

SCHNELLECKE

2018.2

Insights into the Schnellecke Group

THE TRICK WITH THE TABLE AND THE CASE

Lean Management at Schnellecke



FREEDOM FOR FTS

First manufacturer-independent control system

FOUR LOCATIONS AND ONE UFO

A visit to Schnellecke in Portugal



A steering wheel, or hand wheel, is a machine element used to transmit rotary motion to a machine by hand. Hand wheels are used, for example, on fittings, machine tools and for emergency operation on geared motors. A wheel is used to steer ships or, as a steering wheel, other vehicles.

Source: translated from the German Wikipedia



Control is the intended influencing of the behavior of a system. The control process changes the system from one state to another. A control system for **Automated Guided Vehicles** (AGVs) serves to coordinate several AGVs and/or integrates the AGV into the internal processes.

Source: translated from the German Wikipedia



Dear Readers,

When people talk about innovations nowadays, they usually think about digitalization. In the process, people often lose sight of the fact that the term is much more comprehensive. Innovation generally stands for the development of new ideas and inventions and their economic implementation.

Innovations are therefore not only digital in nature. In our article about our sites in Portugal, we present some of these innovations to you. Their implementation costs little, but the savings achieved are in the six-figure range.

This is only possible because Schnellecke recognized many years ago how important it is to systematically avoid waste. Here we apply Lean principles. On the following pages you can find out exactly what this means and how we are proceeding.

In addition to all the technology, it should not be forgotten that logistics is largely based on the motivation and commitment of the employees. Their appreciation has always been very strong at Schnellecke. The establishment of Corporate Employment Conditions and Collective Bargaining Policy underlines this appreciation yet again, as group division director Sven Grünwoldt explains in an interview.

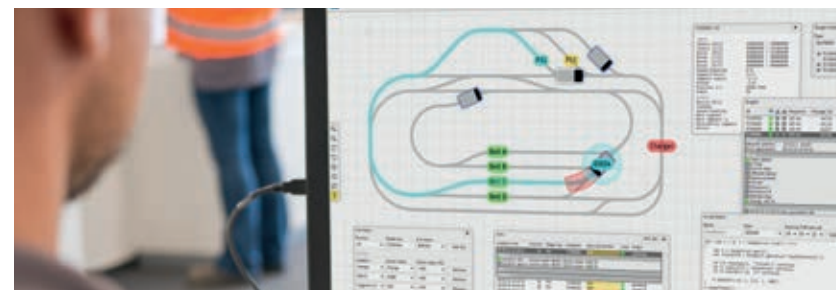
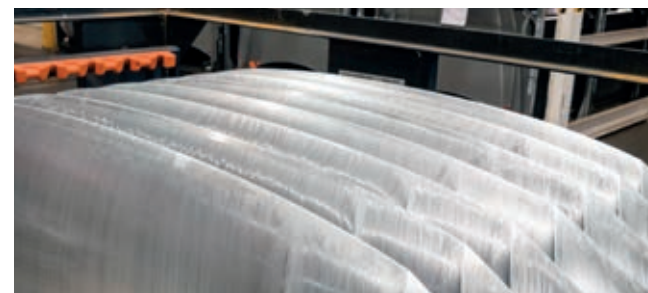
In this context, I would also like to draw your attention to the valuable work of the Margarete Schnellecke Foundation. It has been supporting people in need in Wolfsburg and the surrounding area for 18 years now - another example of how our values are not just on paper.

I am particularly pleased that our Chairman of the Supervisory Board, Professor Rolf Schnellecke, has just been accepted into the renowned Logistics Hall of Fame. You will also find further details about this in this issue.

I hope you enjoy reading this issue.

Best regards,


Nikolaus Külps
CEO Schnellecke Group



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CEREMONIAL RECEPTION ON 5 DECEMBER 2018 AT THE FEDERAL MINISTRY OF TRANSPORT IN BERLIN

ROLF SCHNELLECKE TO BE INDUCTED INTO THE LOGISTICS HALL OF FAME

Following Amazon founder Jeff Bezos in 2017, Professor Rolf Schnellecke was inducted into the Logistics Hall of Fame as a new member this year. The long-standing boss and current Chairman of the Supervisory Board of the Wolfsburg-based Schnellecke Group AG & Co. KG, was elected into the International Logistics Hall of Fame as the “outsourcing trendsetter and innovator of automotive logistics” from among 25 candidates from eight nations. He is the 34th member among the most meritorious logisticians in the world. Schnellecke will be officially admitted on 5 December on the occasion of the annual Logistics Hall of Fame gala reception in the Erich-Klausener-Saal of the Federal Ministry of Transport and Digital Infrastructure in Berlin.



With Value Added Logistics, Rolf Schnellecke has broken completely new ground in the freight forwarding industry and has developed a successful business model with great foresight that has shaped an entire industry. It would be inconceivable for the automotive industry today to do without these logistics services,” says Anita Würmser, managing Chairwoman of the Jury of the Logistics Hall of Fame, explaining the decision of the international jury of experts. She added that Schnellecke could claim to have significantly influenced and further developed automotive logistics beyond the boundaries of his company. “His early approaches to enhance mere 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,” the jury statement read.

Rolf Schnellecke was quick to recognize the automotive industry’s urge to globalize and reduce depth of production. He saw the future of modern freight forwarding in the related outsourcing requirements and consistently transformed the family business from a regional rail and furniture forwarding company with four trucks into a global player and outsourcing partner. In the early 1970s, he initially set up international scheduled services. Subsequently, he concentrat-

ed on highly specialized value-added partnerships with the automotive industry. 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 and is still the standard in automotive logistics today.

Schnellecke has always relied on the competitive edge through innovation not only in logistics, but also in the transport sector. In the 1970s, he was one of the first forwarders to have large-capacity vehicles developed for the increasingly lighter components of the automotive industry. In the 1980s, he took advantage of emerging computer technology and is now driving digitalization and autonomization forward. This unconditional willingness to innovate and change gives his company a competitive edge and makes him a sought-after source of ideas and a partner for innovation.

Rolf Schnellecke was born in Wolfsburg in 1944. He grew up in the small forwarding company run by his mother Margarete after his father’s early death. After graduating from high school in Wolfsburg, he studied law and economics and made a career in administration and state politics. For 16 years, among other things, he was Lord City Director and Lord Mayor of the City of Wolfsburg.

In 1967 at the age of 22, Schnellecke founded M. Schnellecke KG together with his mother. As shareholder and later Chairman of the Supervisory Board, he determined the strategic direction of the company and developed the Schnellecke Group into an international logistics service provider with almost 20,000 employees at over 60 sites. In addition to transport logistics with inter-plant transports, regional forwarding, milk runs, and JIT and JIS transports, Schnellecke is also active for numerous OEMs and suppliers in the packaging and supply logistics of plants, the sequencing of parts and assemblies, and module assembly. The supply logistics of automotive plants with supplier parts and modules ranges from warehouse management and material flow control, through picking and sequencing, to the material supply of the production lines.

ABOUT THE LOGISTICS HALL OF FAME

The Logistics Hall of Fame honors persons who have rendered outstanding services to the further development of logistics and supply chain management. It pursues the goal of making the performance of logistics and its social significance clear throughout the world. So far, 34 logistics experts have made it into the International Hall of Fame. The initiative is supported by the Federal Ministry of Transport as well as by relevant industry associations, media, and companies, including Duisburger Hafen, Chep, Gebrüder Weiss, Humbaur, PTV Group, and Still.

*The Hall of Fame can be
accessed at any time at
www.logisticshalloffame.net*

THE TRICK WITH THE TABLE AND THE CASE

USING UNUSUAL METHODS TO COMBAT
WASTE: LEAN MANAGEMENT AT SCHNELLECKE



Over 19,000 employees, more than a billion euros in yearly turnover, worldwide more than 70 company sites – these are well-known figures about Schnellecke. Largely unknown, however, is that Schnellecke also produces many more than a hundred foosball tables each year. And it does this for a quite particular reason.

It is 8 o'clock in the morning and the Lean Academy in Wolfsburg is already humming with intense activity. SOP, or start of production, is just a few minutes away. The employees present, some of whom have traveled here from far away, are being introduced up close to Lean Thinking – using a real production process.

“It’s about our employees recognizing waste at their workstations and making suggestions for optimization,” Christian Zirlewagen, Director of Corporate Lean at Schnellecke, explains the background of the exercise. “That’s why we simulate the practice in a real manufacturing process here, from goods receipt to loading. Incoming goods, those are the individual parts out of which the foosball tables are made. There is a picking zone, an assembly zone, further transport, quality control, and finally a loading department. Just like everything is in the real daily work. What looks more like fun and games here will one day benefit all of Schnellecke’s customers.”

In order to design everything more realistically, Zirlewagen and his people have introduced mistakes into the process: sometimes the wrong screwdriver is at the assembly workplace. Sometimes there is a deliberately untidy workplace. “Waste or ineffectively used resources exist in every company,” Zirlewagen says. “Unnecessary order idle periods, manual interfaces, unproductive tasks, or unnecessary rework for example, result in costs that burden the company. Lean attempts to avoid these costs.”

In German, Lean is often translated as “streamlined”. The definition at Schnellecke is different. There, Lean means avoiding all forms of waste in the course of a customer order through optimized and standardized logistics processes and structures. All previous activities and actions in the field of process optimization and the continuous improvement process (CIP) have been consolidated in one location with the implementation of Lean. “This demonstrates the importance that Lean has for our company,” Zirlewagen says.



Optimization can only come from the bottom

“Who knows the individual process steps on site better than the respective employees?” Zirlewagen asks. “They are the improvement drivers,” he stresses. “The first impulse for Lean has to come from the top, but the optimization can only take place from the bottom up.”

For this, we use a series of methods known from other contexts: kaizen events, poka yoke, kanban just to name a few. “We actively integrate the employees into all project phases. since the basic philosophy of Lean is employee motivation,” Zirlewagen says. “Lean can only be successful if everyone identifies with it. Sometimes we have to first convince our colleagues, but when we leave a site after a several week long Leave Wave, as we call it, everyone is committed to the improvements achieved.” He mentions a practical example: “We came into a site and equipped the employees in the warehouse with pedometers. At first they were very skeptical and felt excessively monitored. But they were amazed by the results: Some employees walked up to eleven kilometers per shift. Together we then managed to reduce that to five kilometers by reorganization and modifications.”

By the way, there is a portable version of the foosball table assembly for these Lean Waves: the simulation case. This also includes everything needed to simulate complete work processes but in miniaturized form, namely with paper clips and small containers for the order picking. With this, the employees on site are introduced to the Lean principles. They keep the case in order to pass on the knowledge gained to their colleagues.

2,770 suggestions per year

The basic training of the employees on site is also so important because they can independently continue the started process of optimization with Lean methods in the future. And this is working excellently: 2,770 improvement suggestions were submitted in 2017 alone.

Local Lean Officers, so-called Change Agents, who are responsible for the continuation of the Lean process, are designated on site. They are obligated to record and support the implementation of the employees' ideas and suggestions.

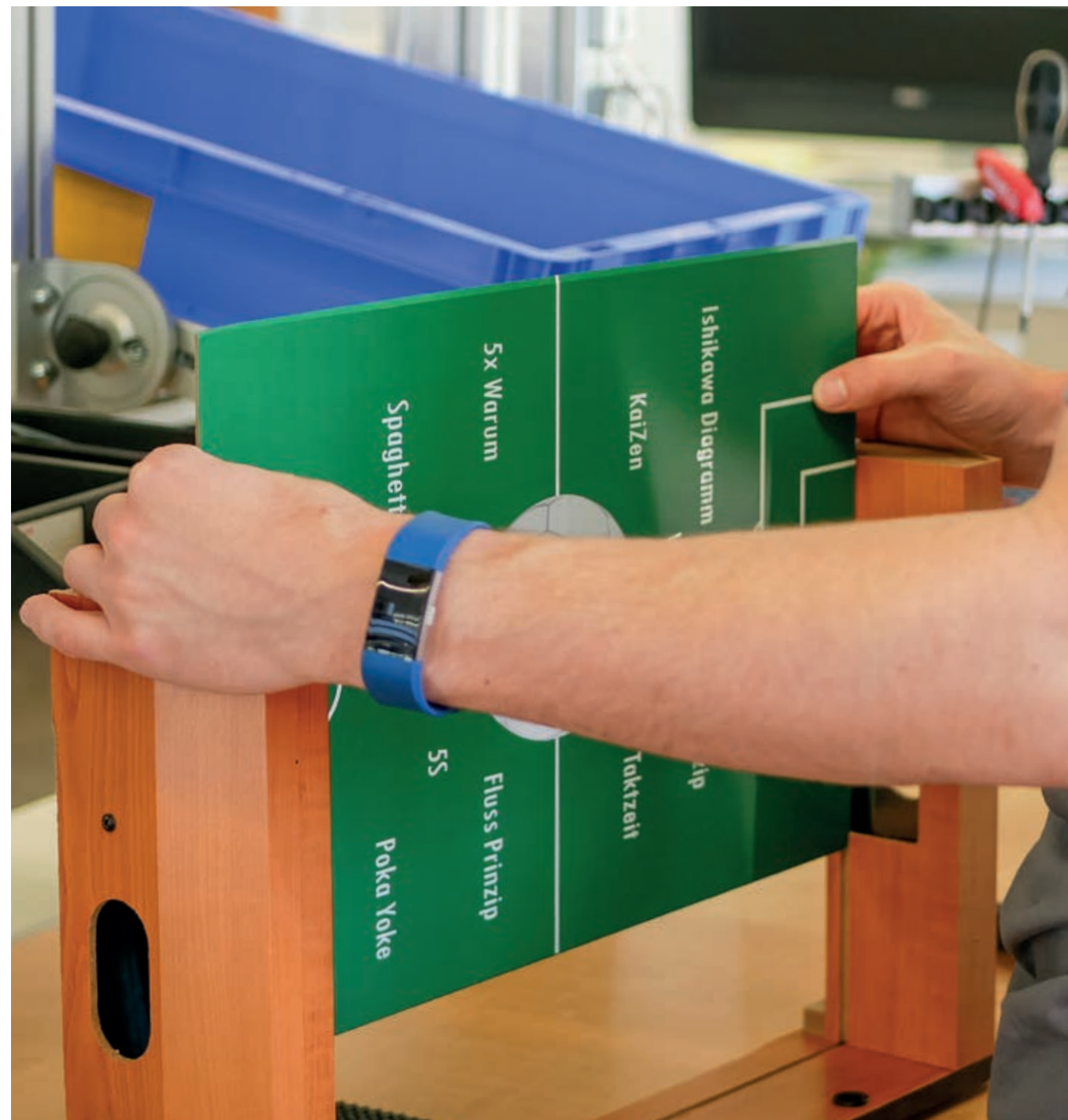
“All suggestions and other improvements are entered into a database and are available via the intranet to all interested employees,” Zirlewagen explains. The system is both an idea and a creative platform and is actively used – especially a function called “Kaizen – Need Help”. There, employees describe their problem and receive useful tips from all over the world, sometimes also about a similar, already implemented solution. With well more than 7,000 documented kaizen events in the system, there are times when a solution cannot be found immediately, especially since extremely long discussion threads have arisen on some topics. “Using this tool, we can implement and use the optimal process everywhere without making the same mistakes again and again and having to reinvent the wheel every time,” Zirlewagen says. Another important point is the need for clear responsibilities. Lean is transparent and simple. Everyone involved in the process knows who is responsible for which part in the implementation. The definition of clear measuring points makes it possible at any time to derive key performance indicators about



whether the process is performing robustly and whether the quality and productivity meet the requirements. Each operative process worldwide is checked weekly by Zirlewagen and his coworkers – currently about 8,000 processes. The Lean Officers and business unit managers receive regular updates about where waste has been reduced and where it hasn't, and in addition the annually projected possible savings potential.

“LEAN is green”

As well as process optimization and improvements in ergonomics, there is also an additional argument in favor of Lean: “Lean is green,” Zirlewagen says. “Since Lean helps to avoid waste, it also contributes to the conservation of resources, whether that is materials or the health of the employees.” The latter is especially important to him. That's why in Schnellecke's Lean canon there are two types of waste which are rarely found anywhere else: non-ergonomic processes and inadequate efficiency of space. “Our corporate philosophy puts people first,” Zirlewagen says. “For us, this is a central principle for our actions.” Will digitalization not make a lot of what Lean does today redundant? Zirlewagen shakes his head. “In many cases digitalization does not mean anything more than the automation of waste,” he's convinced. “If I replace a manned tugger train taking goods from Incoming Goods three buildings over in order for them to be picked there with a driverless transport vehicle, then it still has to pass through several buildings. Maybe it would be more logical to move Incoming Goods to the picking building. Then we wouldn't need a tugger train at all. Lean asks these fundamental and holistic questions, and that will continue to be indispensable. Lean is a process that is never completed.”



WHERE DOES LEAN COME FROM?

Toyota started developing the lean methods and principles back in the 1950s. Today, the Toyota Production and Logistics System (TPS) is still the benchmark for the optimization, standardization and continuous improvement of all corporate processes. As one of the first companies in Europe, Porsche, along with Japanese support, began implementing the lean principles and developing them further tailored to its needs at the end of the 1980s. In the meantime, companies around the world in all industries have started taking the same path.

THE FOUR LEAN PRINCIPLES:

- † All work has to be standardized and synchronized to a high degree in terms of content, procedure, and timing (flow and pull principles).
- †† All customer and supplier relationships, both internal as well as external, have to be direct and unambiguous, i.e. a clear YES/NO relationship.
- ††† The procedure for every product or service has to be simple and consistent.
- †††† All improvements have to be in line with the standardized methods and be on the lowest possible organizational level.

And most importantly:
We examine our processes
and actively seek improvements
every day.

“SIGNS OF APPRECIATION FOR OUR EMPLOYEES.”

INTERVIEW WITH SVEN GRÜNWOLDT, DIRECTOR OF CORPORATE EMPLOYMENT CONDITIONS AND COLLECTIVE BARGAINING POLICY



Sven Grünwoldt has been responsible for the employment conditions and collective bargaining policy of the German Schnellecke logistics sites since October 2014. In January 2018, he became the director of the newly founded Corporate Employment Conditions and Collective Bargaining Policy at Schnellecke.

What is the former deputy chairman of the combative Gewerkschaft Deutscher Lokomotivführer (GDL) doing on the company side? And why did Schnellecke hire him?

Mr Grünwoldt, why did a big company like Schnellecke hire a former trade unionists in a management position?

Sven Grünwoldt: “I think that was a well-considered decision. I am familiar with the thinking processes of trade unions and can help to create a better understanding of the actions of trade unions and the processes involved in collective bargaining here in the company.”

Isn't it a strange feeling during collective bargaining for you to be sitting opposite trade unionists as an ex-unionist?

“Initially, yes, for both sides, but now the position is accepted and seen positively. I am paid by the company, so of course I represent the position of the company. However, since we in our division do not focus our perspective exclusively on the interests of the company, but rather incorporate the employee perspective into the company processes, this is also a sign of appreciation for our employees. On the one hand, we

are the company's attorney. On the other hand, we are the employees' attorney for justified claims.”

Internal service provider

What exactly does your division do?

“We deal with everything that has a collective character. This includes not only collective bargaining, but also other employment conditions. By this we mean remuneration, working hours, labour laws, in particular collective labour laws, or the analysis of regional agreements. In this way we support the companies in discussions and negotiations with the works councils, for example we negotiate works agreements working closely with the HR division and the respective regional HR division. However, we do not deal with individual legal matters, such as the employment contracts of individual employees. This is the job of HR.

In addition, our department calculates the personnel costs for offers for new projects. We are therefore involved in the preparation of every offer and thus ensure that realistic information on local employment conditions is also incorporated into the considerations of Corporate Business Development. Within the company, we see ourselves as an internal service provider when it comes to collective labour law issues or employment conditions in general.”

“Low wages must no longer be decisive in the awarding of a contract”

What are your main areas of work at the moment?

“When I started here, we had collective bargaining agreements with the Metalworkers' Union in certain regions of Germany, with the United Services Union ver.di in other regions, and without collective bargaining agreements in other regions. Our goal is to standardize and unify the collective bargaining conditions for our employees at a high level and to harmonize the remuneration conditions in this highly competitive service logistics market.

One of our primary goals is therefore to standardize terms and conditions of employment by means of collective agreements, and not only by means of company-level collective agreements, but also by creating a change in the area of contract logistics towards a regional collective agreement structure. We are therefore engaged in intensive negotiations and talks with employers' associations and trade unions.

There was already an extensive round of negotiations on this in 2017. This was the first attempt which has not yet led to a regional collective agreement structure, but the talks and negotiations are continuing in order to achieve this. In future, such a structure must also become a condition for the awarding of contracts by clients. This must be designed in such a way that only those who are prepared to comply with such a regulation can participate in the tender negotiations. This will remove the issue of employee remuneration from the bidding process. In this way, we are assuming our responsibility to our employees and will remain competitive in the future. Low wages must no longer be a decisive factor in awarding contracts.

Automobile manufacturers are indirectly involved in our negotiations via the employers' associations, and we naturally hope that they will see the advantages for their company. There is already an OEM who operates in this way today and regularly demands a collective agreement with IG Metall from its contract logistics companies. This shows that automobile manufacturers can certainly benefit from such a model.

But the trade unions also have to rethink. They need to accept that the division of labour between OEMs on the one hand and specialised service providers on the other is the future, also for Germany as an automotive manufacturing nation. This must also be reflected in a new regional collective agreement structure for automotive-related contract logistics.”

Avoiding escalations

Now, Schnellecke does not only operate in the German market. In Mexico, India or South Africa you will certainly find different conditions.

“Absolutely. We have completely different starting conditions worldwide. We see it as our task to standardize our approach there as well and to also offer our regions the appropriate support in collective negotiations or collective labor law problems.

For example, we are currently working on the standardization of personnel cost calculations for tendering based on a global collective bargaining database. To support our regions, we need to immerse ourselves in that world. In South Africa or Mexico, for example, there are completely different philosophies that we need to know, as well as the legal status of trade unions. We need to know the applicable labour laws on the ground. We can then pass on the research results obtained in this way to the sales department and inform them, for example, of the salary increases they can anticipate each year.

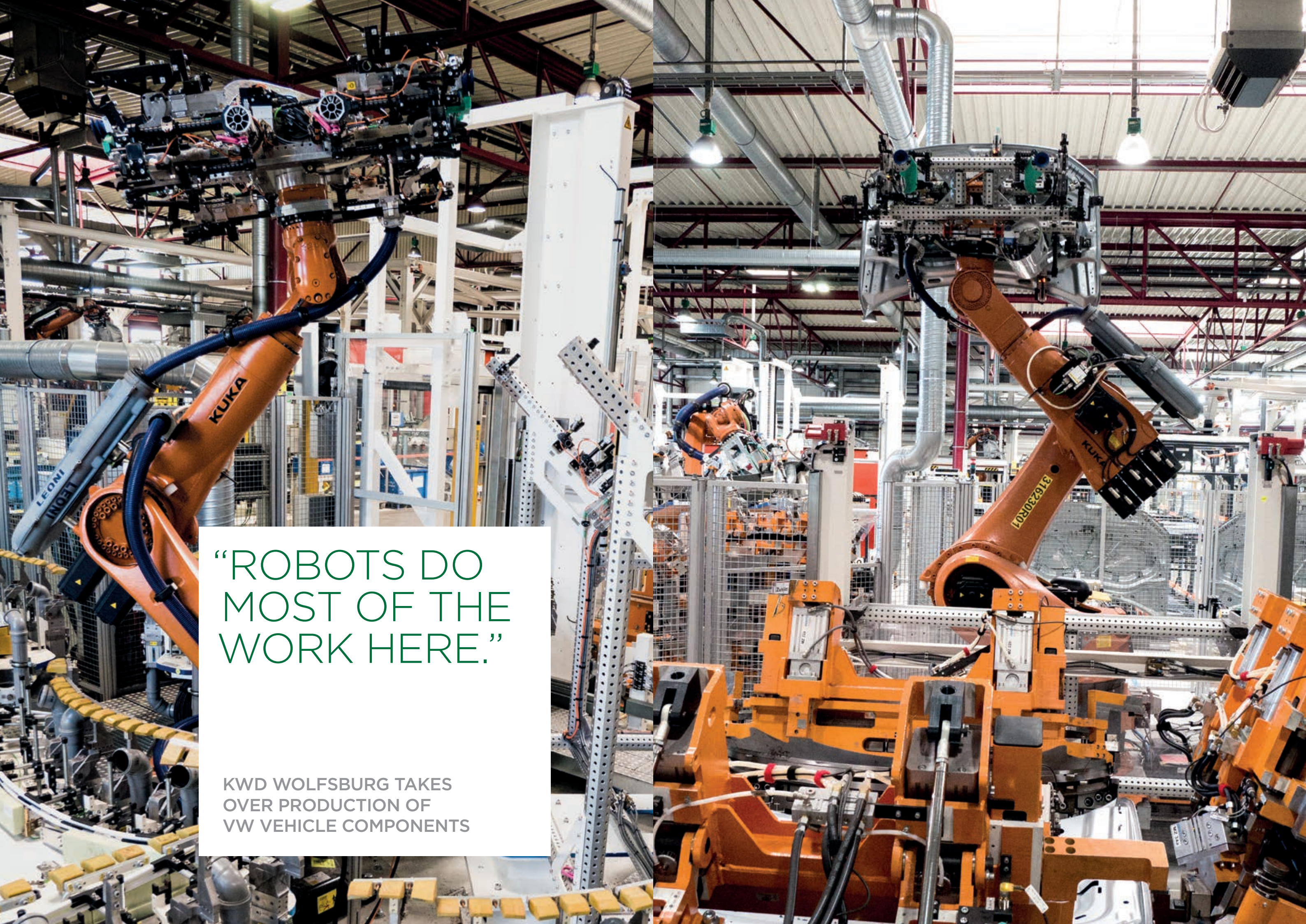
We also want to identify potential conflicts at an early stage in order to prevent entrenched situations, which is why we collect a lot of information around the world and analyse it regularly. When we identify potential problems, we make our negotiation experience available to prevent further escalation.”

Well-functioning culture of negotiation

So you focus primarily on dialogue?

“Absolutely. At Schnellecke, there is a culture of dialogue between companies, employees and trade unions that works quite well. The trade unions know what they get from a company like Schnellecke. They know that we are reliable and that we value our employees. That's why we see again and again that the same trade unionists with whom we struggled hard from last night until the early hours of the morning support us the next day with great commitment in the fight for a contract.

Our philosophy as family-owned company Schnellecke does not consist of squeezing the last out of the employees, and that is what I personally stand for.”



“ROBOTS DO
MOST OF THE
WORK HERE.”

KWD WOLFSBURG TAKES
OVER PRODUCTION OF
VW VEHICLE COMPONENTS



To the east of Wolfsburg, just a few minutes by car from the city centre, lies the Vogelsang industrial estate.

On May 1, 2018, KWD took over a production facility from VW here which produces metal parts for the VW Golf, Touran and Tiguan models. A visit to a fully-automated production plant.

The sun is burning in the sky as we drive onto the extensive parking lot in front of the large factory building. But there are surprisingly few vehicles sitting quietly here. Where are all the employees? Randy Koch, Business Unit Manager at KWD, laughs as he leads us into the almost deserted hall. “Most of the work here is done by robots. We control the systems, equip them, make sure that everything runs smoothly, and make sure that the quality is right.”

Altogether, we meet no more than twenty employees in the 17,000 square meter hall. The focus here is clearly on the machines. Around twenty robots each work in the five to thirty meter long enclosed areas, some of them up to four meters high. Some glide back and forth on rails, others are stationary. Front flaps for the VW Tiguan and Touran as well as front and rear floor seg-

ments for the Golf, especially the E-Golf and the plug-in hybrid, are produced here. In addition, work on the first B-pillar system for the new Golf 8 has just started, of which parts are also produced automatically.

Highest demands on the outer skin

We stand between two of the plants. On the left, the front flaps for the Touran are produced, on the right for the Tiguan. Illuminated displays above each system show the current status of the system. “We have a daily output of 1,500 to 1,600 units per line,” says Koch. “And for this we only need a few employees per shift: four workers, two plant operators, maintenance staff and quality assurance personnel.

The front flaps consist of an inner and an outer sheet. We watch as a forklift driver adjusts them into the system. The robots do the rest. Then why so many employees at all?

“The front flaps are part of the outer skin of the vehicle,” explains Koch. “And special demands are placed on them, because they are what an end customer sees first. If there is even the slightest unevenness in the paint, it’s immediately noticeable.”

This is why the parts are thoroughly inspected before and after processing. First at the incoming goods department, then before processing to ensure that the inner and outer parts fit perfectly. In addition, indispensable checks are carried out to ensure that the correct gap dimensions and curvature are maintained. This is done several times per shift on a random sample basis. “We have also hired a measuring technician for each shift,” says Koch.

New territory: folding and 2K gluing

On the lines, the two blanks – i.e. the inner and outer sheets – are placed one inside the other and firmly joined together in a complex process. The first step is folding. First, a 2-component adhesive is applied to the area to be folded. Then some striking points are pre-folded before the actual folding process takes place in the “folding bed”. In addition, welding spots are set to support the folding process. The flap is then placed in a so-called gelling bed for hardening.

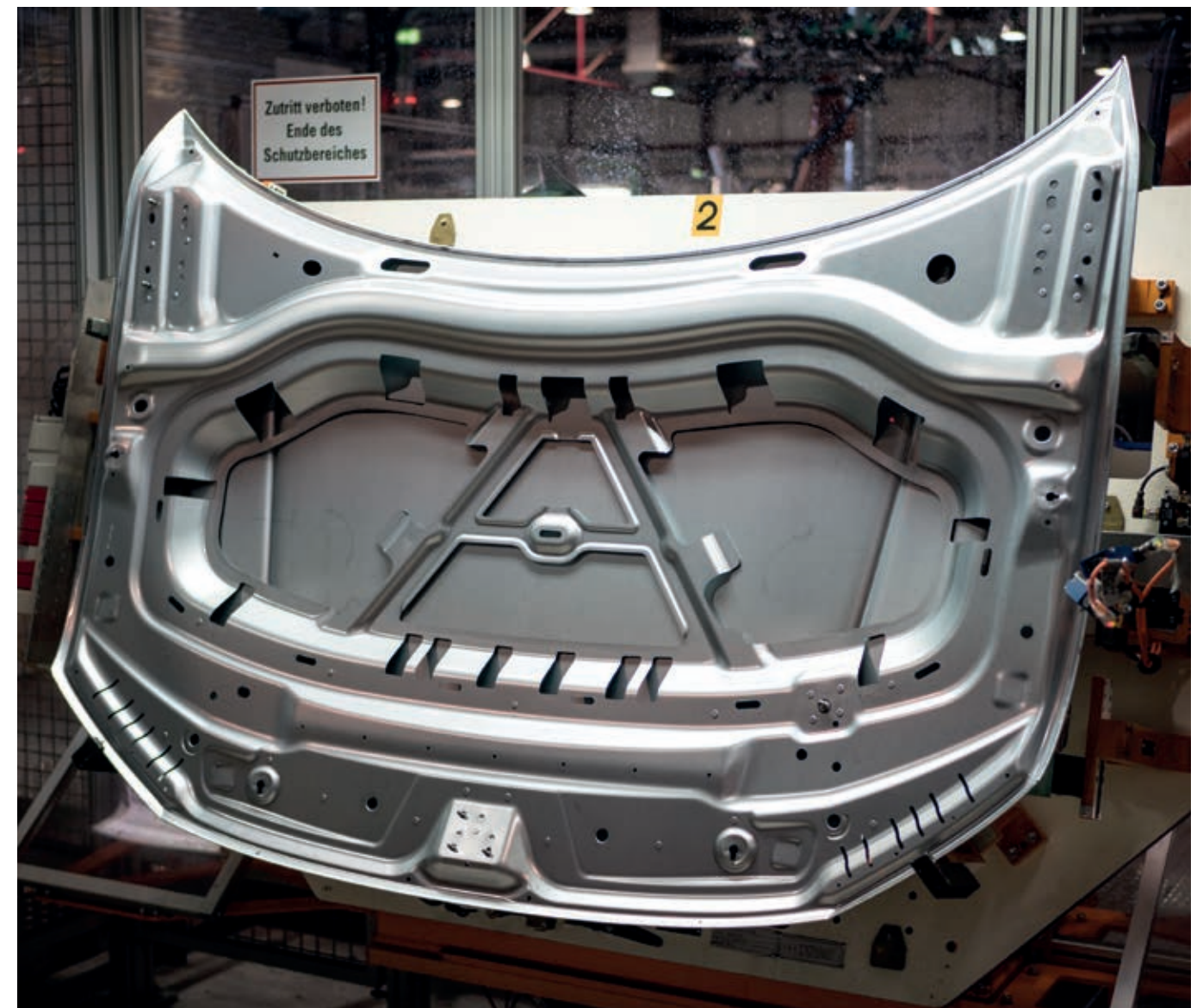
“Folding and 2K gluing were new territory for us,” Koch says. “Therefore, one month before the start of production, we sent our plant operators and other colleagues into VW’s ongoing production. They then looked over the shoulders of their VW colleagues and acquired the necessary specialist knowledge. We then booked external specialists for the first month for the folding until our people had mastered the basics”.

Thus prepared, the change between VW and KWD took place on 01 May 2018. A “rough change,” as Koch puts it. “We immediately went from zero to one hundred.”

Intensive quality inspections

But back to the front flap. Glue can sometimes escape from the fold. For this reason, all the completely folded front flaps are checked by an employee and any excess material is removed with a plastic spatula before it goes to the gelling bed for hardening.

Some of the finished front flaps are removed per shift and checked for unevenness at another station. A quality assurance employee rubs the surface with a stone so that pimples or tiny dents become visible. This takes about half an hour.



If a fault is found, the next flap is also checked; if it is also faulty, it goes into the system.

“If there’s a flaw somewhere in the fold, it can take some time to find the fault in the system,” says Koch. And that happens again and again, because the systems change in continuous operation. The folding jaws get dirty or there are strong temperature fluctuations at the gelling station, as in the summer of 2018. Then the maintenance personnel are required to quickly get everything back in order because KWD produces here synchronously to VW’s production.

Up to 16 individual parts in one fixture

On two further lines, the front and rear floors, especially for the electric golf, are welded from individual parts. The individual components are placed in specially manufactured fixtures with up to 16 parts per fixture. These are then taken over by the robots and welded together. The robots need just over eight minutes for a floor. Fascinated, we watch as one that was just welding cleans and deposits the welding tongs and then picks up a gripper with which it moves a floor further along.

A total of around 40 employees work in production, plus nine each in maintenance and quality assurance and 20 in logistics, who are responsible for setting up and removing the parts from the systems and loading them onto trucks and trains. Production takes place in three shifts and, depending on VW’s production times, also on week-ends.

We walk past the container station to the extensive storage area of the hall and every now and then have to avoid a forklift truck transporting new parts to the machines or away from them. As we drive back, a truck rolls off the premises in front of us, loaded with floors and front flaps that were produced during our visit. From here they go to various Volkswagen AG plants where they are installed or further processed.



FOUR COMPANY SITES AND A UFO

A VISIT TO THE SCHNELLECKE
COMPANIES IN PORTUGAL





It has been almost twenty years since Schnellecke founded its first company in Portugal. Since then it has grown to four locations and around 350 employees. Not much in relation to the total number of Schnellecke employees, and yet the Portuguese companies continue to draw attention to themselves with original ideas.

Good reasons, then, to set off on a trip to Portugal.

When we approach Porto by plane, the horizon is hazy. A fine rain falls and covers the city at the Douro with a grey veil. But we are not here to admire the sites of the city. By car we go to the hilly region to the north, to Lousado.

The area through which we drive is rather rural. A lot of forest, fields, small villages, in between now and then a bigger company. Lousado fits into this picture, too, until behind a hill suddenly the big tyre factory of Continental Mabor emerges from the haze. Tyres for the agricultural sector are produced here. With 17 million tires produced, Continental Mabor is one of the largest European tire factories in the Continental Group. With around 40 employees, Schnellecke Logistics is responsible for carrying out inbound logistics for the raw materials, warehouse management and partial production supply.

We enter a small lobby at the front of the warehouses. On the right there is a small canteen, on the left the office of the Continental Logistics Manager and, right next to it, that of Schnellecke Profit Center Manager João Saldanha, who has been working for Schnellecke Portugal for 12 years. He was sent here from Palmela.

It is eight o'clock in the morning, and we arrive during the shift change. The night shift has just finished their work and the early shift is taking over. The two teams face each other, and the outgoing shift informs the new arrivals about certain situations that have to be followed up. The same will happen again at 4 p.m. when the late shift takes over. "From Monday to Friday we work three shifts, on weekends two shifts," explains Saldanha. "The joint handover ensures that no information is lost."

Table instead of tablet

He draws our attention to a board on the wall to which six horizontal wooden rails are screwed. Each rail contains small green cardboard cards with the name of an employee. "This is an idea that came from the teams," he explains. "They assembled the blackboard here themselves from leftovers from production.

The top wooden rail is intended for the forklift drivers. The six green cards mean that six employees are sitting on their forklifts. The yellow key fob in C-6 means that the vehicle is currently not in use.

At the same time, the page with the inscription "OK" signals to the service technician, who regularly visits the site, that everything is OK with the truck.

Each of the five teams has its own bar where you can see at a glance on the inserted cards who is present and who is missing. This gives you a quick overview of the current workforce at all times - and without any electronics at all.

400,000 Euro savings due to tools built in-house

We enter the warehouse. Raw rubber, chemicals and tyre-reinforcing materials such as wire or synthetic fibres are stored here in large containers. Everything in the Schnellecke-managed area of the Continental warehouse is transported from here to a buffer warehouse, where Continental employees take it over and bring it into production.

To avoid contamination, the raw rubber is stored in plastic bags. These packs, which are stored on plastic pallets, are secured against transport damage and slippage by a closed, thick-walled plastic casing that is open at the top and bottom. Before being transferred to production, it must be removed in order to avoid contamination.

This used to be done by hand with a crowbar, which required a lot of strength, was extremely hazardous to injury from flying splinters, placed a considerable strain on the backs from 150 pallets a day, and caused a lot of waste.



After a series of unsuccessful tests, a group of four employees came up with a satisfactory solution to the problem. They developed a simple tool: they mounted a locking clamp on each side of a steel frame adapted to the width of the outer packaging. The forklift driver positions the gripper frame with the forklift forks on the outer packaging. The gripper jaws grip the outer packaging on the right and left, are locked there by the driver and pulled up together with the steel frame and the outer packaging. The outer packaging is not damaged during this process and can be reused. “Every year, we return over 20,000 intact outer packages to Continental,” says Saldanha, “which would cost more than 400,000 euros to buy.”

Innovation for ten euros

We go down one floor where it is significantly warmer. This is where chemicals and additives that require a certain amount of heat are stored. Sensors measure humidity, temperature and light.

Some of the chemicals are stored in large drums weighing 200 kilograms, which the forklift truck cannot move on pallets but only individually. There are special devices for this, but they are very expensive to buy. So the team members developed their own effective solution – at a material cost of only ten euros!

Saldanha beckons a forklift driver to demonstrate the system to us: A clamping

ring is placed and fixed around the top edge of the drum. The forklift driver can then lift and transport the drum on the two protruding side forms of the ring. Once the drum has been set down, the ring is released quickly.

UFO in Agueda

Impressed by the creativity of the employees, we say goodbye. Our next stop is Agueda, a small town about 70 kilometers south of Porto. When we reach the industrial area on the outskirts, we are presented with a fascinating sight. It looks as if a gigantic UFO has landed in a wasteland. Inside there are no aliens, but a production plant for casting parts for the automotive industry – by the way, the first in the world in which the parts are produced on a line.

The futuristic building is 260 metres long and 75 metres wide and has quickly become a tourist attraction. Certainly also because regular guided tours are offered here, which is also unusual for a foundry.

We are at Sakthi SP21, a subsidiary of Sakthi Portugal, which in turn belongs to the globally operating Sakthi Group. Sakthi Portugal manufactures safety-critical castings such as brake and differential housings, suspension struts, and a variety of other components. It supplies automotive manufacturers such as Mercedes, Volvo, PSA, AMG and Ford.

The warehouse, which is managed by Schnellecke, is located at the end of the production line and the building. Here you will find both the raw materials required for production and the finished products. A metal and glass

cube serves as an office. Outside on the ramp, wooden crates are stacked waiting to be transported away.

The wooden crates filled by Sakthi with the finished parts are made ready for transport when they have cooled down. “Most crates go directly to the customer,” explains Joao Castro, who manages the Agueda site for Schnellecke. Individual crates are also sent for quality checks and X-rays from time to time. All processes are managed here with the Schnellecke Warehouse Management System, which is connected to the Sakthi system and receives the call-offs for the production supply.

Work is carried out in two shifts from 10 pm to 2 pm. The reason for this unusual time is that the system consumes enormous amounts of energy, which is significantly cheaper at night and early in the morning than in the afternoon and early evening. This is why the approximately one dozen Schnellecke employees here also work in two shifts.

87,000 tons per year

Schnellecke also works for Sakthi at another location. In Maia, north of Porto, around 36 employees are employed with production supply and transportation, considerably more than in Agueda. “This is because four times as much is produced there in three shifts,” explains Paulo Machado, who is responsible for the customer Sakthi at Schnellecke. “In Maia we move 75,000 tons a year, here currently only about 12,000. This could change soon, however, because Sakthi is planning to build a second line in Agueda. Then Schnellecke will have to clear the current storage area. “We hope to get our own warehouse then,” says Castro, because it’s loud here at the end of the hall with a continuous 100 to 110 decibels generated by the machines and the huge cooling system.

There’s plenty of room for this on the huge site. We go back to the car, take a last look at the futuristic structure and make our way to Lisbon.



PALMELA: TWO UNDER ONE ROOF



It is still early in the morning when Juliano Zanoni, Portugal Country Manager and Europe Sales Manager, picks us up from our hotel close to Lisbon's Sintra train station. The whole district was built entirely from the ground up only a few years ago, and glass and aluminum dominate. This has therefore nothing to do with the romantic Lisbon, for which millions of tourists flock into the city.

When we cross the Tejo on the Ponte Vasco da Gama going southeast, the commuters driving into Lisbon are already backed up in the opposite direction. They live in cities like Montijo, Alcochete, Setúbal or Palmela, and the more than 12 km long bridge is a bottleneck in their daily commute to work and back.

The road is clear in our direction, and so we quickly reach the industrial area in Quinta Marquesa, which is part of the Palmela administrative district. A city with tradition and whose more than 800-year-old Castelo offers a view all the way to Lisbon in fine weather. Aulus Cornelius, a Roman General and high official in the Roman-occupied Lusitania, is regarded as the city's founder, even if this is controversial among historians.

However, the long history and the beautiful view are not the reason why Schnellecke settled here in 2001. The reason rather was Volkswagen Autoeuropa, because the Palmela district is also home to the Portuguese Volkswagen subsidiary.

It all began when KWD Portugal, founded in 2000, won a 2-phase outsourcing project in 2001 for welding assembly parts for the VW Sharan, SEAT Alhambra, and Ford Galaxy models. In the same year, logistics followed production to Palmela. Founded in 2001, Schnellecke Logística e Transporte Lda took over logistics services for VW Autoeuropa and transported 95 percent of all components for the Sharan and Alhambra all the way to the assembly lines.

Relocation and change of name

Much has happened since then, including relocation and several name changes. Since 2005, Schnellecke Logistics and KWD have resided under one roof. At the Palmela site, KWD currently employs more than 180 people, and Schnellecke Logistics has around 115. A total of 9,500 square meters of production space and 25,000 square meters of logistics space are available.

In the spacious entrance area there are several monitors on which run multimedia presentations about Schnellecke and KWD. Passing the large canteen where today's lunch is being cooked, we arrive in the large hall. Our first stop is in the hall area of Schnellecke Logistics. In Palmela work is carried out, among others, for VW, Arvato and Vanpro, a joint venture of Faurecia and Johnson Controls.

Where elsewhere numerous information boards keep employees up to date on the current status of quality, errors, and shift assignments, on suggestions for improvement, team results and more, this process is digitized at Schnellecke Logistics in Palmela - via touchscreen monitors. They and the software were developed with the involvement of the employees and with their wishes in mind.

Onboard toolkit: one hundred percent error-free

Juliano Zaroni leads us through the high rows of shelves with the products for VW, to a station almost hidden between shelves. This is where toolkits for breakdown assistance are put together, such as jacks, wheel nut wrenches, etc. The problem: There are different toolkits for different models, and the wrong tool can easily end up in them.

"Statistically speaking, every 70,000 km there is a flat tire," explains Zaroni. "In Europe alone, that's about 1.4 million punctures a year - situations in which the tool is needed for a wheel change. If you now know that such a breakdown service costs around 690 euros as part of the manufacturer's service, then it is clear how important it is that the on-board toolkit is complete and free of defects."

In order to guarantee this, Schnellecke has developed a unique process. The workstation at which the toolkits are fitted is observed from above by two cameras and monitored all around by sensors. The employee registers the toolkit that is to be assembled via the barcode. A monitor indicates which parts are to be inserted. The

system immediately triggers an alarm if an incorrect tool carrier is used or if an incorrect part, a part too many, or a part too few is inserted, and directly indicates the fault on the monitor.

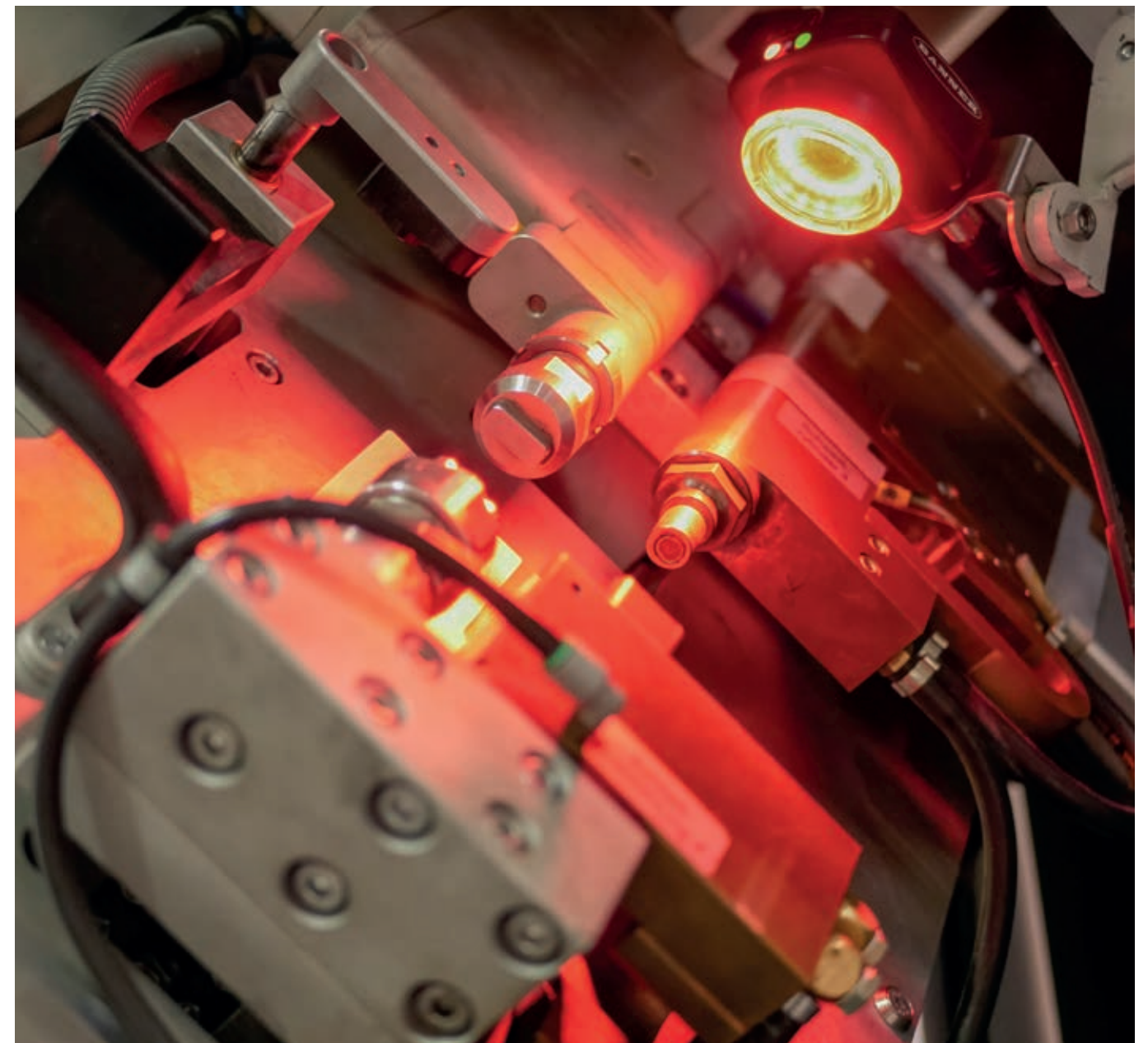
"In this way, we have reduced the number of errors to zero," emphasizes Zaroni. "We saved around 480,000 euros in January 2018 alone, because retrofitting a toolkit costs around 200 euros. Not to mention the breakdown assistance costs saved for our customers." A large competitive advantage, according to Zaroni, because no competitor can currently offer one hundred percent error-free toolkit assembly.

Onboard literature and seat heaters

One aisle further along, onboard manuals are sequenced for Arvato; however, the hall area in which the Vanpro Faurecia plant supply takes place occupies considerably more space, namely 10,000 square meters. Here, seats for the VW Sharan and T-Roc models are assembled in 19 shifts per week at a rate of 40 vehicles per hour. The employees sequence seat covers and foam inserts in many different colors and fabric variants. In addition, the seat heaters are pressed into the cushions, at first glance inconspicuous plastic foils in which the heating spirals are integrated.

"We sequence approximately 6,000 seats a day," says Rui Cardoso, who is responsible for Operations in Palmela. "From the moment our printer, which is linked to the VW system, prints out the sequence orders, we have 88 minutes to bring the sequenced seats with our trucks to the Vanpro line. And he emphasizes: "Our processes are structured so that we can insert new vehicle models flexibly and efficiently".

Back in the office, Zaroni hands us over to Max Dorez, KWD Sales Manager for Portugal and Spain. He will now take us to the production hall area used by KWD. There are three production lines here. The third for the T-Roc has just been put into operation. Besides VW, work is carried out for Ford and Mercedes-Benz.





Rolling, punching, drawing, bending and welding are carried out everywhere. Out of the process come parts that either go directly to the customer or are sent to KWD in Pamplona for further processing.

“At first we only welded by hand.”

“In the beginning, about twenty years ago, we almost only welded by hand,” recalls Dore, “Actually we were only wage laborers for automobile manufacturers. Since then, we have expanded our know-how and equipment bit by bit. Today we are a technology partner of the OEMs and develop our own production solutions”.

In the meantime, robots have taken over welding, which can be clearly seen on the two lines for the production of longitudinal beams. On another line, glass channel frames in several lengths are produced for the Ford Connect. It is fascinating for the layman to see how the sheet metal is formed step by step in punching machines and via profile rollers until, for example, an H-profile is finished at the end.

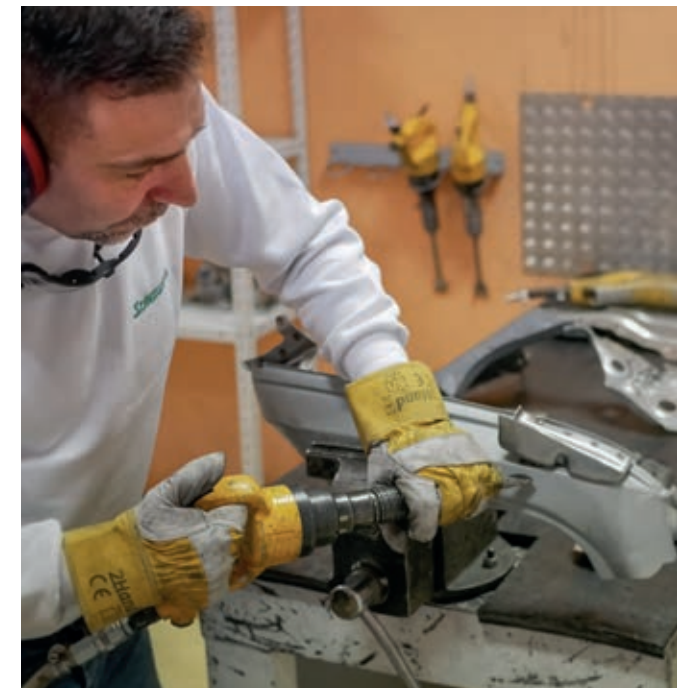
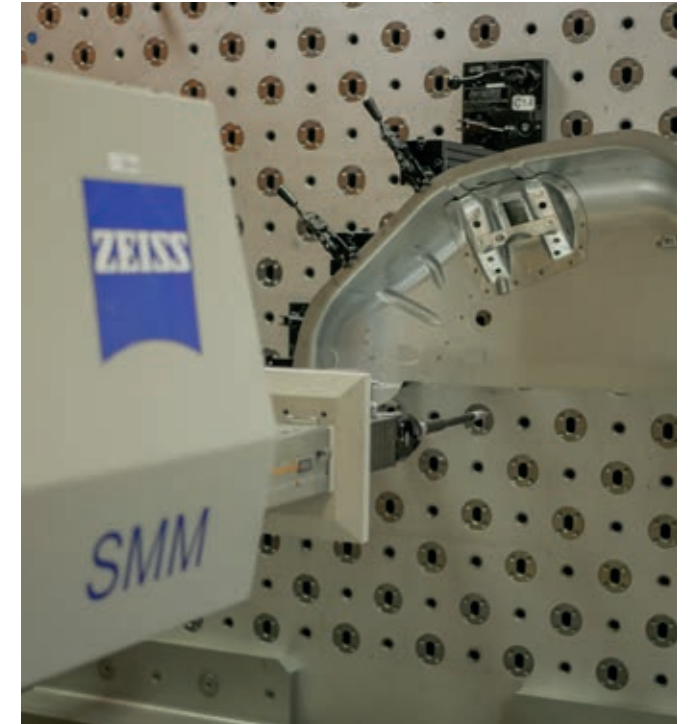
Finished workpieces are removed regularly and their quality is checked - at three different stations. On the one hand, there is a quality laboratory with ultrasound, where metallurgical tests are carried out. Then there is the sectional view laboratory. Here the weld seams are cut and then analyzed under an electron scanning microscope. Because the instrument allows magnification up to the grain size of the metal, the penetration depth of the weld seam can be determined and documented.

Destroying for more quality

And then there's the destroyer. Dore leads us into another room where an employee has only one task: to destroy the weld seam of a product with a bell hammer. The manner in which the weld tears indicates whether it has been carried out correctly.

“We have invested a lot in quality assurance,” emphasizes Dore. “That is paying off today. It helps us to acquire new customers - and we are now a benchmark for our existing customers' suppliers”.

We leave Palmela and cross the Tejo in the opposite direction. At the end of our visit, we get a small impression of Lisbon's world-famous old town. Under the guidance of Dore and Zaroni we get to know some places less known to tourist. And every time we see certain cars passing by, we know after today that there is also a piece of Schnellecke in them.



EVERY SINGLE SCHNELLECKE EMPLOYEE HELPS.



THE MARGARETE SCHNELLECKE FOUNDATION
HELPS SENIORS, CHILDREN AND ADOLESCENTS
IN WOLFSBURG

On March 9, 2000, her 95th birthday, Margarete Schnellecke established the foundation named after her, which she expressly regarded as a sign of personal gratitude to the Wolfsburg region. "I am grateful to God for giving me stamina, health and energy into old age. Now I would like to pass on something that has turned out to be a success over the years."

My mother was profoundly happy when she set up the Foundation because she could give something back to society," recalls her daughter Annegret Kannewurf, who headed the Foundation as Chairman of the Board until the end of 2017. "She also combined this with an expressed thank you to the Schnellecke employees, who had made this possible in the first place."

Margarete Schnellecke was born the youngest of five siblings in Gütersloh on March 9, 1905. She married Albert Schnellecke in 1938 and later moved with him to Wolfsburg. After the death of her husband in 1949, she took over the management of the company. She died in Wolfsburg on December 20, 2005, after reaching the age of one hundred.

"My grandmother was a very energetic woman," says Carolin Külps, who took over the chairmanship of the board from her aunt a year ago. "But she was always aware that not everyone her age was as well off as she was. Her intention was to alleviate need and bring joy into the everyday life of seniors." Many members of the Schnellecke family are involved in the management board and the board of trustees of the Foundation. "In the early years, our grand-

mother always sat with us and said what moved her and gave us advice. She is still an important compass for us because of her values," recalls Carolin Külps. "Of course, doing good together helps bring a family together."

Enriching the everyday life of seniors

The Foundation, which was initially endowed with one million euros, began by supporting elderly people in need in the Wolfsburg area. At the same time, however, it was also intended to help bring variety and joy to the sometimes rather dreary everyday lives of senior citizens. "We try not only to support seniors in special cases with material help," says Margarete Schnellecke, "we also want to enrich their lives a little."

The "Margarete Afternoons", for example, have been a permanent fixture since those early days. Senior citizens are treated to coffee, and cake and are actively involved in a colorful entertainment program. These afternoons were initiated by Annegret Kannewurf, who also led them herself in many of the city's senior citizens facilities until 2012.

Another focus of the senior citizens work is help with nursing care. Projects to support severely handicapped and dementia patients, as well as the promotion of training measures for the nursing staff, are an important concern of the Foundation.

Support for children and adolescents

In the beginning, the Foundation was solely focused on helping the elderly, but a short time later, child and adolescent welfare were added. “Nowadays, children and adolescents often grow up in difficult circumstances characterized by unemployment, financial restrictions, hopelessness and lack of interest or love,” says Carolin Külps. “In addition to the focus on supporting senior citizens, our highest goal is to give these children and adolescents a better start in their lives”.

A special concern of the Foundation is the support of children and adolescents from socially disadvantaged families and to give them a better start. Support is provided in the form of donations for school materials, books, school trips and excursions. The Foundation also aims to promote the integration of children and adolescents from migrant families through language support and courses.

Help for the homeless and refugees

The spectrum of the Foundation’s work has continuously expanded. “The world is changing, society is changing, and so are we,” explains Carolin Külps. “Today we often see financial worries among single parents and will probably set another focus there”.

Annegret Kannewurf reports with great enthusiasm on what the Foundation has achieved since its early days. Among other things, she talks about Wolfsburg’s twin city Togliatti. “When I travelled to Togliatti for the first time and looked around for possible projects, I was deeply shocked,” she recalls. “Among other things, I discovered an orphanage in which the worst conditions prevailed. As a result, I travelled there several times in order to alleviate the worst suffering

and to buy the bare necessities with those responsible directly.” That was not always without risk. In the meantime, in the supported institutions in Togliatti - as in other projects - there are so-called “guarantors”, trusted partners of the Foundation, who ensure that the aid really reaches the right place.

Another important concern of the Foundation is to help the homeless in Wolfsburg. Even in a supposedly rich city like Wolfsburg there are still people who are on the margins of society and to whom the Foundation would like to give a little dignity in addition to food and basic needs. Furthermore, there are partnerships with a wide variety of institutions such as the music school, for which guitars and music lessons were organized for refugee children, as well as with other foundations in order to provide lunch and homework support for pupils from socially difficult backgrounds, to name just a few examples.

Thanks to the employees of Schnellecke

But it doesn’t always have to be big projects. Spontaneous smaller activities are also part of the Foundation’s program. “During the hot summer of 2018, Schnellecke trainees distributed ice cream to senior citizens in Wolfsburg senior citizen homes on behalf of the Foundation,” says Carolin Külps. And Schnellecke employees are also active as volunteers in other areas of the Foundation’s work, such as accompanying senior citizens to museums or theatres.

In the first ten years of its existence alone, the Margarete Schnellecke Foundation supported numerous projects with a total of over 1.1 million euros. Annegret Kannewurf stresses: “This success could not have been achieved without the help of all employees of the Schnellecke Group. Without their many years of commitment to the development and success of the company, the Foundation could not have been established at all. And even today, each individual contributes with his or her work and energy to the Margarete Schnellecke Foundation’s continued availability of considerable funds for the Foundation’s purposes. If the Foundation helps somewhere, then every single Schnellecke employee helps at the same time.”



ABOUT THE MARGARETE-SCHNELLECKE-FOUNDATION



MARGARETE SCHNELLECKE

STIFTUNG

Since its foundation in 2000, the Margarete Schnellecke Foundation has been active in the social support of senior citizens, as well as children and adolescents in the Wolfsburg area.

The Foundation attaches great importance to improving the living conditions of senior citizens in the Wolfsburg area and helping them to regain their dignity and to become more independent in their everyday lives. It is also important to the Foundation to

improve the lives of children and adolescents and show them hope for a better future.

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FREEDOM FOR FTS

TRANSPORTCONTROL: UNIQUE
WORLDWIDE SOLUTION FOR
EVERYTHING THAT MOVES IN THE HALL



Compatibility and communication - these are two core concepts in the discourse on automation and digitization. What is frustrating for private consumers about unsuitable plugs for PCs and peripherals is for industrial users often frustrating about stand-alone solutions from individual manufacturers. Together with its joint venture partner Götting KG, Schnellecke now offers a solution to this problem for a specific area: the first manufacturer-independent control system for driverless transport systems.



The future of internal transport belongs to driverless transport systems (automated guided vehicles - AGVs). Numerous manufacturers now offer such vehicles - but with a catch: The control system for a fleet of AGVs must be purchased separately and usually only works with the vehicles of the respective manufacturer.

This is a problem for large companies that have multiple suppliers of AGVs and have to work with different, incompatible systems. Smaller companies often have only FTSs from one manufacturer in operation, but for them the price for the control software is often too high.

"As a logistics service provider for many large companies, we have been observing this situation for quite some time," says Dr. Abaid Goda, Senior Manager IT Operation at Schnellecke. "When we came into contact with Götting KG, a company specializing in FTS, we immediately decided to tackle the problem together."

So, together with Götting KG, Schnellecke Logistics founded the company GS Fleetcontrol GmbH. The aim of the joint venture was to develop a control system for everything that moves in a hall. This means that not only AGVs, but also forklifts or storage and retrieval machines can be controlled regardless of manufacturer.

Start from 800 Euro per month

TransportControl is the name of the software that is already in use in a number of large companies. The latest version was presented to the public at the IZB trade fair in Wolfsburg in October 2018. "The manufacturer of a vehicle does not matter to TransportControl," emphasizes Goda, who is also managing director of GS Fleetcontrol. "We are thus offering a worldwide unique, manufacturer-independent solution".

What distinguishes the software is, on the one hand, its simple and cost-effective implementation. Once installed, TransportControl runs on all operating systems, whether Microsoft Windows, MacOS or Linux. Planning, simulation and control are possible within one window. Since only a web browser is required for the graphical user interface, the system can be used on almost all end devices. "This already saves a lot of costs, which should be particularly attractive for smaller companies," Goda emphasizes.

The staggered licensing model also accommodates this potential customer group. From now on, it will be possible to purchase a comprehensive control system for your FTS even if your budget is low. Goda: "TransportControl is a universal solution which costs only a fraction of a proprietary software - and it can

be used for FTSs of all manufacturers. The basic version can be purchased for as little as 800 euros a month."

TransportControl divides the route of the AGV into segments which can be processed individually. This means that real-time changes to the route can be quickly implemented by the user at any time without the system having to be reprogrammed each time. The software also uses a cost-based algorithm to continuously and independently optimize the routes of the managed AGVs.

Independence from suppliers

But how exactly does the communication between TransportControl and the AGVs of different manufacturers work? "The software is based on a model system," Goda explains the principle. "Communication with each other takes place via so-called telegrams. Depending on the model of the AGV, these telegrams are adapted specifically for this purpose. In this way a combination of different vehicle types in the same system is possible."

Finally, TransportControl consists of a core around which several layers are laid. The first layer is the scripts that communicate with the core; a further layer is the templates for the models of the different manufacturers. Scripts and templates are independent objects that can be created and modified by the users themselves. TransportControl brings the appropriate toolbox with it. "In order to make it as easy as possible for our customers to make far-reaching system adjustments, we have opted for JavaScript for the scripting language," explains Goda. "In the future, no one will have to depend on their supplier anymore."

GS Fleetcontrol offers a range of services from the creation of specific scripts to the integration of new FTS models for those who don't want to or can't help themselves.



Further information is available at
www.gsfleetcontrol.com

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