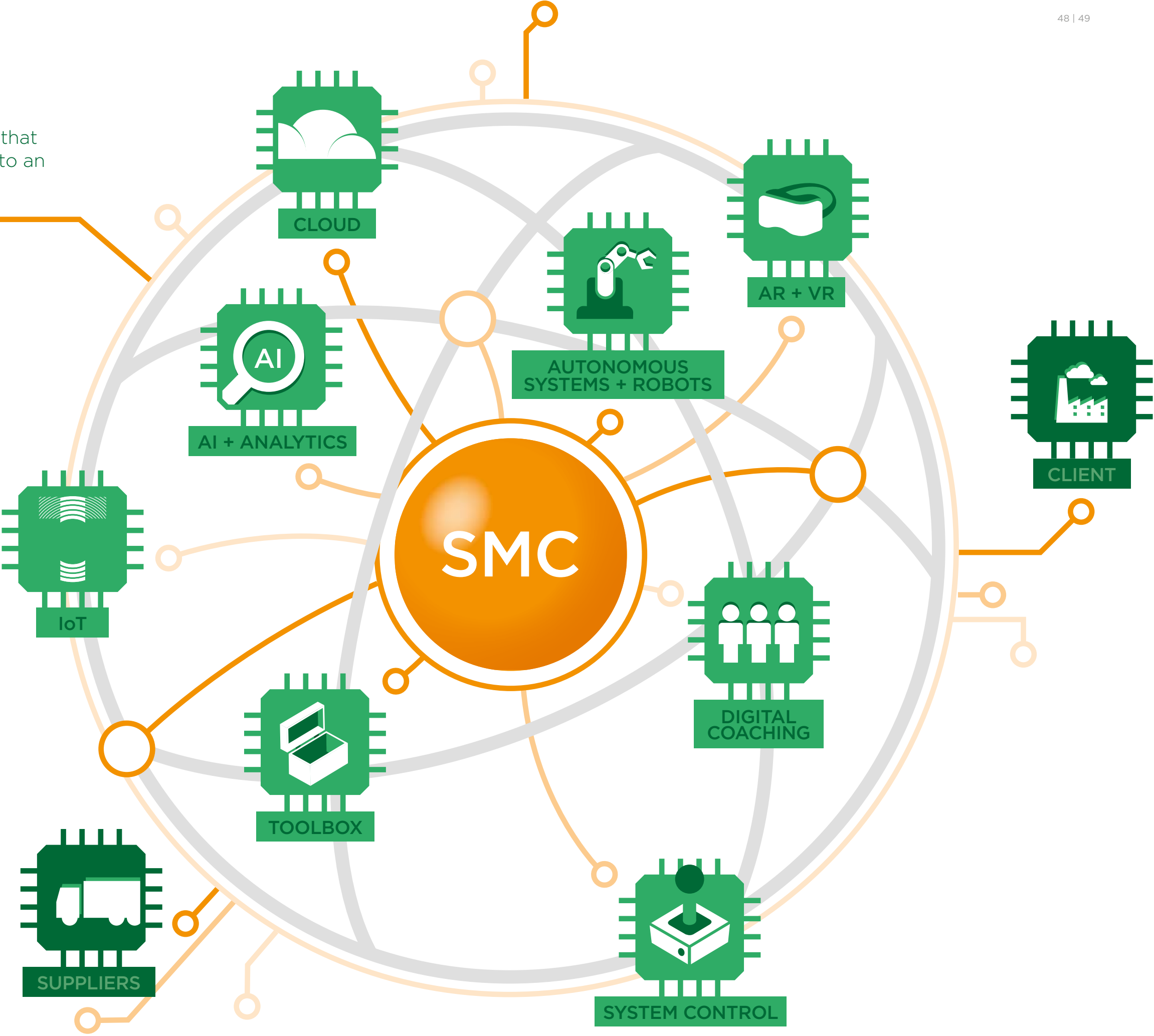
Architecture for a new kind of logistics

"In the future, the focus will be on increasing productivity and ensuring transparency and flexibility along the supply chain. The integration and networking of all intralogistics systems still offers considerable potential for this," says Dr. Abaid Goda, Managing Director of the Schnellecke joint venture GS Fleetcontrol.

SCHNELLECKE iX⁺

Schnellecke iX⁺ is a framework that links many individual solutions to an integrated whole.

- AI**
Artificial Intelligence
- AR**
Augmented Reality
(for example Google Glass)
- AUTONOMOUS SYSTEMS**
For example driverless transport systems (DTS)
- DIGITAL COACHING**
Learning about the link between human action and the impact on outcomes in the digital world
- IoT**
Internet of Things
- SMC**
Schnellecke Mission Control
- SYSTEM CONTROL**
Control of all subsystems by special software solutions, for example control of DTS by TransportControl
- TOOLBOX**
Various standardized software tools
- VR**
Virtual Reality



Schnellecke iX⁺ forms the framework for logistics networked in real time and stands for transparency, security, efficiency, and for the reduction of damage and error costs. Thus Schnellecke iX⁺ offers the best possible support for operations and administration.

The basis for this is the complete transparency of all events that influence a process. Only when one knows what happens or will happen at which point at any given time can the system or the person who controls it react accordingly and preventively.

This is why Schnellecke Mission Control (SMC) is at the heart of the digital warehouse.

What is the exact route that an employee walks when picking? When exactly does an autonomous truck have to pick up the tugger train? Is the supplier's truck on time when there is black ice outside? Which container is currently where? There is a vast amount of data that has to be collected in real time in order to map what goes on in the production hall and beyond.

Digital twin

“Schnellecke Mission Control is the digital twin of the warehouse world and beyond, a virtual representation of reality,” explains Sven Wosny, Managing Director of Schnellecke Digital Innovation GmbH. “This is where all information from the warehouse and the processes running in it are brought together.”

Picking solutions developed by Schnellecke, such as Google Glass or xBand, are no longer isolated solutions, but part of an integrated whole. SMC enables the visualization via dashboards in order to be able to quickly assess what is happening in the warehouse and to be able to take time-critical ad-hoc measures.

The data required for this is collected, for example, by sensors that report the location of an object at any time, whether it is a small bin or large container, the condition of a machine, or the number of goods in the buffer. This data forms the basis for all further steps.

The next step: Schnellecke iX⁺ai

At the same time, Schnellecke also promotes the use of artificial intelligence (AI) under the working title Schnellecke iX⁺ai, for example for real-time simulations to predict critical events.

Simulation models determine results about the dynamic behavior of a system for given parameters. Due to the often not fully visible relationship between result variables and parameters of a logistics system, manual optimization is difficult or only possible for the observed application case without any claim to general validity.

“With the digital twin, the field of simulation is experiencing a new boost in significance,” says Wosny. “The nearly identical digital representation of a system under observation enables the learning, further learning, and re-learning of AI-supported algorithms in the event of changes in the logistics environment with correspondingly comprehensive data input. Only in this way will the entire system be able to actively and quickly adapt from its own substance to sudden and unforeseeable changes in the system environment in the future”.

Self-controlling material flow

Ultimately, Schnellecke iX⁺ai has the vision of a material flow that controls itself independently and is highly robust against disruptions and unforeseeable changes. But it will be some time before this happens, because other stations in a supply chain, including customers, transporters and suppliers, have to be included in the system.

The first partial successes, such as the manufacturer-independent control system for AGVs – TransportControl, can already be reported. “The use of intelligent algorithms and integration through universal interfaces to the intralogistics systems alone will make the processes more effective and leaner,” Goda is convinced.

“Not everyone has to reinvent the wheel,” emphasizes Keil. “Just like TransportControl, we will also offer Schnellecke iX⁺ to other companies for use.”



SAP Innovation Award for Schnellecke

From among the record number of 233 submitted innovations from 37 countries and 25 industries, the Schnellecke Group AG & Co. KG won this year's SAP Innovation Award in the Process Innovator category. The award recognizes individuals and companies that implement and use SAP platform technologies to drive innovation and succeed in the digital marketplace. The SAP Innovation Award 2019 is endowed with a donation from SAP of US\$20,800 to charitable organizations.

“We applied with the smart IoT container tracking system, which we successfully introduced for our customers in Wolfsburg, Germany,” says Schnellecke Head of IT Karsten Keil. “With this solution, we are able to make a reliable statement about the location

and status of the JIS containers at any time without human intervention. This gives all parties involved in the supply chain full transparency in real time. Bottlenecks are detected early, and proactive action is possible.”

The award ceremony took place on 7 May 2019 in Orlando, Florida. Karsten Keil and Dr. Abaid Goda accepted the award on behalf of the entire IT department. In their acceptance speech, they praised the creative spirit of the Schnellecke Group and the scope for developing innovative solutions. Special thanks were given to the IT IoT Competence Center under the leadership of Denis Wirries, which was responsible for the technical implementation of this idea.



On 11 April 1945, American tanks roll into the City of the KdF Car. Albert and Margarete Schnellecke are faced with economic ruin: the business premises have been plundered, the horse and cart teams are gone. Nevertheless, the two of them set about rebuilding their company. The first vehicles they buy are a three-wheeled Tempo vehicle and a three-ton truck powered by wood gas. Two drivers are hired. But in 1949, the rebuilding is suddenly interrupted by the death of Albert Schnellecke, who succumbs to pneumonia.

Margarete Schnellecke assumes the helm

After her husband's death, Margarete Schnellecke takes over the company's business, even though she knows how difficult it will be

for a woman to assert herself in this male-dominated industry. Fortunately, the railway agrees to continue working with her and provides her with a shed at the freight station. In there, she tries to keep the company alive every day. "The rooms were not heated, and once a day my mother was allowed in the heated railway waiting room to warm herself up," says Rolf Schnellecke.

Rolf Schnellecke already helps out in the company during his school days: "I loaded the trucks, drove out in the afternoon, and learned to repair the old trucks by myself. Often enough I would lie under a truck in the evening and at night to get it going again for the next day". The boy moves among the drivers early on very naturally, writes bills of lading and customs bills, receives orders on the phone during the day and the driver's bills

in the evening. And he helps when it comes to carrying furniture up to the top floors.

"What we did back then – rail freight forwarding and furniture transport – we couldn't make a living from it, but we made too much to starve," says Rolf Schnellecke about that time. "You needed elbows to fight your way through. That wasn't my mother's style. She was always decent and straightforward."

With the start of construction work in Wolfsburg at the beginning of the fifties, the order volume increased and so did the furniture transport business. Mail order companies such as Quelle and Neckermann commissioned the Schnellecke forwarding agency to deliver their goods. A document dated 12 August 1960 lists the company's vehicle fleet. There are four vehicles: a flatbed each from Ford,



Opel and Hanomag, as well as a Hanomag panel van.

Start of long-distance freight transport

In the sixties, the family builds their own offices with warehouse space. In 1967, the M. Schnellecke KG is founded and the business is expanded to include short-haul transport. By 1966, Rolf Schnellecke has already passed the long-distance freight examination at the Chamber of Industry and Commerce. The expansion of the routes to cover the whole of Germany makes it possible to accept more lucrative orders. At first it is furniture

transport, a few years later freight transport is added.

On 01 May 1968, Rolf Schnellecke founds the Rolf Schnellecke Internationale Spedition for this purpose. It remains the parent company of the entire group for many decades.

An important step for Schnellecke is winning regular orders from Volkswagen. Antonius Holling, whom the family had met as a young vicar during the war, plays a major role in this. He was a very well-known man; anyone who wanted to become successful in Wolfsburg had to go to his mass on Sunday. Such as Heinrich Nordhoff, the Managing Director of Volkswagen and a strict Catholic. That's why half of his department heads were always

there. Holling uses this contact with VW for the benefit of Margarete Schnellecke. The first orders follow. One of the most important of these is the takeover of VW's interplant transports to the newly built plant in Salzgitter starting in 1968.

"Scheduled transport services" to Brussels

Within Germany there are fixed rates for the transport of goods. However, this does not apply abroad. Every freight forwarder has to calculate the rates themselves. Since Schnellecke has a lot of experience with tight calculations, they decide to enter international business.

In 1977, Volkswagen is looking for a company to supply its plants in Belgium. After just a short time, four or five Schnellecke trucks drive to Brussels daily; by the end of the nineties, ten to twelve trains drive daily. As a result of this order, the first foreign Schnellecke subsidiary is founded in Brussels.

The Spain Coup

Volkswagen AG then acquires a majority stake in SEAT in Spain. SEAT's Spanish forwarders, who have much lower costs due to the much lower wages there, make an offer for transports to Germany. But they lose the tender to Schnellecke.

The Wolfsburg-based company takes advantage of a weakness of the Spaniards: they only have semi-trailers for seventy cubic meters, which will increase the

number of journeys and thus the costs. But Schnellecke knows that volume is now more important than tonnage. So they offer VW transport in large-capacity trucks with 100 cubic meters of loading volume each – and thus manage to undercut the Spaniards in price.

Due to the growth of the company, which now employs around a hundred people, the old building at the freight station becomes too small. The city of Wolfsburg offers Schnellecke a plot in the Sandkamp district. In 1984, in a construction period of only ten months, a completely new freight forwarding facility is built here in the immediate vicinity of the Volkswagen plant.

In Sandkamp, the company continues to grow rapidly. However, Schnellecke is still primarily a transport company. But that's about to change: due to a historic event that hardly anyone anticipates.

The wall that divided Germany for so many years falls.

ALBERT SCHNELLECKE

Albert Schnellecke's father was the court master on the Riddagshausen monastery estate, which has existed since 1145. Friedrich Schnellecke had ten children, of whom Albert was one of the younger brothers. He was born on 18 August 1902. After attending school, he trained as a forwarding merchant and worked for a while in Berlin before returning to Braunschweig.

During a stay in Bad Harzburg in 1938, he met his future wife Margarete by chance on the train. The two quickly became a couple. Together they moved to the City of the KdF Car and founded the Expedition Albert Schnellecke.



MARGARETE SCHNELLECKE

Margarete Schnellecke was born in Gütersloh on 9 March 1905, as the youngest of five siblings. Her mother was a housewife, her father a headmaster. After finishing secondary school, the young woman completed an apprenticeship as a social worker and a nursing education with a final state exam. In the end, she graduated as a social worker and worked in health and youth welfare in Westphalia. Later she completed a training course in pedagogy.

In 1938, she married Albert Schnellecke and moved with him to what later became Wolfsburg. After the death of her husband in 1949, she took over the management of the company.

She was always aware of her responsibility. "The responsibility for the many people and their families who earned their money through me was a burden to me. I often woke up at night from this oppressive feeling of responsibility. Us self-employed people must always be one step ahead and cannot rest on our laurels."

Margarete Schnellecke took her first vacation when her son was old enough to run the business alone during her absence. She hardly had time for an extensive private life. She took little part in the social life of Wolfsburg.

She continued to come into the company until a very advanced age to look through the mail and the newspaper. Afterwards she took a walk around and greeted everyone. She inquired about the business with the managing directors. Thus she was always well-informed about everything well into an advanced age.

Margarete Schnellecke died in Wolfsburg on 20 December 2005 at the age of one hundred.





The dragon convoy

In 1985, Schnellecke makes a big splash when moving into its new building. Like an enormous dragon, all of the company's trucks move in a kilometer-long convoy to Wolfsburg-Sandkamp.



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