

# K>MOBIL

THE KIRCHHOFF GROUP MAGAZINE



**Zero emission is our vision:** As Minister of the Environment Svenja Schulze and Minister of State Dr Marcel Huber found out when they visited the FAUN stand at IFAT. FAUN showed its visitors the BLUEPOWER, an in-house-developed, electric drive concept that combines hydrogen fuel cell and battery technology to increase vehicle range. [Read more from page 010 »](#)

content



**KIRCHHOFF Group**

- 004 Digitisation is set to take place wherever possible
- 008 New test bench provides information on the producibility of a component
- 010 Blue is the new green

**KIRCHHOFF Automotive**

- 016 New products on the road
- 022 Best version yet of a bestseller
- 024 A press on the road
- 026 Growing importance of toolmaking
- 028 Meet & greet with cross car beams, bumpers, and more
- 030 Debuting new technologies to FCA
- 031 We are there
- 032 Do forklifts drive autonomously?
- 034 Because culture enriches our lives
- 038 Thomas Kirchhoff—a creative musician with management talent

- 040 Real-time information
  - 042 New office in China
  - 044 Unleash your creative potential
  - 046 News in brief
- KIRCHHOFF Mobility**
- 050 Vienna Autoshow—a successful trade fair for KIRCHHOFF Mobility in Austria
  - 052 38 handicapped-accessible conversions
  - 054 Mountains are no obstacle
  - 056 Making the seemingly impossible possible ...
- WITTE TOOLS**
- 060 Positive summary
  - 064 WITTE INSIDE—the 360° development concept for private labels
  - 066 Maxx Plus on tour

**ECOTEC Goup**

- 072 Ready for the data hub
- 074 United by sport
- 076 Transmitting waste containers
- 078 Warning: Wet paint!

**FAUN Group**

- 080 Go Future! Go with us!
- 086 100% original!
- 087 Familiar faces on the coast line
- 089 Professional development – with a history lesson thrown in
- 090 Just amazing
- 092 The Pfundskerle of tomorrow

**ZOELLER Group**

- 094 Understanding the market
- 100 "Hit the road Jack"
- 104 A shower for refuse containers
- 106 Clean island

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# Digitisation is set to take place wherever possible

— Digitisation opens up many opportunities for companies. Products and services can be supplied more quickly and customer requirements taken into account more effectively. Innovations can be implemented more rapidly and completely new business models created.

Dear customers and friends of our group of companies,  
Dear employees,

Anyone who talks about digitization today and the way it will impact our lives tomorrow thinks, above all, of artificial intelligence (AI), the automation of intelligent behaviour. Put simply, this means building or programming a computer so that it can handle problems on its own. In production, these are primarily learning machines. In our companies and work processes, it is about combining human skills and competences with artificial intelligence—designing work in the production area so that it is as ergonomic and efficient as possible for human beings, for example. This is because the greatest potential for artificial intelligence lies in the efficient support of human resources through AI-based assistance systems in all processes: development, production, logistics, maintenance, and administration. We are now looking at ways to work hand in hand with robots. In order for this to work, the robots need a powerful AI system, i.e. nothing short of a brain, so that they can recognise the human being, learn their movement patterns and commands, work optimally with them, and, if necessary, also avoid them.

If companies want to exploit the full potential, they must start by changing the way they think. AI is not restricted to IT or innovation departments, but relates to the company as a whole. When applying AI methods to the economy, especially in production, the automotive industry, medicine, and logistics, we will need specialists to develop the learning systems as well as employees who are familiar with the use of these systems in their day-to-day activities. AI is not just for academics, but a key area of training and further education.

The steps to achieve greater use of robotics, AI, and virtual reality must be designed in a structured way. It is important to involve all relevant stakeholders

in the process. This includes those responsible for data protection and works councils. It is not a digital revolution, but an approach made up of incremental steps. Moreover, it is not possible to address all aspects at the same time as operational business will be negatively impacted if there are too many projects underway. Digitisation is an evolutionary process, transformation never ends, and change is constant.

The numerous studies on the effects of digitisation on overall employment levels suggest that ultimately no jobs will be lost, but many jobs will change. Digitised production will no longer require as many employees at the machines, but more people to control the processes. A look back in history shows that every industrial revolution ends up creating more jobs than before. This is also the expectation for the fully digitised working world. It is important to make these small steps to achieve the transparent transformation for to our employees as early as possible and to use additional training measures internally to prepare and involve those affected; a key issue with respect to digitisation is how to pass on knowledge within a company. Our qualified, skilled workers are our major strength. We must make our technologies transparent so that these skilled workers can both understand and use them.

It is therefore essential that companies check whether the software delivers transparent results before they introduce AI. Not only do the company's employees expect this guarantee, but so do investors, customers, and supervisory authorities. As early as the

design phase, companies should be thinking about potential controls. Overall, the design phase requires an intensive exchange between developers and clients to ensure that AI applications truly meet users' expectations. AI control is not a one-off procedure, but a continuous process.

Digitisation and AI have an enormous potential to change our society, the way we live and work, and how we participate in social and political life. The key question is how to successfully address the challenges and opportunities of digitisation. Particularly for industry and industrial value chains, we need continuous improvement of the digital environment through politics and a course of action that supports more breakthroughs, more momentum, and more innovation. People are concerned about digitisation and AI because they see not only opportunities and benefit, but also threats to social cohesion, our values, and the self-determination of individuals. It is crucial to have an approach based on values. Transparency and dialogue about the use of AI is therefore vital. Not everything that is technically feasible can be put into practice. The aim is clear: to develop learning systems in such a way that they serve the economy and society and not vice versa.

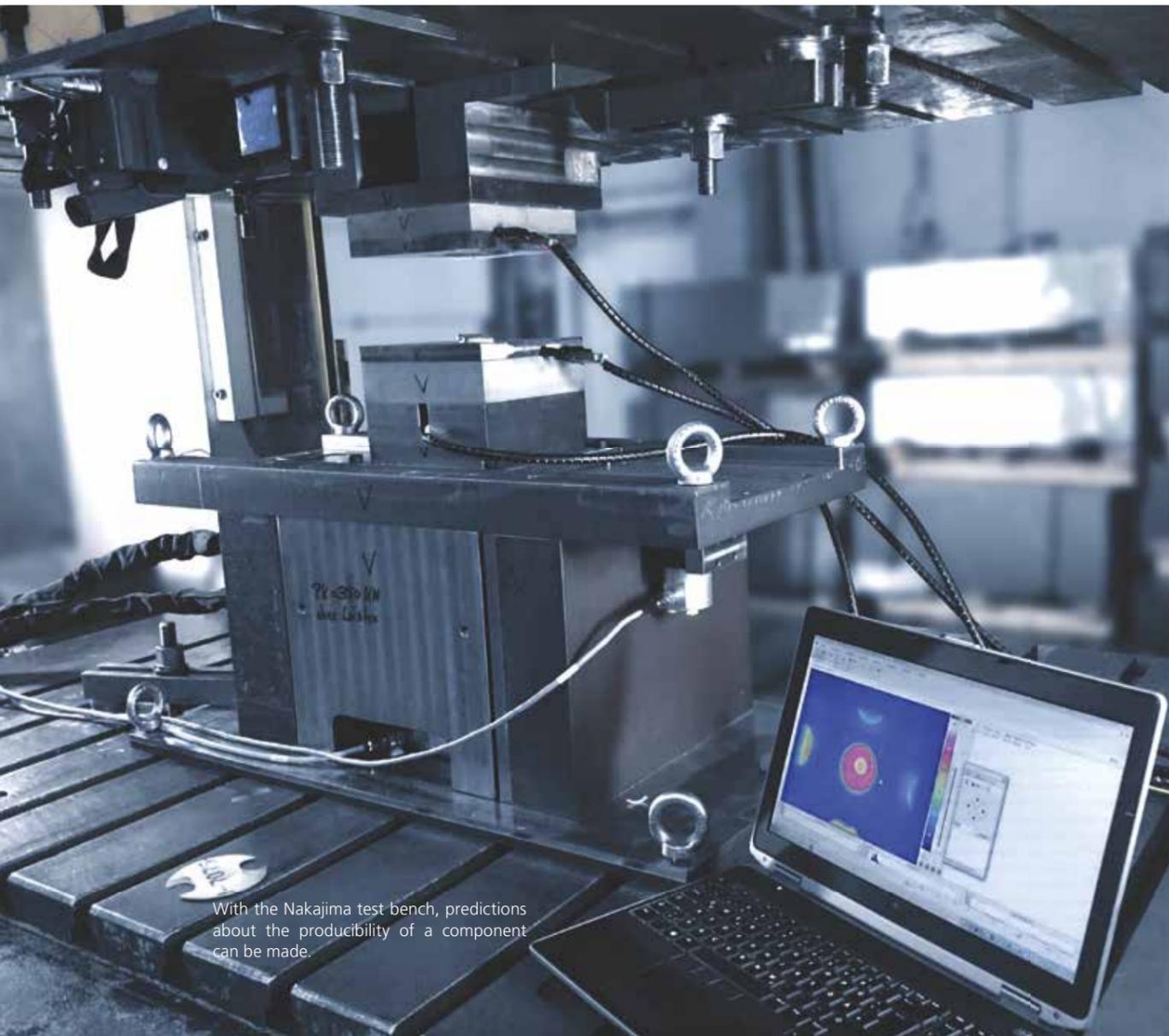
**Wishing you a wonderful summer and the best of luck.**

Sincerely,  
Arndt G. Kirchhoff



## New test bench provides information on the producibility of a component

Thanks to a new test bench developed at KIRCHHOFF Automotive to carry out Nakajima tests, it is possible to calculate temperature-dependent forming limit curves of high-strength and ultra-high-strength steel alloys.



With the Nakajima test bench, predictions about the producibility of a component can be made.

More and more use is being made of high-strength and ultra-high-strength materials in the automotive industry. In addition to traditional cold-formed steels, such as dual- or complex-phase steels, hot-formed steel and aluminium alloys are also becoming more important.

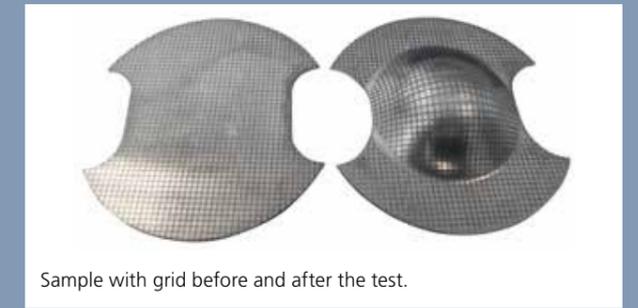
Strengths of up to 2,000 MPa can be achieved using hot-formed steel components. With the corresponding aluminium alloys, strengths of up to 600 MPa can be reached, while strengths of only up to approximately 350 MPa are possible with cold-formed grades. Aside from the change in material grade, the components to be manufactured are also increasing in complexity. Finite-element-supported forming simulation is used to measure producibility. A flow curve showing the relationship between the force required for forming and the change in form describes the material behaviour. In addition, the forming limit curve is required as an input parameter for the forming simulation. This serves as the basis for evaluating the producibility of a component. The forming limit curve describes the critical change in form at which the component is expected to fail during the pressing process.

To calculate the forming limit curves of high-strength and ultra-high-strength steel alloys, KIRCHHOFF Automotive has developed a test bench for performing Nakajima tests. This allows Nakajima tests to be carried out at temperatures of up to 900°C by means of the integrated heating of the entire tool. In addition to the temperature of the tool, the sample temperature can also be controlled using a thermographic camera mounted on the tool.



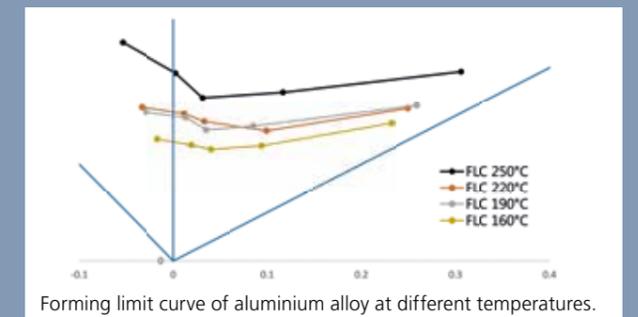
### NAKAJIMA TEST

Nakajima tests in accordance with DIN EN ISO 12004-2 are performed to determine the forming limit curve. This involves forming circular blanks with different recesses to the precise point of breakage.



Sample with grid before and after the test.

By varying the sample geometry, different expansion states are achieved, each of which represents a point on the forming limit curve. Prior to the test, a square grid is drawn electrochemically on the sample surface. After forming, the distorted grid on the formed sample is evaluated. As the edge length of the unformed grid is known, the maximum tolerable change in form of the material in the current elongated state can be concluded from the edge length after forming.



Forming limit curve of aluminium alloy at different temperatures.

This makes it possible to characterise hot-formed steel or aluminium alloys in the corresponding relevant temperature ranges, thereby improving the prediction accuracy of the forming simulation. Predictions about the producibility of a component and thus process planning are therefore more reliable, with the ultimate aim of eliminating cost- and time-intensive tests.

Authors: Prof. Christoph Wagener, Benedikt Poggel

# Blue is the new green

— Zero-emissions waste disposal. FAUN recently unveiled its new BLUEPOWER hydrogen fuel cell vehicles with modular, fully configurable alternative drive systems. FAUN was awarded the 2018 VAK Innovation Prize for its latest development.



World debut at IFAT – FAUN introduces its concept for a zero-emissions refuse collection vehicle powered by a hydrogen fuel cell drive.

The BLUEPOWER made its world debut at IFAT 2018. The latest alternative drive system builds on knowledge and experience gained with the DUALPOWER and FUELCELL systems.



**WHAT IS BLUEPOWER?**

BLUEPOWER is a chassis with a fully electric drive and an 85 kWh battery, based on a Mercedes-Benz ECONIC chassis. Depending on the customer's requirements, electrically powered superstructures can be added to this chassis. Options include the tried-and-tested electric ROTOPRESS and VARIOPRESS refuse vehicle superstructures, or a VIAJET electric sweeper bodies.

**WHAT ARE YOUR ENERGY NEEDS?**

Depending on the customer's selected energy package and their specific application, the light-weight and cost-effective battery – which is much smaller than those used by competitors – may be sufficient to power the vehicle. If not, we add a further energy source.

Before we start building the vehicle, we conduct a simulation of all the waste disposal applications in which it will be used, to ensure that the resulting vehicle is tailored exactly to the company's needs. We collect customer data and evaluate this data in the course of our simulation. If we find that the battery will need some supplementary power from another source, we can also install hydrogen fuel cells (H2BZ) in three power classes (30, 60 or 90 kW). The vehicle can be fitted with one to four H2 tanks for energy storage.

**HOW MUCH BLUEPOWER WILL YOU GET?**

A top-specification BLUEPOWER vehicle with a continuous output of 90 kW and just under 600 kWh of energy in its hydrogen tanks has a range of up to 400 km of motorway driving before it needs to stop to fill up. Alternatively, the vehicle may be used for collections over multiple days before it needs to be refuelled. The entire body is designed to enable the customer to modify the configuration to suit new applications at any time. For example, if the vehicle use profile changes when the collection route is put out to tender, H2BZ and tanks can be installed quickly and easily. All of the interfaces required for this conversion are available from day one, and the software is designed for these kinds of modifications. For the customer, there is no need to invest in the full package right from the start, just in case the vehicle is needed for higher-power applications at a later stage. The additional equipment can simply be added when it is actually needed, helping customers to keep their initial investment down. FAUN firmly believes that from 2030 on the majority of vehicles will be electric. Fuel cells will undoubtedly emerge as the dominant technology for long-distance travel due to hydrogen's far superior properties as an energy carrier. Batteries are only a viable option for private travel over short distances in urban areas. At the same time, we also have to consider that hydrogen provides a closed-loop system when used as an energy carrier.

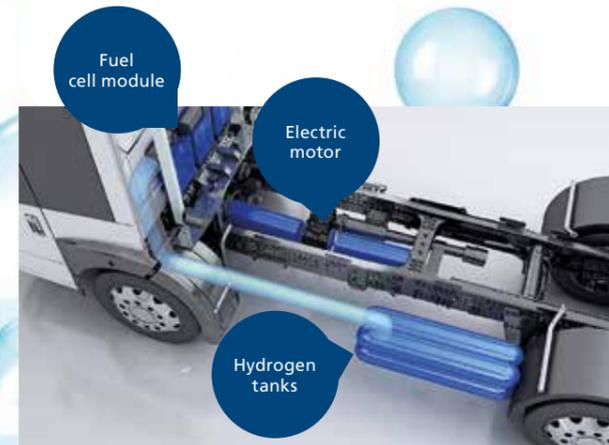
**HOW DO I GET ON THE ROAD WITH BLUEPOWER?**

The first step is to contact us. BLUEPOWER is scheduled to commence road testing in 2019. We're currently looking for interested companies to participate in this process.

Author: Georg Sandkühler



Germany's Federal Minister of the Environment Svenja Schulze learns about FAUN's environmentally friendly innovations at IFAT. The Minister and State Minister Dr Marcel Huber (second from left) got a detailed run-through of the technology from FAUN CEO Patrick Hermanspann and KIRCHHOFF Group partners Dr Johannes F. Kirchhoff and Arndt G. Kirchhoff.





016



030



032



034

- 016 New Products on the Road
- 022 Best version yet of a bestseller
- 024 A press on the road
- 026 Growing importance of toolmaking
- 028 Meet & greet with cross car beams, bumpers, and more
- 030 Debuting new technologies to FCA
- 031 We are there
- 032 Do forklifts drive autonomously?
- 034 Because culture enriches our lives
- 038 Thomas Kirchhoff—a creative musician with management talent
- 040 Real-time information
- 042 New office in China
- 044 Unleash your creative potential
- 046 News in brief



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**KIRCHHOFF**  
AUTOMOTIVE

WE.MOVE.FUTURE.

# New Products on the Road

— Also for the latest vehicle models KIRCHHOFF Automotive supplies various products. Our OEM customers can rely on our crashrelevant structural parts with innovative components.



## Mercedes-Benz A-class Reinforcements for towing hitch, longitudinal member and middle tunnel

### Technologies:

Reinforcement towing hitch:  
Forming (thick sheet metal), MIG-welding, CDP-coating, gluing of a seal  
Reinforcement longitudinal member left/right:  
Hot forming, spot welding  
Reinforcement middle tunnel:  
Hot forming, projection welding, spot welding

### Production plants:

Reinforcement towing hitch:  
Iserlohn/Germany  
Reinforcement longitudinal member left/right,  
Reinforcement middle tunnel: Esztergom/Hungary

### Capacity/Year:

Reinforcement towing hitch:  
50,000 vehicles  
Reinforcement longitudinal member left/right,  
Reinforcement middle tunnel: 560,000 vehicles

### Customer/Model:

Mercedes Benz A-Class



## Crash relevant structural parts for the new A-class

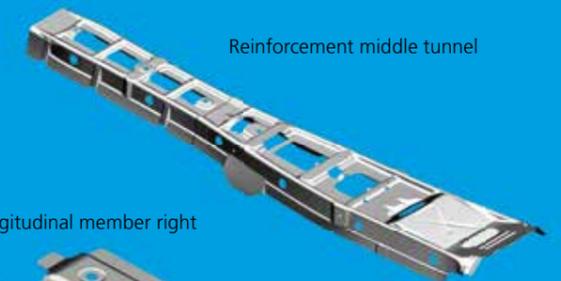
Equipped with new connectivity services and Artificial Intelligence, Mercedes-Benz has introduced the new A-class to the market in May of this year. KIRCHHOFF Automotive contributes several products to the compact car; the production plant in Iserlohn, Germany supplies the reinforcement of the towing hitch which serves as a connection element between the car body and the towing hitch.

Both the reinforcement for the longitudinal members, as well as the middle tunnel reinforcement, are hot formed on 1200 tonne presses in Esztergom, Hungary. Those parts are also used in further derivatives of the MFA2 platform. As a crash relevant structural part in the underbody – which is located between the longitudinal member and the front wall – the longitudinal reinforcement is produced with a constant sheet thickness.

Reinforcement longitudinal member left



Reinforcement middle tunnel



Reinforcement longitudinal member right



Reinforcement towing hitch left



Reinforcement towing hitch right



**Volvo XC40 Cross Car Beam**

**Technologies:**  
Forming, MAG welding, projection welding

**Production plant:**  
Mielec/Poland

**Capacity/Year:**  
108,500

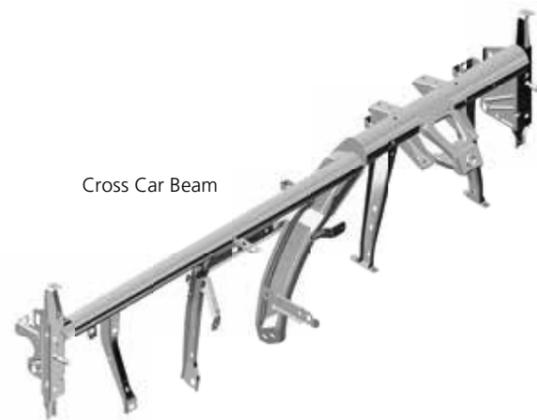
**Customer/Model:**  
Volvo XC40



**First serial project for Volvo Cars**

Since the Spring, the new XC40 by Volvo has been rolling off the assembly line in Ghent, Belgium. KIRCHHOFF Automotive supplies the steel Cross Car Beam for this vehicle. This crash-relevant structural part contributes significantly to vehicle stability and safety in the event of side impact.

The compact SUV is the first European model to be built on the new CMA platform. In addition to Volvo in Europe also Geely in Asia produces on the basis of the new CMA platform. Global project management and the high number of variants for the various vehicle derivatives were challenging for KIRCHHOFF Automotive.



Cross Car Beam



**Ford EcoSport Cross Car Beam and front bumper**

**Technologies:**  
Forming, hot forming, arc welding, spot welding, projection welding, clip assembly, assembly

**Production plant:**  
Craiova/Romania

**Capacity/Year:**  
138,000 vehicles

**Customer/Model:**  
Ford EcoSport



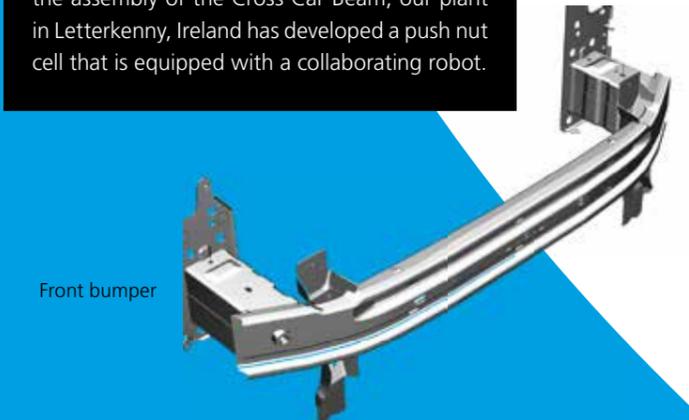
**Structural parts for the Ford EcoSport**

Our plant in Craiova, Romania manufactures various components for the new Ford EcoSport in close proximity to the Ford production plant. In the beginning of March, this model was officially introduced to distributors.

KIRCHHOFF Automotive supplies numerous complex welding assemblies and the Cross Car Beam. We also produce the front bumper with a hot formed beam at our plant located in Gliwice, Poland on their new hot forming line. For the assembly of the Cross Car Beam, our plant in Letterkenny, Ireland has developed a push nut cell that is equipped with a collaborating robot.



Cross Car Beam



Front bumper



**BMW X3 Frontend**

**Technologies:**  
Forming, Cutting, Punching, Bending, Automated Spot, MAG and Projection Welding, CDP-Coating, Automated Assembly with blind rivet nuts

**Production plants:**  
Manchester/USA, Shenyang/China

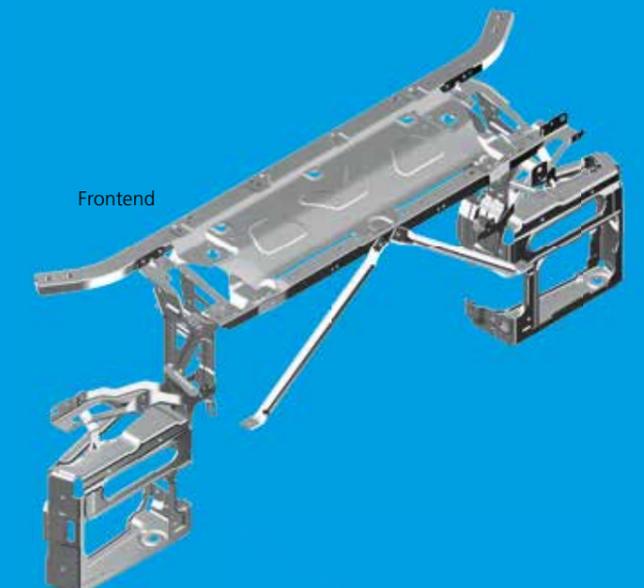
**Capacity/year:**  
415,000

**Customer/Model:**  
BMW X3 and X4

**Now also in China: the BMW frontend**

We have successfully developed the material mix frontend for the BMW X3 in collaboration with BMW in Germany. Last year, production of the complex assembly started at our plant in Manchester, USA. Using the same concept, the series production of the X3 is now also carried out at our plant in Shenyang, China.

For this new customer order, the Shenyang plant has been extended to accommodate a new press hall of 4,500 sqm. The new presses manufacture aluminum and steel parts. This new concept was technically challenging as it included the bending and piercing of aluminum profiles, as well as the corrosion requirements of the welded steel parts.



Frontend



**Complex structural parts for the Mercedes-Benz VS30 Sprinter**

The new Sprinter generation is launched with crash relevant structural parts by KIRCHHOFF Automotive. Overall, our Company has developed six different versions of the longitudinal member for the van within a short amount of time. This variant variety is to serve the differing requirements with regards to crash performance. The production of the B-pillar has a high degree of automation which is why the production in Attendorn, Germany is carried out with almost no personnel. Through the joint development of the cockpit cross member, the component properties improved. On the one hand the weight of the steering column and the tunnel reinforcement were reduced, while the NVH properties (noise, vibration, harness) have improved. The current design also allows high sharing of parts for the left and right hand drive. After successful testing of these products, the cockpit cross member is now produced by KIRCHHOFF Automotive in Europe and the USA.

**Mercedes-Benz VS30 Sprinter Longitudinal member, cross member, B-pillar, Cross Car Beam**

**Technologies:**

- Longitudinal member: Forming, nut insertion, resistance spot welding
- Cross member: Forming, projection welding, resistance spot welding
- B-pillar: Forming, projection welding, resistance spot welding
- Cockpit cross member (CCB): Forming, projection welding, arc welding

**Production plants:**

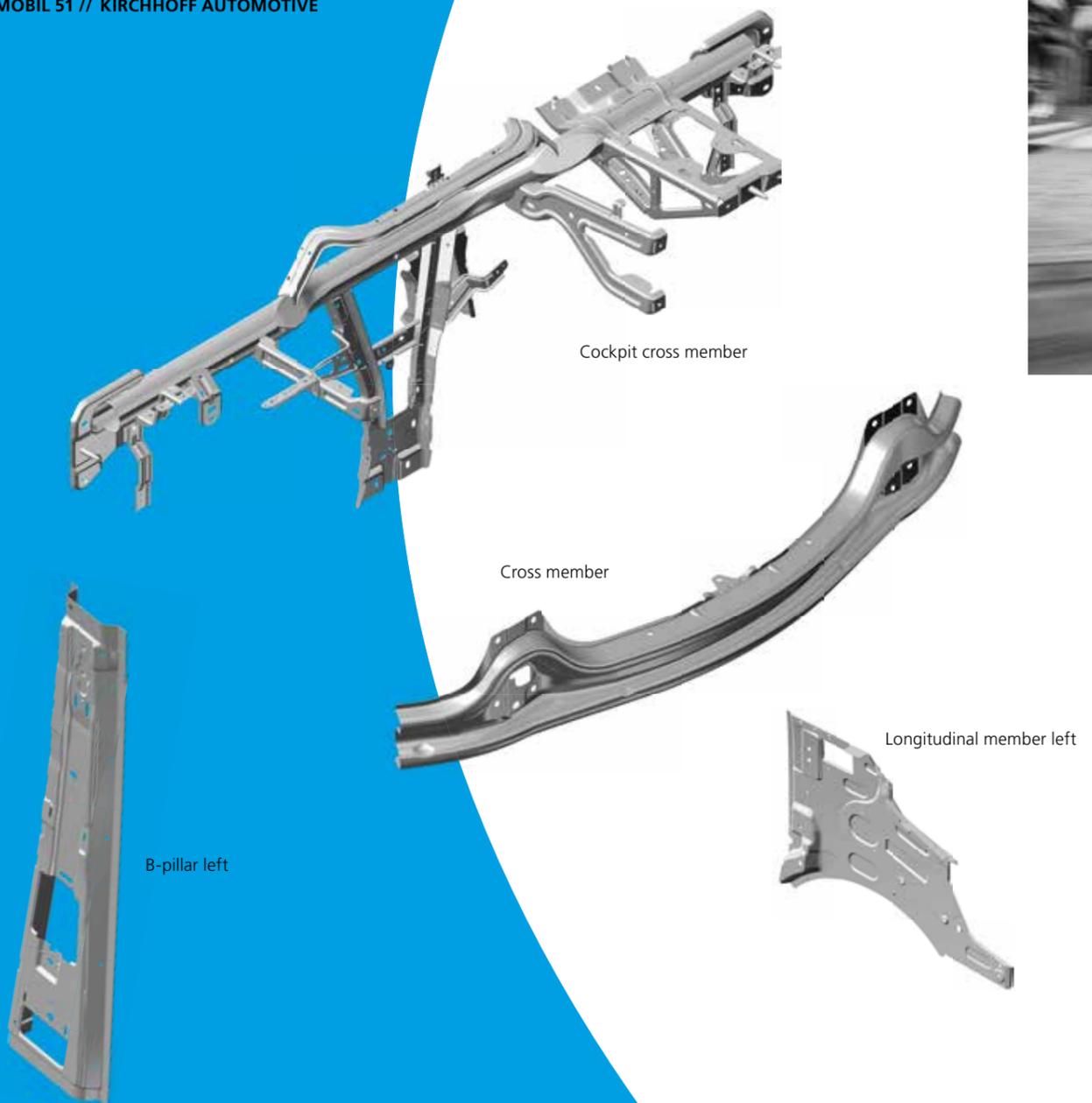
- Longitudinal member: Iserlohn/Germany
- Cross member: Mielec/Poland
- B-pillar: Attendorn/Germany
- Cockpit cross member: Mielec, Gliwice/Poland, Manchester, Tennessee/USA

**Capacity/Year:**

250,000 vehicles

**Customer/Model:**

Mercedes-Benz VS30 Sprinter



Cockpit cross member

Cross member

B-pillar left

Longitudinal member left



**VW Jetta Forming parts**

**Technologies:**

Forming, CDP-coating (of holding front light)

**Production plant:**

Puebla/Mexico

**Capacities/Year:**

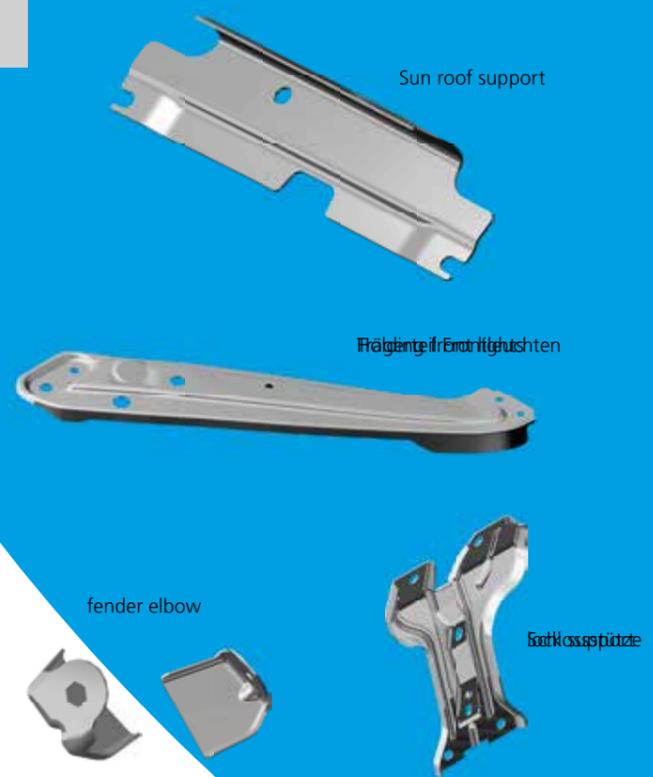
250,000

**Customer/Model:**

VW Jetta

**Extensive package of forming parts for the VW Jetta**

With its new design, the VW Jetta was introduced at the International Auto Show in Detroit in January. KIRCHHOFF Automotive supplies a package of forming components for this version with a more dynamic shape and an improved interior. The holding front lights, the sun roof support, and additional car body components are produced at our plant in Puebla, Mexico. In order to achieve further corrosion protection, the holding front lights are CDP-coated after the forming process.



Sun roof support

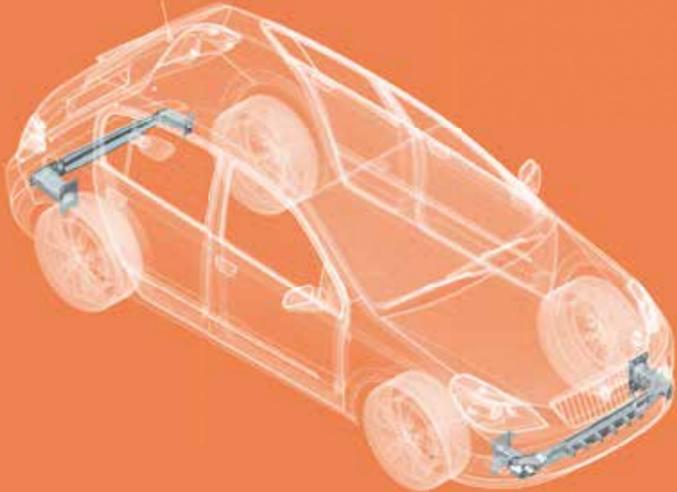
Frägteile für Frontlicht

fender elbow

Frontkassenspitze

# Best version yet of a bestseller

For the first time, SEAT has appointed our Company to develop and manufacture the crash management system for the Ibiza and Arona. Before the contract was awarded, KIRCHHOFF Automotive had to hold its own in a concept challenge.



SEAT Arona front and rear bumpers.



We needed to stand out from the market players by demonstrating excellent crash performance and an affordable design. While all of our competitors had developed concepts with hot-formed bumper beams, our engineers had opted for a cold-formed variant after carrying out numerous concept analyses. This is because the required component properties, on the basis of which SEAT had originally requested hot-formed components, could also be reproduced in the cold forming process by means of an innovative design change—resulting in significant cost savings for the customer.



After receiving the order, intensive cooperation started with the developers at SEAT: installation spaces were adjusted, simulation models and requirements were updated, and the design was continuously aligned and optimised with SEAT. This successful cooperation resulted in two bumper beams with optimal crash performance.

Author: Dr. Dirk Stahl

At first, the concept was developed into a simulation-based design with the required installation spaces, then it was extensively analysed in the simulation department. Using these calculation results, the bumper beams were optimised using the simulation until all requirements were met. These requirements are very broad and range from legal regulations and the demands of motor vehicle insurers to additional customer-specific specifications. To secure a series order, not only must these requirements be satisfied, but weight and cost targets also have to be met. KIRCHHOFF Automotive successfully achieved this.



SEAT Ibiza front and rear bumpers.



## Crash performance tests

Although the simulation technology is very mature and yields good results, not all of the factors that influence crash performance can be accounted for exactly. That's why crash-relevant components are always assessed in real crash tests. For a bumper, these tests are twofold: Initially, simplified crash tests are carried out using a trolley (image 3). Once these tests have been successful, the customer, SEAT in this case, validates our bumpers in the actual vehicle.



# A press on the road

— With a mega truck the first parts of the new 1250 tonne servo transfer press arrived in the KIRCHHOFF Automotive plant in Tecumseh/USA.



Set up of the press within four days

**W**hen the 220 foot truck arrived at our plant in Michigan to deliver the bottom part of the press, a great deal of maneuvering was required. The new press which replaces former Tandem D-Line presses, was acquired to produce parts for a large GM Program. The new press has a servo link drive. That allows for faster production speeds and higher quality of products. Approximately twelve new employees will be hired for the press room.

It is expected that set up will be complete in July so that the series production can begin then.

Author: Anamika Singh





Toolmaking in Attendorn, Germany



Toolmaking in Mielec, Poland

## Growing importance of toolmaking

— KIRCHHOFF Automotive's two toolmaking sites in Attendorn, Germany, and Mielec, Poland, are due to grow substantially in the next two to three years. Investments totaling EUR 9.5 million were released for new machine tools and an extension to the workshop in Mielec.



**“Following the expansion of our production capacities, we will be better able to meet the increasing demand for tools to process high - and ultra-high - strength steel, as well as complex hot-forming tools,” said Stefan Leitzgen, Global Chief Operating Officer at KIRCHHOFF Automotive.** In the future, both toolmaking sites will concentrate entirely on the production of complex forming tools. The aim is to reduce the start-up costs of new products and to gain more control over projects with critical deadlines.

Toolmaking has been an integral part of KIRCHHOFF Automotive for over 40 years. Today, our toolmaking teams manufacture prototype, single, progressive, and transfer tools in accordance with customer requirements to produce cold and hot-formed structural parts for the automotive industry.

Focusing on complex components, KIRCHHOFF Automotive's new tool manufacturing could develop a technological advantage—not only in the area of hot forming, but also in the forming of high – and ultra-high – strength materials, with thicknesses of up to 12 mm for the commercial vehicle industry.

The complete manufacturing process for all our tools has been synchronized—i.e. production planning and order management are linked by a planning software, and all machines are connected to a BDE system. In the production halls, the flow principle and a central supermarket ensure efficiency at every step, resulting in shorter throughput times and greater flexibility.

In order to guarantee the future of the tool shops in the long run, young tool mechanics were trained in both locations. In Mielec, Poland the vocational training is based on the German model of the dual system. For this, a cooperative agreement with the local vocational college was signed.

For further information, please visit:

[tools.kirchhoff-automotive.com](https://tools.kirchhoff-automotive.com)

Author: Stefan Leitzgen



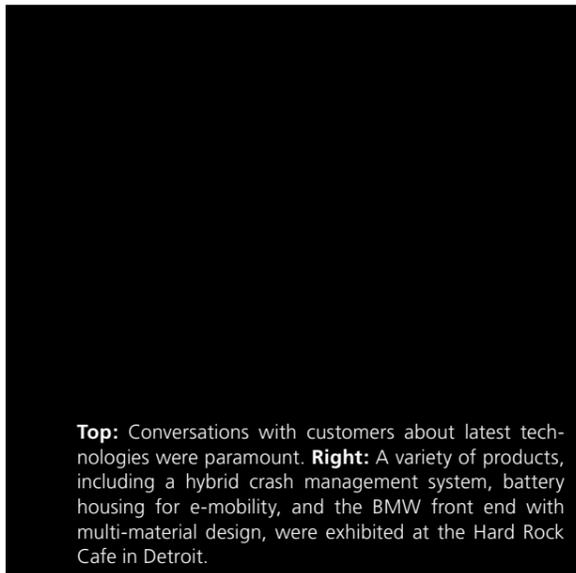
# Meet & greet with cross car beams, bumpers, and more



— The North American International Auto Show (NAIAS), better known as the Detroit Auto Show, is one of the biggest auto shows worldwide, offering an impressive look at the latest technologies and innovations in the automotive industry at the start of the year.



**Top:** At the start of the year, the North American International Auto Show (NAIAS)—better known as the Detroit Auto Show— belongs to the biggest auto shows worldwide and opened its doors at Detroit’s Cobo Center. **Left:** In January, KIRCHHOFF Automotive held their first customer event in conjunction with the Detroit Auto Show.



**Top:** Conversations with customers about latest technologies were paramount. **Right:** A variety of products, including a hybrid crash management system, battery housing for e-mobility, and the BMW front end with multi-material design, were exhibited at the Hard Rock Café in Detroit.



**A**mongst the new models exhibited by OEMs were the Chevrolet Camaro, a Corvette, the Ford F150, a Mustang, and a Honda Civic—all of which have one thing in common: a CCB produced by KIRCHHOFF Automotive.

The automotive supplier with 11 production plants in North America, and many other locations worldwide, used this high-profile show as an opportunity to invite select customers to a Customer Engagement Event at the Hard Rock Café in Detroit, close to the exhibition venue. A variety of products were showcased for customers, including the BMW front end with a multi-material design, a hybrid crash management system and an innovative lightweight design which ensures a safe housing of high voltage battery modules in electric vehicles. The relaxed atmosphere produced many

valuable discussions about current and new technologies that KIRCHHOFF Automotive has to offer. Art Tingey, Sales Manager in Troy, was extremely satisfied with the result. “This was a fantastic opportunity for our Sales team to meet the customers and talk about the technologies that KIRCHHOFF Automotive has been working on recently.”

A convenient shuttle service allowed the visitors to travel back and forth between Hard Rock Café and the NAIAS at Cobo Hall.

Author: Anamika Singh

# Debuting new technologies to FCA

“I’m very happy that really all attendees at the show – from buyers to VPs – were very pleased with our competencies on display. It was a great opportunity to generate awareness about our capacity as a supplier of large modules for lightweight design,” shares Joshua Forquer, Vice President of Sales in North America.

In April, KIRCHHOFF Automotive held a Technology Fair at the Chrysler Technology Centre in Auburn Hills, Michigan. More than 600 visitors and important conversations represented the day. So visited amongst others Marvin Washington – Director & Head of Body, Exterior & Raw Materials Purchasing at FCA – the show in order to inform first-hand about our lightweight technologies and discuss them with the Sales and Engineering team.

The focus were topics in lightweight design and technologies such as CNC Bending, Laser and Hybrid Welding; all of which are employed in North America. Our High Voltage Battery Housing for E-vehicles made it’s second debut to the North American market sparking much curiosity from FCA’s engineering staff.

KIRCHHOFF Automotive’s presence at the Chrysler Technology Center made way for continued partnership and collaboration with FCA in the future.

Author: Anamika Singh

**FCA World Headquarters**

The state-of-the-art Chrysler World Headquarters and Technology Center in Auburn Hills, Michigan brings together cutting-edge scientific research, industry-leading creative design, vehicle development, engineering, and manufacturing under one roof, sitting on 504 acres and at 5.3 million square feet. The complex is second only to the Pentagon as the largest building in the U.S. in floor space and can house approximately 15,000 employees.

More than 600 visitors attended the KIRCHHOFF Automotive technology day at the Chrysler Technology Centre in Auburn Hills, Michigan.



## We are there



KIRCHHOFF Automotive presents innovative solutions for electric mobility and lightweight construction, as well as new approaches to process optimization.

### IAA COMMERCIAL VEHICLES 2018—driving tomorrow

IAA Commercial Vehicles in Hanover is the leading trade fair on mobility, transport, and logistics and the meeting point for exhibitors and industry experts from various sectors. This year’s fair will be held from 20 to 27 September. It will focus on the future of commercial vehicles, in terms of automation and connectivity, safety, environmental protection, and electric mobility.

At IAA Commercial Vehicles, under the theme “WE.MOVE.FUTURE.”, KIRCHHOFF Automotive will present structural body components developed specially for electric mobility as well as lightweight solutions using innovative combinations of materials. At our trade fair stand in hall 13, we will also present examples of our outstanding project management, which allowed us to construct a new JIT plant within a very short period of time.

Discover product innovations for e-mobility and lightweight body construction in the commercial vehicle sector and experience our expertise for yourself. **We look forward to seeing you at our stand C36 in hall 13.**

### IZB 2018—think digital

The tenth IZB (International Suppliers Fair) will take place between 16 and 18 October 2018 in Wolfsburg. It is the leading European trade fair for the automotive supplier industry. Over 700 renowned suppliers will participate this year, covering the entire automotive value chain. KIRCHHOFF Automotive will present its product innovations to the public on a 90 m² stand.

As a development supplier, KIRCHHOFF Automotive will offer its customers everything from a single source: design development, manufacturability analysis, globally standardized project management, innovative manufacturing processes, and individual solutions tailored to customer requirements. For example, KIRCHHOFF Automotive and Volkswagen AG are collaborating on the material pre-evaluation process for various new steel grades and are researching the potential for using these new materials in series production. Using materials with hot forming grades of 1,900 MPa, for example, allows weight savings and increases safety. Find out more about this joint research work and our latest innovations in economical, lightweight automotive construction. **You’ll find us at our usual location in hall 7, stand 7207. We look forward to seeing you!**

Author: Sabine Boehle



# Do forklifts drive autonomously?

— To answer this question, we tested the use of driverless lifting vehicles for a duration of three days at our plant in Iserlohn, Germany, for the first time.

**W**e wanted to determine if this new technology could be implemented in our plants worldwide, and in which capacity – for example, considering small driveway width, oncoming traffic, or floor unevenness which can all affect the use of driverless vehicles.

Between the area of material delivery from the press shop to the central supermarket, we tested a forklift, equipped with latest intelligent controls and security techniques. The vehicle can drive on a given route based on a virtual map of scanned building structures and firm installations. It is also possible to program driving at various speeds, in addition to taking up and stacking containers – all of this is done autonomously.

The next phase will involve analysis of individual locations to determine which can be considered a pilot facility for the implementation of this technology. In the future, that way autonomous transport systems will supplement the employee driven forklift trucks. For KIRCHHOFF Automotive, this is an important progression towards modern and competitive intralogistics.



**Watch the video of the LINDE L-Matic test drive at the Iserlohn plant via the K>MOBIL App.**

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Author: Andreas Denso



First pilot test with an autonomous forklift from Linde

# Because culture enriches our lives

— Culture Life, the new culture initiative at KIRCHHOFF Automotive, is taking off rapidly. The first major event with the motto “Culture Attack” was quite literally organised in an inspiring way by Prof. Thomas Kirchhoff in Attendorn, Germany, and attended by almost 400 employees and their families. Plans are now in place to gradually introduce the benefits of Culture Life to the other locations in Germany, Poland, and Hungary.



**01** The quartet Uwaga, consisting of four musicians that couldn't be more different, inspired the audience. **02 + 03** During the Culture Attack afternoon the mixed audience made the hall shake drumming together with the percussion artists 'Drum Conversation'.

**A**nd in a next step, the automotive plants in North America and Mexico will join the queue for culture from 2020.

Painting events, competitions, visits to concerts and exhibitions, reading evenings, participatory musical events, and much more are to be combined into a multi-faceted cultural programme in the coming years. Culture Life is designed to shape the corporate culture at KIRCHHOFF Automotive in the best possible way. It's all about strengthening the bond between the employees in the family-run Company. To publicise his events, Thomas Kirchhoff attends shift and works meetings at the individual Company locations. "I want to encourage everyone directly to participate in Culture Life," explains the new cultural representative.

He is currently planning a photographic wall calendar for 2019 that will be a gift exclusively for employees: "A professional photographer will give interested amateur photographers at KIRCHHOFF Automotive appropriate advice. Without a doubt, it's going to be a huge success," says Thomas Kirchhoff confidently. His overall concern is to achieve cultural diversity within his programme. The employees of the mid-sized family-owned company are therefore called upon to play an active role, but always with the support of designated professional artists. Culture Life also focuses on cooperation with local cultural institutions.

„J. Wolfgang Kirchhoff, Managing Partner and CEO of KIRCHHOFF Automotive, has already summarised the objectives of Culture Life as “To feel good, marvel, listen, enjoy, and join in”.

And with its varied cultural programme, KIRCHHOFF Automotive is not only breaking new ground in its own Company: never before has such a comprehensive and far-reaching free cultural initiative been developed exclusively for the employees of an individual company. Thanks to his global network on the cultural scene, Thomas Kirchhoff is not only able to give Culture Life a very interesting programme, but also one that is truly of exceptional quality on an international scale.

He intends to make use of his relationships with musicians, fine artists, and other creative people to make the constantly changing programme attractive and exciting for as many KIRCHHOFF Automotive employees as possible. "In Iserlohn and Attendorn alone, people from 26 different nations work at KIRCHHOFF Automotive. It's a real challenge for me to satisfy all interests and tastes in one way or another," says Thomas Kirchhoff.

Culture Life is not merely a cultural offering at KIRCHHOFF Automotive. Rather, it is one of the elements of a lively and responsible corporate philosophy, in which CEO J. Wolfgang Kirchhoff believes: "Culture enriches our lives, expands horizons, creates balance in everyday life, and, not least, opens up the opportunity for integration."

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Author: Andreas Thiemann



## Thomas KIRCHHOFF— a creative musician with management talent

The 57-year-old resident of Iserlohn, Germany, who has taught classical guitar for many years as an honorary professor at the Detmold University of Music, has built his international artistic career on the two pillars of courage and passion.

For more than 30 years, Thomas Kirchhoff and his wife Dale Kavanagh have been performing around the world as Amadeus Guitar Duo. They have already recorded over 20 CDs, and the most important contemporary composers have dedicated numerous works to them—tailor-made, so to speak, for their brilliant guitar skills.

The nephew of the senior director of the KIRCHHOFF Group, Dr. Jochen F. Kirchhoff, has earned a worldwide reputation with his guitar, based not only on more than 2,000 concerts in over 70 countries, but also on his organisation of high-quality music festivals, international guitar symposiums, and numerous new benefit events. The Iserlohn Guitar Festival, for example, organised by Kirchhoff annually since 1992 in his home town, is the largest and most important of its kind in the world.

Courage and passion—without these two distinctive characteristics, all of this would certainly not have been successful, or may not even have happened at all. And so it comes as no surprise

— Courage and passion—two terms that quickly come to mind when talking with Thomas Kirchhoff. These are two terms that he not only puts into practice and exemplifies, but also values and demands when dealing with others.



The driving force behind KIRCHHOFF Culture Life: CEO Wolfgang Kirchhoff (left) and Thomas Kirchhoff, cousin, professional musician, and series organiser.

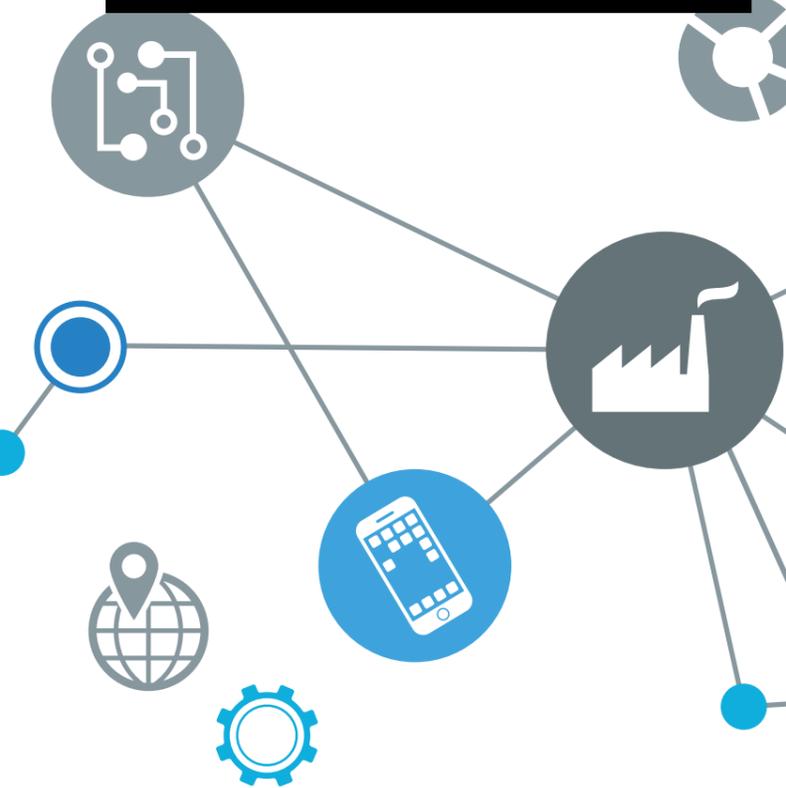
that KIRCHHOFF Automotive, in search of a suitable cultural representative, has, as a matter of course, found what they were looking for in their own family with Thomas Kirchhoff.

It did not take much for J. Wolfgang Kirchhoff, CEO of KIRCHHOFF Automotive, to persuade his cousin to take on the equally ambitious and attractive task of setting up an internal cultural programme for KIRCHHOFF Automotive. And even the initial events under the title “KIRCHHOFF Culture Life” that Thomas Kirchhoff has already organised for employees and their families at the Attendorn and Iserlohn locations were clearly underpinned by the courage and passion that this extremely versatile and creative musician with management skills is known and valued for.

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Author: Andreas Thiemann

# Real-time information



**M**any changes have taken place since HYDRA was introduced in 2008: 16 new plants have been added and requirements for data transparency and new functions have increased. The growing level of digitisation requires horizontal integration and customised system design.

At KIRCHHOFF Automotive, a team of IT specialists are working on optimising the internal organisation and intensifying the networking of suppliers and companies that have the same MES system and similar processes. This team has recently adapted the standard system to our processes. During the implementation of HYDRA, individual plants are supported by a specialist. Different companies share best practice applications within a user group called HYDRA Users Group (HUG).

Among other things, KIRCHHOFF Automotive is on the HUG board and heads up project teams that develop the MES system in a targeted and standardised way in line with customer requirements.

This commitment has many advantages. Aside from the exchange of best practices, KIRCHHOFF Automotive is able to influence the design of the software. For example, a new user interface that we can customise ourselves has been created for quality management. This enables us to display the information relevant to the machine operators directly. In new releases, quality inspection processes have been streamlined. Less time is thus required for administration and operation, and data quality is increased.

Author: Björn Wollny

**—** The HYDRA Manufacturing Execution System (MES) combines machine and order data, thus supplying production information in real time. The system acts as a link between SAP and the machine controls. This high level of transparency helps to increase equipment availability, improve posting quality, and ensure streamlined internal processes.

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With an individually customised user interface for quality management, information relevant to the machine operators can be displayed directly.

# New office in China

— The quality of our products is largely dependent on the quality of our tools, some of which we buy in China and ship to our plants in Europe and North America.

**T**o make procurement more efficient and ensure the requisite high quality, we have opened a new branch in Dongguan, China. The 120 sqm office was completed at the end of March.

Initially, three tooling engineers will be based in Dongguan to monitor the production of tools destined for Europe and North America. At a later date, tool experts and APQP engineers will also handle the inspection of measurement gauges in order to optimize the quality of tools. Michal Pajak from the Tooling team in Mielec, Poland, is relocating to China for a year to manage the office.

Author: Jimmy Gu

Jimmy Gu, Manger Manufacturing Engineering, is preparing everything for the launch of the new office in Dongguan.

# Unleash your creative potential

**A**s part of the global Leadership Development Program for our Upper Management, participants learned creativity tools and methods that help to combat those mechanisms in our brain and allow a team to unleash their creative potential.



**“I was surprised to see how quickly we were able to generate ideas. It is all about knowing and choosing the right methods. Creativity is not just important for us in R&D, but in all areas of our organization. It is always truly inspiring to work with our colleagues from around the globe”, states Christoph Wagener, Vice President R&D, about the most recent Workshop.**

The workshops that took place in Germany and Canada focused on the two aspects of “Innovation Management” as well as “Intercultural Communication”. Both topics are crucial for successful leadership in an international context. The stereotypes that one might know about different countries sometimes lead to prejudices when working with our colleagues. Keeping an open mind and trying to observe closely before acting often helps to better understand why someone behaves differently in different cultural contexts. “The training provided eye-opening information on some of the differences from one culture to another,” said Missy Smith, Plant Manager in Lansing.

Author: Lisa Kitterer

— Did you ever quickly reject a colleague’s idea with the thought: “This will never work at KIRCHHOFF Automotive” or “This is crazy”? Sometimes, it’s hard to find the time to just freely brainstorm new ideas while everything at work is going on.



Unleash your creative potential - that was the objective in the workshop which was part of the global Leadership Development Program for our Upper Management

# News in brief

Author: Sabine Boehle



The KIRCHHOFF Automotive team celebrates the 'Schlauer Fuchs' award together with Frank Mays from BGHM (right).

## An Oscar for safety

Identifying and preventing hazards: this is the topic of twelve training videos created by KIRCHHOFF Automotive's commercial apprentices with their Training Manager, Michael Isphording. This particularly memorable series was awarded the 'Schlauer Fuchs' ('clever fox') trophy by BGHM, the German professional association for metal and wood.

Health and Safety holds particular significance for Michael Isphording, Training Manager at KIRCHHOFF Automotive. "I had a serious accident when trying to protect a colleague," he explains. He worked as a tool mechanic for a long time. Things often had to be done quickly. "Then you're at greater risk and don't think about the consequences."

However, to avoid such situations, a different approach is required. The training videos show various situations in which the protagonists—in this case, the apprentices—initially behave incorrectly. The videos aim to help employees identify hazards in goods delivery, tool disassembly, quality control in the Press Shop, and other departments. The training videos were shown and analyzed as part of our annual tool maintenance training for employees. "This is an excellent way to continue nurturing safety awareness among employees," said Uwe Suchland, Head of Work Safety and Environment. The project was inspired by his suggestion to make training material "a bit more lively."

You can find additional information about the 'Schlauer Fuchs' Safety Award at <http://www.sicherheitspreis.bghm.de/infos.html>.

## Efforts towards environmental protection

At the beginning of the year, the KIRCHHOFF Automotive plant in Lansing, USA set out to achieve something special: the ISO 14001:2015 certification.

In order to achieve this objective, the team took comprehensive measures in order to save resources and improve environmental protection efforts. They are working towards reducing electricity consumption by 10,000 kilowatts, reducing and recycling the use of cardboard and wood by 10%, and an improvement in copper distribution—including a recycling program of total purchased.

The whole team prepared themselves for their first external audit in which the environmental management system (EMS) of the plant was examined carefully. The auditors were impressed by Lansing's plant culture, the cooperation of all departments and the tireless effort to achieve excellent results. This exemplary performance was rewarded in February 2018 with the receipt of the environmental standard ISO 14001:2015.



Top: Shayna Becker, Inventory Specialist, and Maurice Turner, Manufacturing Engineer, in front of an environmental board, which highlights the Plant's environmental objectives for 2018. Left: Four new welding units for the future assembly of welded components for the customer Audi are now installed in the former CDP area in the Attendorf, Germany plant.



## New Usage of the former CDP area

A new project for Audi tipped the scales to reorganize the layout in the CDP area. The freed space "under the chain"—beneath the roof the CDP chain materials handling passed by—made sense and offers advantages with regards to material flow, design and logistics concepts.

In order to prepare the area for the future assembly of components for Audi, the Maintenance and Welding teams got to work: they dismantled, displaced, stored and rebuilt 17 plant components and have supplied them again with electricity, compressed air and water. Due to defects and unevenness in the flooring, 625 m<sup>2</sup> of floor space was renewed. Additionally, 794 m LED lighting strips were installed. From mid-2018, welded assemblies will be produced on three new welding units for the customer.



- 050** Vienna Autoshow—  
a successful trade fair for  
KIRCHHOFF Mobility in Austria
- 052** 38 handicapped-accessible conversions
- 054** Mountains are no obstacle
- 056** Making the seemingly  
impossible possible . . .

# 048 - 057

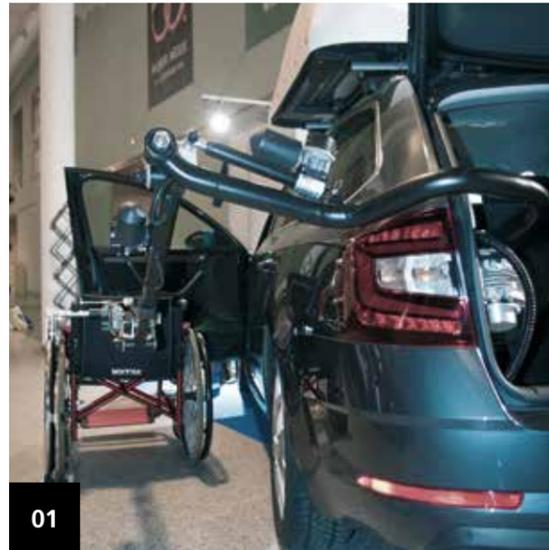


**KIRCHHOFF**  
MOBILITY

Custom-made cars

# Vienna Autoshow— a successful trade fair for KIRCHHOFF Mobility in Austria

**01** Loading the wheelchair without the aid of others: the innovative Robot loading system makes this possible in under 40 seconds. **02** A demonstration vehicle with the Robot and Chair Topper wheelchair loading systems as well as access aids such as the Carony System, which converts a wheelchair into a fully functional passenger car seat, showcased a variety of solutions.



01



02

— The largest and probably the most important automotive trade fair in Austria closed in 2018 with a record number of visitors: over 153,000 people visited the Vienna Autoshow, which took place between 11 and 14 January in Vienna. For the first time, KIRCHHOFF Mobility had its own stand there.



Over an area of 30,000 m<sup>2</sup>, around 40 car brands presented 400 new car models and told visitors about interesting and innovative new automotive features. This year, KIRCHHOFF Mobility in Austria, which is headquartered in Tresdorf, near Vienna, had its own trade fair stand at the Vienna Autoshow for the first time.



**“We showcased our handicapped-accessible mobility solutions to a broad public from the Vienna area,” said Thomas Pruckner, Managing Director of KIRCHHOFF Mobility Austria GmbH.**

Many end users are unaware that products and technologies are also developing at a rapid pace in the mobility aid market. The Autoshow in Vienna gave us a welcome opportunity to demonstrate progress and innovations. Numerous visitors used KIRCHHOFF Mobility in Austria's trade fair stand to find out about and even try out the latest mobility aids. A demonstration vehicle with modern access aids and wheelchair loading systems as well as various demo stations was available for this purpose.

Together with the majority of its co-exhibitors, KIRCHHOFF Mobility in Austria was extremely satisfied with the outcome of the trade fair and the response to its presence there. KIRCHHOFF Mobility will therefore likely be present again at the Vienna Autoshow in 2019.

Author: Souscha Nettekoven-Verlinde

# 38 handicapped-accessible conversions

The order covers the handicapped-accessible conversion of 38 Fiat Ducato Panorama modular people carriers. The vehicles are equipped with a wheelchair ramp, a wheelchair harness system, and aluminium tracks so that wheelchair users can enter and exit comfortably and safely.

“We are extremely pleased that the customer has chosen our company. By winning this order, we have once again confirmed our status as the leading vehicle converter in Germany,” says Holger Pape, Sales Manager at KIRCHHOFF Mobility.



Author: Souscha Nettekoven-Verlinde

— A major order for the conversion of 38 motor vehicles for people with reduced mobility was awarded by a North Rhine-Westphalian company to the KIRCHHOFF Mobility subsidiary in Hilden, Germany.

Soon, 38 Fiat Ducato people carriers will be able to transport people with reduced mobility.

# Mountains are no obstacle



**KIRCHHOFF** Mobility builds the first wheelchair-compatible all-wheel drive vehicle in Switzerland.



**Left:** Delighted with the successful vehicle conversion: the Zoronjic family (middle) and the team from KIRCHHOFF Mobility in Zurich (front and back left) with mechanic Hans Peter Kiener (back right). **Right:** The Mercedes-Benz V Class all-wheel drive with the lately installed NIVO in-house rear-entry conversion kit.

“We were looking for a suitable car for almost two years,” explains Mevlida Zoronjic, who is out and about on a daily basis with her 22-year-old daughter Ajla. Thanks to an electric wheelchair, Ajla is mobile. However, it is very heavy. “It always used to be a major effort to get Ajla in and then load the wheelchair. And I sometimes had to do it several times a day. I’m so happy that Ajla can now drive her wheelchair directly into the new car. I’m not that young anymore!” jokes Mevlida Zoronjic.

Their search came to an end when the Zoronjic family came across KIRCHHOFF Mobility AG at a trade fair. “They did all the research for us,” explains Mevlida. Other companies had sent her brochures of existing conversions, but generally did not explain whether this was also possible with an all-wheel drive. “We live right at the top of the mountain,” says Safet Zoronjic, Ajla’s father and Mevlida’s husband. “We often have a lot of snow and icy streets, so an all-wheel drive is a must.”

In preparation, KIRCHHOFF Mobility clarified whether the NIVO in-house rear-entry conversion kit can and may be installed in the V Class with all-wheel drive. All necessary tests

and approvals were then carried out with the manufacturer and the road traffic authorities as well as the Swiss motor vehicle inspection body.

After successful conversion of the vehicle, it was handed over to the customer. It’s like receiving a bespoke suit from the tailor: you try it on or out and everything just fits. Sometimes, the anchorages for the wheelchair need to be adjusted again. “Our customers have completely different wheelchairs. And since they depend on them, they can’t leave it up to us to adjust the anchorage for them. We almost always have to do it when we hand the vehicle over,” says Pascal Fossa, Managing Director of KIRCHHOFF Mobility AG.

KIRCHHOFF Mobility also carries out the NIVO conversion for Mercedes-Benz V Class vehicles with rear-wheel drive.

Author: Nils Deparede  
(Excerpt from e-magazine 4x4Schweiz.ch)



#### Wheelchair loading system RolliFix II

With the RolliFix II, the modified swing door is opened via a switch in the dashboard and the loading mechanism extends outwards via the cable remote control. The folded wheelchair is wheeled into the loading aid and fixed to the handles. With a press of a button, the wheelchair is automatically loaded into the vehicle. Once the electric swing door is closed, the safe transport of the wheelchair is guaranteed.

# Making the seemingly impossible possible . . .

... is something that KIRCHHOFF Mobility in Kronau, Germany, achieved with a BMW 5 Series.

Michael Gaebel, subsidiary manager in Kronau, knows from decades of experience that vehicle conversions for people with limited mobility are all in fact individual conversions. "Disabilities are often very individual and different, and the versatility of the vehicle model also plays a role in the individuality and complexity of a vehicle conversion."

The design of the RolliFix II was structurally modified for this special conversion. The overall height of the loading system was reduced and adapted to the BMW 5 Series without losing any of the system's functionality. And it is not without pride that Michael Gaebel says:

**"This successful conversion once again demonstrates our expertise as the leading vehicle converter for people with reduced mobility. But above all, we're thrilled to have a happy customer."**



As a wheelchair user and owner of a BMW 5 Series, our customer was looking for a supplier to install a side-loading system for a wheelchair in his vehicle. And then he found out to his surprise that various converters did not consider the conversion to be possible. "Although a side-loading system is nothing out of the ordinary, the customer was told that the conversion would simply be impossible for a flat, sporty vehicle like the BMW 5 Series," says Michael Gaebel. However, the team at KIRCHHOFF Mobility found a way of fitting the specially developed RolliFix II side-loading system into the customer's vehicle.

Author: Souscha Nettekoven-Verlinde



A happy customer, here with subsidiary manager Michael Gaebel (left) and product advisor Rüdiger Lackus (right).



060



064



066

- 060 Positive summary
- 064 WITTE INSIDE—the 360° development concept for private labels
- 066 MAXX Plus on tour



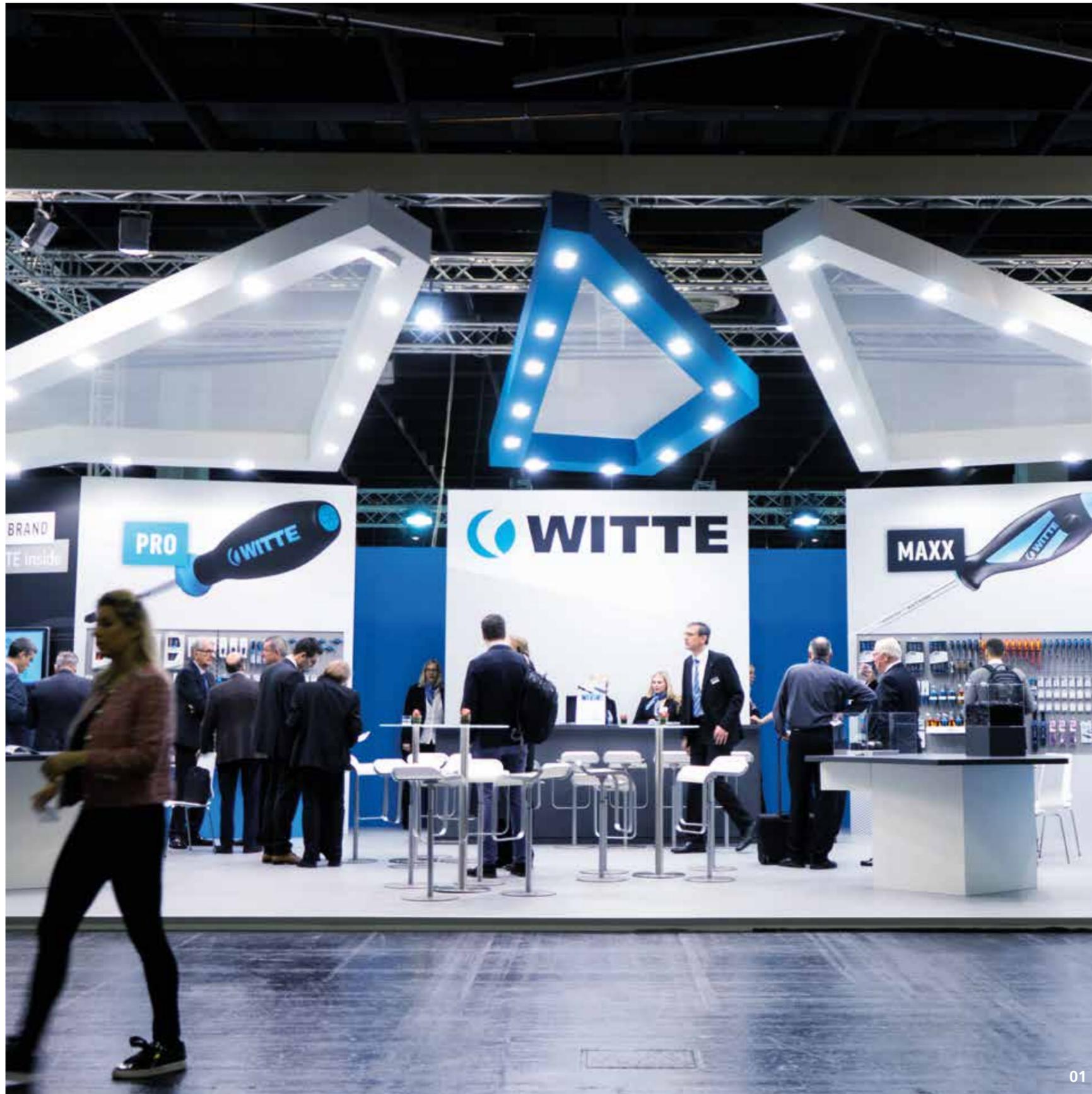
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**WITTE**  
TOOLS

**When function and  
effect are in line.**

# Positive summary

— This year's appearance of WITTE Tools on the International Hardware Fair was a great success. »



01



02

**01** Future-oriented like its brand the WITTE Tools stand presented itself on the Cologne Hardware Show. **02** With the new BITDRIVE screwdriver with integrated bit depot and ratchet function and a torque screwdriver which is also available in a VDE edition, the WITTE team presented also this year an extension of the programme range of its internationally famous tool brand on the fair.

For four days, everything revolved around the topic of tools from 4 to 7 March at the Cologne trade fair. In addition to its internationally successful premium tool brand WITTE, WITTE Tools also presented a comprehensive modular system for individual product solutions in the private label sector at the International Hardware Fair: WITTE INSIDE.

Special attention was paid to special assortment extensions such as a new torque screwdriver and a screwdriver with integrated bit magazine. In addition to the intensive exchange with existing trading partners, the numerous new contacts from the USA, South America and Southeastern Europe were particularly pleasing. The WITTE Tools team was also able to benefit from the continuing trend towards private labels: The WITTE INSIDE product development concept presented at the fair led to various inquiries for development contracts.

More than 47,000 visitors from 143 countries came to the International Hardware Fair, the number one show in the hardware industry – an increase of 9%. Decision makers from all over the world used the fair to discover new products and trends in the industry. 87% of the exhibitors and more than 70% of the trade visitors came from abroad – thus the fair has also grown in internationality compared to 2016.

Good, intensive discussions were held not only on the much visited WITTE exhibition booth but also during the two, at WITTE already traditional "Tools Dinner".

Author: Martina Hagebölling



**01** Besides his premium tools brand WITTE the toolmaker presented with WITTE INSIDE an innovative 360° development concept for private labels. **02** J. Wolfgang Kirchhoff (left), managing partner of the KIRCHHOFF Holding in a conversation with Alberto Borja, from Aghasa Turis, the commercial agency for WITTE Tools on the Spanish market. **03** Nina Packwitz from the WITTE sales team in a conversation with the WITTE partner Alexander Klippenstein. **04** Dr-Ing Jochen F. Kirchhoff (centre) discusses the trade fair novelties with WITTE engineers and plant management. **05** Four days fully in action and always in a good mood: the booth team of WITTE Tools.



This QR-code leads you directly to the trade fair review video from WITTE Tools.



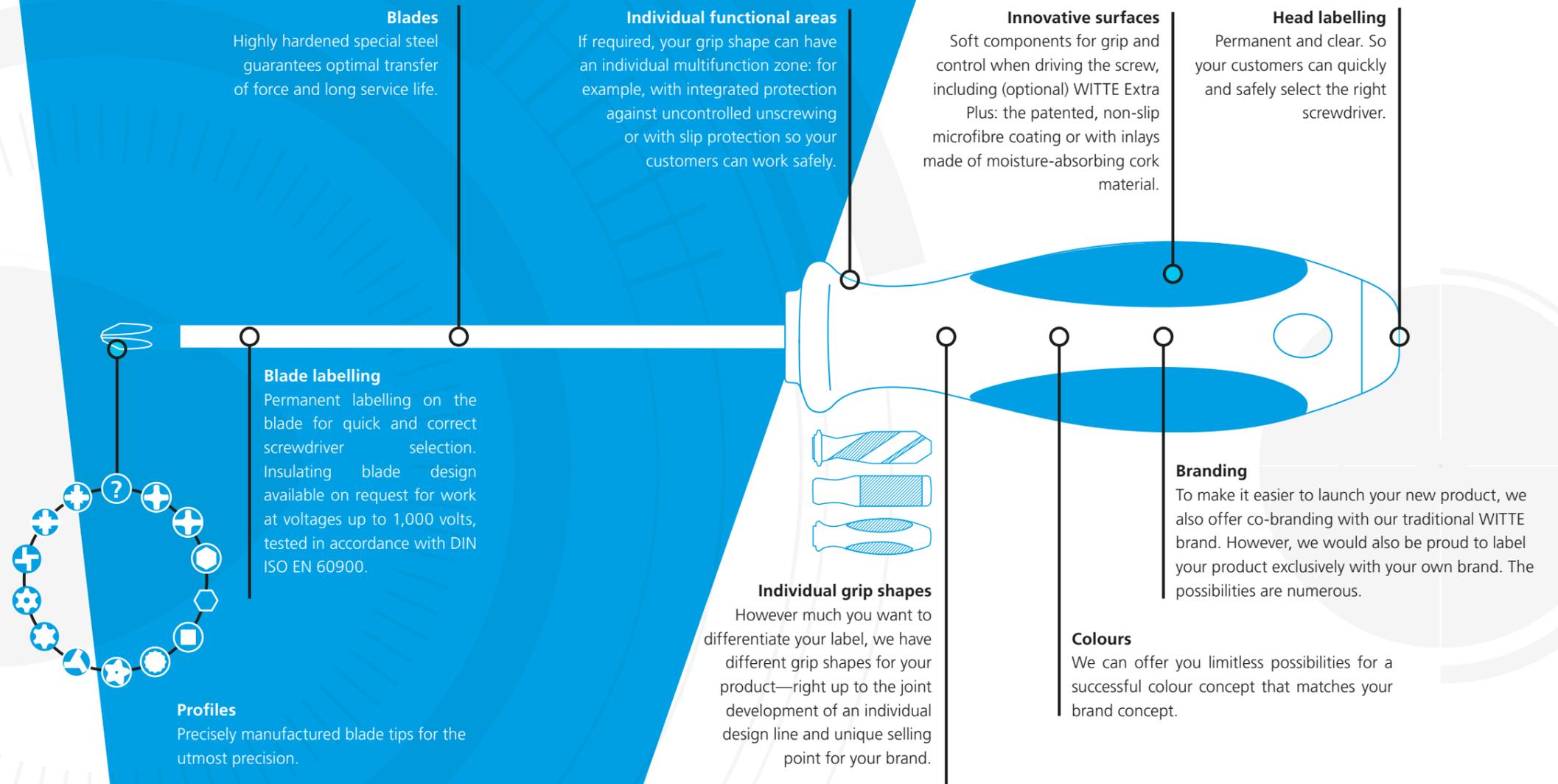
# WITTE INSIDE—the 360° development concept for private labels

For over five decades, WITTE private label customers have benefited from our long-standing expertise. No matter what degree of differentiation customers desire for their labels, WITTE offers WITTE INSIDE—a 360° development concept with a wide range of options: a simplified market entry with minimum customisation or a screwdriver series developed specifically for the customer, for example. WITTE has a variety of different grip shapes and materials to further individualise the customer solution. Customers can choose the following on an individual basis in line with their brand concept: grip design and colour, profile, blade and head labelling, as well as different materials for innovative surface characteristics. Up to 100% individualisation is possible (see image). Another benefit: WITTE thinks in a clever way. The WITTE innovation highlight is its special integrated technical solutions for very specific user requirements. For example, when it comes to monitoring the completeness of tool trolleys in the aviation industry using RFID technology.

Working with the private label customer, the project team at WITTE defined the customer's design requirements using 3D renderings and prototypes. As a strategic partner, the company also advises and supports its private label customers if they subsequently expand their product portfolios. The WITTE project teams can also help with the development of individual packaging designs and sales aids if required. The same applies to logistics and shipping processes. At WITTE, the private label business has been thought through from every angle using the WITTE INSIDE development concept. But one thing stays the same: whatever label WITTE produces at its location in Hagen, Germany,—it is always WITTE inside. That's something that WITTE Tools in Hagen is particularly proud of.

Author: Martina Hagebölling

Long before the "Made in Germany" formula summed up German engineering art and quality workmanship in bold words, WITTE already stood for values such as innovation, precision, and reliability—both for its own brand WITTE and as a premium manufacturer of customerspecific developments in the private label business.



# MAXX Plus on tour



#### MAXX Plus on tour 2018:

You can expect more exciting stories about WITTE Masterpiece, the microfibre-coated MAXX Plus screwdriver, in future issues of K>MOBIL. You will be surprised where its next journey takes it.

— With Max Edelhoff and the PoLe racing team at the 12-hour race at the Circuito de Navarra in Spain. »





**O**ur opening story of the new series "MAXX Plus goes on tour" is all about motor racing. We travel with the KIRCHHOFF Audi R8 LMS of the Car Collection Motorsport racing team to the Spanish region of Navarre. This time, the microfibre-coated MAXX Plus screwdriver accompanies Max Edelhoff, the most recent member of the PoLe racing team, to a premium-class race. On the Circuito de Navarra, with a total length of 3.933 km and 15 curves, it is all about speed, stamina, and of course victory.

Despite his young age, Max Edelhoff, who is 22 years old and comes from Hemer in the German Sauerland region, can look back on a remarkable motorsports career. He discovered a fascination for powerful engines and motor-sports at the tender age of just six. His favourite toy was his go-kart. Early on, he went with his father to rallies and circuit races. A few years later, he took part in the German Kart Championship and the qualifiers for the European championship. At that time, Edelhoff was spending many weekends each year in a caravan at different race circuits. He then focused on school and his apprenticeship as a tool mechanic. However, his business administration studies eventually allowed him more time to pursue his passion, motor racing.

Edelhoff loves competition. He stresses that he likes to compare himself with others when racing under challenging conditions and push

himself to the limit, both physically and mentally. "The temperature in the car sometimes reaches more than 50°C, and we're sitting there in our fire-proof racing equipment, trying to improve with every lap, taking the curves in a better way, and positioning the car more effectively. For me, that's what motorsports is all about."

The racing team is no coincidence. Together with Dr. Johannes Kirchhoff and other team colleagues, Edelhoff's father has been achieving regular successes in sprint and endurance races on international race tracks for many years. And so is his son. He is enthusiastic about the team spirit in the PoLe racing team: "I enjoy taking turns with my team colleagues in a 24-hour race and giving our all as a team for the whole day and whole night. And it is very special to share such an exciting hobby and great car with your own father. It has made our bond even stronger. My mother also comes to every race and supports us wherever she can."

Despite his young age, the motorsports career of this likeable business administration student is already very remarkable. His greatest success to date has been his overall win at the 12-hour race in Imola, Italy, in 2017. Edelhoff is particularly proud of this achievement, because it was the first time that a pro-am car was able to clinch overall victory in the 24-hour series by Creventic.

As a student in a semester abroad, the race in Navarre was Edelhoff's first in 2018 and a premiere in one respect: for the first time, amateur vehicles were not constrained by prescribed lap times. "That means that I was able to drive at full speed for the first time," says Edelhoff. "It was an important race for our team, because we were leading the team and vehicle score in the series and wanted to maintain and even extend our advantage. And we did it: we finished second overall and first in our class."

In the future, Edelhoff wants to continue to race with the PoLe racing team in the endurance races of the 24-hour series by Creventic. However, once he has completed his bachelor's degree within a year, he will first start his master's degree. Edelhoff's favourite race track is the famous Circuit de Nevers Magny-Cours in France. Go to his website to find out more about Max Edelhoff: [www.max-edelhoff.de](http://www.max-edelhoff.de).



Author: Martina Hagebölling



MAXX Plus film on Vimeo



[www.max-edelhoff.de](http://www.max-edelhoff.de)





**ECOTEC Goup**

- 072 Ready for the data hub
- 074 United by sport
- 076 Transmitting waste containers
- 078 Warning: Wet paint!

**FAUN Group**

- 080 Go Future! Go with us!
- 086 100% original!
- 087 Familiar faces on the coast line
- 089 Professional development – with a history lesson thrown in

**Just amazing**

- 090 Just amazing
- 092 The Pfundskerle of tomorrow

**ZOELLER Group**

- 094 Understanding the market
- 100 "Hit the road Jack"
- 104 A shower for refuse containers
- 106 Clean island



# Ready for the data hub

"The speed at which relevant information can be accessed has a huge impact on how competitive a company is", says Tanja T. Dreilich, CFO at the KIRCHHOFF Group, of the decision to roll out SAP at KIRCHHOFF Ecotec Group companies.

"Based on our current schedule, the roll-out in the ZOELLER plant in Mainz should be completed in the first half of 2019; we will then be able to put SAP into live use for the first time. We will then complete runs in the other production plants, aiming to finish the roll-out by mid-2020", says Ecotec project manager Yuri Biasotto, explaining the plan.

The ability to obtain a full overview of a company "at the push of a button" allows you to respond to changes in the market and within the company quickly, devise appropriate strategies and implement effective measures. ERP (enterprise resource planning) systems are designed precisely for this purpose. Based on the experiences of KIRCHHOFF Automotive, which has been using the ERP system SAP R/3 for a number of years, KIRCHHOFF Ecotec opted for the latest software technology from the same provider. The introduction of SAP S/4 HANA has revolutionised FAUN and ZOELLER – in all areas and across all plants. Partner Dr Johannes F. Kirchhoff explains the company's decision: "Once we've completed the difficult process of restructuring and digitalising all of our processes, we will be equipped to tackle the challenges of the future".

#### More streamlined and more efficient

The aim of the project, which is being rolled out across Europe, is to optimise processes and structures, implement measures to respond to changes in the market or company in good time, and to make business processes more efficient. "We are becoming more streamlined and more efficient", continues Dr Kirchhoff. "We are avoiding duplicated data entry and duplicate records and ensuring that all of the data we hold is clear. Our goal now is to work together across the Group to define and apply shared standards, and to collaborate to find solutions when problems arise. The results will then be added to the Group toolbox as alternative best practices – so that we can identify solutions quickly and to strengthen our ability to work together".

With the introduction of SAP S/4/HANA we can manage the data hub of the growing KIRCHHOFF Ecotec Group.

They stand side by side not only during the Kick-off Meeting in February (f.l.): Tanja T. Dreilich (CFO KIRCHHOFF Group), Matthias Kohlmann (CFO FAUN Group), Managing Partner Dr Johannes F. Kirchhoff and Volker Schröder (CFO ZOELLER Group)



#### What it's all about

- Shared processes
- Standardisation
- Transparency
- Open system/inter-company business

#### A constant focus: Customer satisfaction

The project specification sets out the requirements for the project: Inter-company logistics for component production, central administration of master data, and improvements in terms of inter-company business, such as shared strategic procurement and stock lists, directly comparable financial accounts and optimum parts availability. Local requirements in logistics and production must be taken into account, and flexibility in production and delivery logistics must be guaranteed. ZOELLER CEO Thomas Schmitz explains: "The introduction of SAP puts the ZOELLER Group and Ecotec in a position to meet the needs that are arising in the market in the context of Digitalisation 4.0. We must provide appropriate solutions for our market; this is the only way to remain competitive in the future".



Left: Patrick Hermanspann Right: Thomas Schmitz

#### The right partner

Selecting the right ERP system and partner for the company was a long and complex process in which multiple suppliers and their services were closely analysed and evaluated against the Group's requirements profile. "SAP came out on top because it provided the best demonstration of how our investments and knowledge could be secured in the long term. Factors, such as the global availability of SAP, the company's growth strategy and the supporting digitalisation features delivered via the Fiori interface, which allows us to view data via smart phones and tablets, also came into play. Finally, the speed of the service and new data models convinced us that SAP would be the best partner to assist us with the challenges of the future, such as big data, the Internet of Things and real-time reporting", says Tanja T. Dreilich, CFO of the KIRCHHOFF Group. "The roll-out creates a central data hub for the expanding KIRCHHOFF Ecotec Group. We'll have one central data platform for all of our future digital applications".

#### The right team

Since the official launch in February 2018, the project teams at FAUN and ZOELLER have been working together closely in workshops to prepare for the roll-out. Never before in Ecotec's history has the company embarked on a project of this scale. Patrick Hermanspann, CEO of the FAUN Group, had some motivating words to share with the team: "This project is a milestone in our history. How well we manage the roll-out and how effectively we prepare our master data are major factors in our success. We know that our team can do it".

Author: Julia Godoy

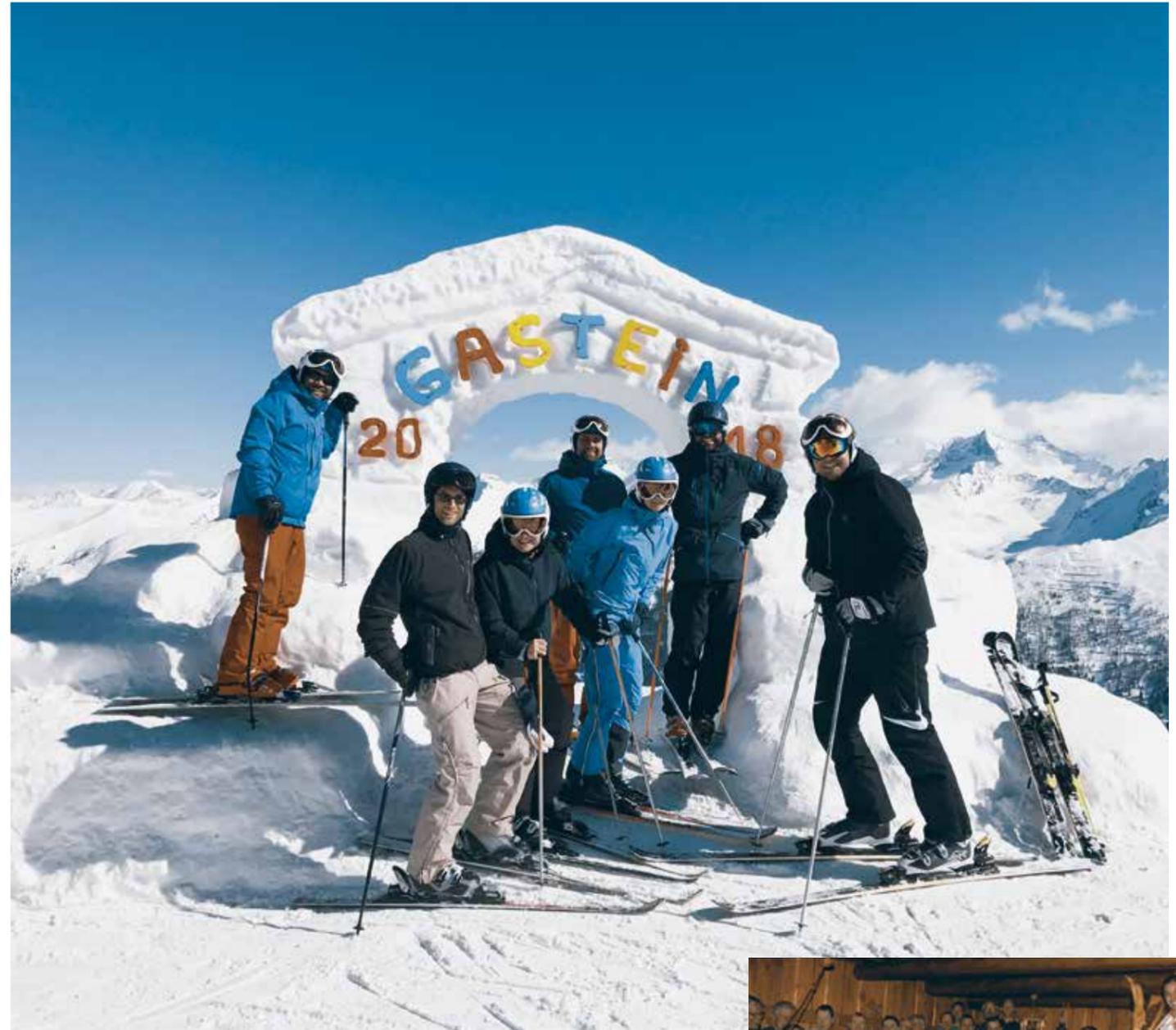
# United by sport

— Blue skies, sunshine, snow-covered mountains and 70 enthusiastic skiers – these words set the scene for the departure of the Ecotec teams on their annual winter sports excursion. This March was the 20th anniversary of the annual ski weekend.

Every year for the past 20 years, Dr Johannes F. Kirchhoff has been travelling to the mountains in Gastein with his team. The enthusiastic sportsman, whose family also indulges in this Alpine leisure activity, has taken it upon himself to get his team passionate about skiing. "All companies need a shared hobby. It's a great antidote to day-to-day life at work and it brings people together. Sport is an ideal choice. It encourages good sportsmanship and fair competition, and what's more, it's a lot of fun", says Dr Kirchhoff, explaining his choice. "Every year, I'm incredibly pleased when I see that we've managed to get even more members of our team interested in winter sports and our Ski Olympics. These weekends really bring people together, they're a kind of glue to create cohesion and unity". Since the inception of the trip, Dr Kirchhoff has seen more than 500 employees on their skis and begin their descent down the mountain.

In the perfect weather conditions of the anniversary ski trip in March, the 70 colleagues from ZOELLER, FAUN and Contena Ochsner put their skills to the test at the inaugural Ecotec downhill skiing competition and got their hearts racing in the 10th Ski Olympics. It was a weekend full of fun, laughter and good sportsmanship – exactly what the Doctor ordered.

Author: Claudia Schae



The winners of this year's anniversary Ski Olympics: Marco Neuchel (ZOELLER), Bernd Sauter (Contena Ochsner) and Jörn Lehmann (ZOELLER). Well done team.



# Transmitting waste containers



— The acquisition of Darmstadt-based Isofleet GmbH has expanded the pool of development resources available to FAUN, ZOELLER and KOCO within KIRCHHOFF Ecotec – paving the way for Intelligent Disposal 4.0 in the municipal technology sector.

Isofleet will join the development division of the Group, building on our IoT (Internet of Things) offering within Ecotec and supporting the development and launch of the KOCO connect product range by KOCO solutions AG. (See K>MOBIL report in issue 50) At the helm of the Isofleet team is Matthias Siegel, who is also Managing Director at KOCO solutions. The core business of Isofleet is ISOCollect, a solution that optimises clothing recycling processes and workflows, reducing unnecessary collection trips to empty containers, which in turn keeps costs down and minimises the impact on society and the environment. ISOCollect provides traditional clothing recycling containers online, converting them into "smart" containers using tailored software solutions. The combination of forecasting the ideal emptying time and optimised route planning with automatic driver navigation reduces logistics costs by up to 40%, while also ensuring that containers are always ready to accept new deposits and that the surrounding area is kept clean and tidy. This system is now being adapted to suit the requirements of ZOELLER and FAUN customers.

Alongside its other activities, the Darmstadt-based programming specialists will develop electronic systems, software and apps for KIRCHHOFF Ecotec. With KOCO connect products, FAUN and ZOELLER offer sector-specific solutions ex-works or for retrofitting in existing vehicles, enabling customers to maintain an overview of their entire fleet. In addition to mobile weighing and container fill level

detection systems, the range also focuses on optimising the integration of operating data for performance recording, error analysis and process optimisation purposes. The developers will also work on the recording, transfer and processing of vehicle data for predictive maintenance applications.

Matthias Siegel and his team made their first public appearance at IFAT in Munich. "I'm very pleased with the positive way in which customers have responded to KOCO connect products. There's huge demand and the ability to get a holistic view of a vehicle fleet is particularly attractive to waste disposal companies", says Matthias Siegel, summarising his observations from a week at the trade fair. "The recycling and raw materials sectors are also recognising opportunities for digitalisation. Our aim is to deliver customer benefits by increasing the flow of information, for example through the KOCO connect telematics system, which is specially designed for refuse collection vehicles. KOCO connect enables refuse collection vehicles to communicate with waste containers fitted with fill-level sensors".

Author: Claudia Schae



## At a glance

In the future, FAUN and ZOELLER vehicles will be made compatible with the KOCO connect telematics system ex-works. The system is integrated into the vehicle control system and can output relevant data on request. This allows routes to be more effectively planned and also minimises downtime for maintenance and repairs.

- Developed especially for municipal vehicles
- When activated, allows the vehicle to communicate with waste containers equipped with fill-level sensors
- Logical route planning based on fill levels
- Route optimisation to minimise distances and emissions – which benefits waste disposal companies, cities, municipalities and the general public
- Containers are emptied on time and do not overflow
- Read out and use important data from the vehicle control system
- Proactively transmit error codes to allow timely responses (minimise downtime caused by failures)
- Condition monitoring
- Use whitelists/blacklists and order management

# Warning: Wet paint!

— The customer centre in Augsburg has recently been extended and renovated. Once again, architect Eva Kirchhoff took on the project on behalf of the KIRCHHOFF Group.

**S**ince 1999, the customer centre in Augsburg has been Bavaria's number-one service point, serving an area from Munich to Nuremberg and down to Lake Constance. Waste collection vehicles and lifters are in good hands with the Bavarian team. And when the ZOELLER team moved into the building on Am Mittleren Moos in 2009, the centre was able to offer even more services to waste disposal companies in the region. Now, almost 20 years after first moving in, it was time to bring the workshop up to date. The renovation included the addition of four new bays, allowing the team to repair or service up to 14 vehicles simultaneously, enabling customers to get back on the road quicker. The break areas were fully renovated, the halls were repainted and new flooring was laid. The building also switched from district to gas heating. The result is a modern working environment that employees and guests enjoy spending time in.

Author: Claudia Schaeue

These 4 and their team of 33 people run the Bavarian business: Ingo Straßer (ZOELLER Branch Manager), Paul Kalmbach (FAUN Service Manager), Eva Blattenberger (FAUN Branch Manager) and Burkard Oppmann (Managing Director FAUN Services GmbH)



— The hydrogen fuel cell vehicle BLUEPOWER, digital applications for after-sales, and the new FAUN lifters for refuse collection vehicles were the main attractions on the FAUN stand at IFAT 2018.



01 The E-ROTOPRESS on series electric chassis from Volvo will be used by the municipal sanitation company Stadtreinigung Hamburg by the end of 2018. 02 The future? Autonomously driven sweepers.

**ZERO EMISSIONS**

In response to the recent drive to reduce emissions generated by municipal vehicles, FAUN presented two vehicles: the E-ROTOPRESS on an electric VOLVO chassis and the hydrogen fuel cell vehicle ROTOPRESS BLUEPOWER.

**E-ROTOPRESS**

The E-ROTOPRESS was developed in partnership with VOLVO, and is the first mass-produced zero-emissions vehicle. The vehicle's FE electric chassis, provided by VOLVO, is the first battery-powered electric chassis. This chassis is combined with FAUN's electric E-ROTOPRESS. The vehicle was unveiled to the world in Hamburg, Germany, on 8 May and will be deployed by Stadtreinigung Hamburg from autumn 2018 onwards. The vehicle is scheduled to be available for sale from 2019. The scalable battery capacity allows the vehicle to be driven quietly without producing any emissions. It is also used to power the superstructure. The waste disposal vehicle is powered by two electric motors with maximum output of 370 kW (260 kW continuous output) and a two-speed gearbox from VOLVO. Lithium-ion batteries are used to store energy. »





**BLUEPOWER**

FAUN unveiled an innovative concept under the name BLUEPOWER: A waste disposal vehicle and road sweeper powered by a fuel cell and battery drive System. More at page 10 in this issue.

**AWARD-WINNING**

FAUN was awarded first place in the vehicles category of the VAK Innovation Prize for the BLUEPOWER concept. The team is exceptionally proud of this achievement.

**BLUEPOWER IN LIPPE REGION**

While IFAT was taking place, the region of Lippe, the Tönsmeier Group and FAUN agreed to work together over the coming years to implement a climate-neutral waste and recycling system in the Lippe region. Representatives of the local administration and the companies signed a preliminary contract that sets out how the partnership will proceed. The ROTOPRESS BLUEPOWER is set to play a central role. "By testing a prototype vehicle, the region of Lippe and the companies involved are making an important contribution to the excellence initiative 100% Climate Action Master Plan, which the Federal Government has rolled out to achieve Germany's climate objectives", says Dr Ute Röder, Head of the Environmental and Energy Department for the Lippe region. "The key to the success of this programme will be the comprehensive on-road tests, which will enable us to optimise the prototypes until the vehicle is ready for mass production. The population structure and varied landscape in the Lippe region make it the perfect place to carry out these kinds of tests", says Burkard Oppmann, Managing Director of FAUN Services. For Tönsmeier, too, the planned project in Lippe is of great importance: The Porta Westfalica-based company has always understood the value of innovation in the development of a sustainable recycling management system. "We are incredibly pleased to be working with two well-known and respected partners to help our region move towards a climate-neutral, zero-emission waste collection solution", says Jürgen Kaiser, Managing Director of Tönsmeier Service.

**NEW SIDEPRESS and NEW FRONTPRESS**

The new body container and tailgate of the SIDEPRESS and FRONTPRESS now boast an eye-catching new look. The superstructures have received a makeover, resulting in a vehicle body that not only looks attractive, but is also easy to operate, with smooth and streamlined side walls, logical control units and fully integrated monitoring systems. The side loader lifter now boasts an increased lifting capacity. The lifter has been repositioned to shorten the envelope curve and reduce lateral kick-out. The cover around the loading zone provides perfect protection. The SIDEPRESS is available with TC1100, D3200 and TC2200 with SUBWAVE lifters. The new design of the superstructure and lifter, the improved plunge depth of the pendulum compactor, and the ergonomic external controls make the 500-kilo-lighter SIDEPRESS the perfect working companion.

**COMPACT YET POWERFUL**

For the first time, the classic ROTOPRESS from FAUN was presented in a smaller size, with a superstructure volume of 8 m³. The small ROTOPRESS is just 2.20 m wide and 3.00 m tall, making it the ideal solution for urban environments. The VARIOPRESS has also slimmed down: The 11 m³ body on a 2.20 m chassis is perfect for inner-city applications that require both manoeuvrability and volume.

**NEW TO THE RANGE: FAUN SKYLIFT, SKYLIFT X AND BARLIFT LIFTERS**

For the first time, FAUN in Germany unveiled its own product segment – lifters for rear loaders. These products build on the vast amount of experience gained by the Ecotec Group, enabling FAUN to offer tried-and-tested, sophisticated technology. The SKYLIFT is the Group's first integrated high-level automatic lifter. The SKYLIFT X is an interchangeable, high-level automatic lifter attached via a DIN frame. The BARLIFT is a low-level lifter suitable for mixed use with containers and for manual loading. These lifters all feature a modern design with integrated camera systems and lights. The benefit for the customer? The Group can now offer bodies and lifters from a single source. This means that customers can have the superstructure and lifter serviced at the same time, which reduces downtime. »

**Left:** New Generation side loader. **01** Awarded achievement (f.l.): Burkard Oppmann (Managing Director), Georg Sandkühler (FAUN Senior Expert Alternative Drive Trains) and Leif Börger (R&D Alternative Drive Trains) got the 1. prize of VAK Innovation Award. **02** (f.l.) Jürgen Kaiser, Managing Director of Tönsmeier Service, Burkard Oppmann, FAUN, Dr. Ute Röder, Head of Environment and Energy Department County Lippe, Henning Schreiber, Manager Kommunalvertrieb of Tönsmeier Group, and Ulrich Schlotthauer, Managing Director of Gesellschaft für Abfallentsorgung in Lippe, GAL.





**UNDERGROUND 4.0**

Everything we do revolves around waste, recycling and the associated vehicles. But in our day-to-day lives, none of us really want to come into contact with any of these things. This is why clean underground systems are gaining in importance. In Munich, FAUN showcased its systems for clean underground waste disposal. The INNIVO is a new solution that combines tried-and-tested technology with a pioneering new concept: A crane that picks up and empties floor-sealed underground containers. Safe, fast and clean. The floor-sealed and impermeable collection container is installed in concrete. Nothing inside can escape, which keeps maintenance and cleaning costs down. Containers from 60 l to 5 m³ can be emptied with a single vehicle. Operation is simple: The containers are picked up automatically by the special curtain-locking system and the recyclable materials are simultaneously emptied into the tailgate of the vehicle.

**CITY SPEEDSTER**

The aluminium superstructures of the CITY range are at home on the streets of any historic town. Manoeuvrable, small and light, these compact vehicles can be built on 5 or 7.5 tonne chassis. Whether they're used as a high emptying point for larger waste disposal vehicles or to collect and dispose of restaurant waste, the aluminium superstructure is fully sealed, robust and resistant to corrosion.

**DIGITALE SUPPORT**

Alongside KOCO connect products, FAUN showcased another of its digital solutions to visitors: The FAUN online support portal. This platform comprises an online shop for spare parts and an online training portal for refuse collection vehicles, which contains a wealth of expertise from the manufacturer. In a bid to provide customers with help fast, the Group has been testing spare parts identification and visual support functions. It also unveiled a tool for identifying spare parts at IFAT. The system identifies spare parts based on customer photos and displays availability in the online shop. This eliminates the need for time-consuming research and ensures that spare parts are made



01 New product INNIVO underground system. 02 CITY speedster for urban areas. Right: Digital support from the FAUN expters.



available fast. With Visual Support, customers wear smart glasses to show FAUN technicians the problems they are experiencing during maintenance and repair work. At the same time, the technicians are given instructions and get help fast, wherever they are.

**SWIFT SWEEPERS**

The stand in Munich showcased the full range of sweepers, from the small but mighty VIAJET 4 to the VIAJET 12 for tackling those bigger jobs. The VIAJET 6 with CLEANAIR and Super-Silent package stood out for its exceptional environmental performance. The sweeper achieved the best emissions values and the lowest noise emissions (98 dB(A)) – surpassing the standard required by the Blue Angel environmental certification standard. FAUN is also the manufacturer of the most powerful and clean stage 5 superstructure motor concept currently in existence. Fitted in the VIAJET 6, the sweeper satisfies the requirements of the EU Non-Road Directive 97/68/EC without sacrificing any of its power.

Alongside the countless new products and digital service solutions, the great conversations we had with our customers and partners were what made this trade fair truly special. Patrick Hermanspann, CEO FAUN Group: "We left IFAT 2018 with having built up a great network of contacts and interest in our innovations. Thank you to our customers for visiting and to the Messe München team for creating this wonderful platform – we look forward to seeing you at IFAT 2020".

Want to find out more? Visit [www.FAUN.com](http://www.FAUN.com) or subscribe to the FAUN newsletter.

Author: Claudia Schae



01 A sweeper for real men: VIAJET 12 02 A strong team.



GO FUTURE! GO WITH US!

# 100% original!

Author: Alex Breyer

*I'm the great guy for FAUN original spare parts and service packages in the Ruhr region.*



Erkan Eker from Bochum is responsible for service and spare parts sales in the region of North Rhine-Westphalia. From his base close to the customers he serves, he maintains direct contact with clients and puts together individual packages for waste disposal businesses. Erkan Eker is based at the Herne customer centre and also acts as an interface between waste disposal companies, the workshop and branch managers, helping FAUN to strengthen its presence in the densely populated Ruhr Valley. The "Pfundskerl for spare parts" concept has been started as pilot project which, if successful, will be rolled out to other sites in Germany.

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# Familiar faces on the coast line

After six years in the FAUN field sales team, we've said goodbye to Uwe Bußmann, who has handed his areas over to Michael Steenken and Julian Neuhaus.

Since the beginning of the year, Julian Neuhaus and Michael Steenken have been spending more time in the north of the country. FAUN salesman Uwe Bußmann has now retired and passed the baton to his two successors. Both Julian and Michael have extensive experience in the refuse vehicle sector and are familiar with the Baltic and North Sea regions.

Michael Steenken is a familiar face on the coast line. After Uwe Bußmann's departure, his area expanded to include the Baltic Sea and Mecklenburg Lake District regions. The Friesian now sells waste collection vehicles and sweepers in the regions of Hamburg, Bremen, Mecklenburg-Vorpommern, Lower

Saxony and Schleswig-Holstein – covering cities from Kiel to Hanover to Schwerin.

Julian Neuhaus has been with FAUN for four years, and has previously focused on sweeper sales. The restructure puts Julian – originally from Bremerhaven – in charge of both sweepers and refuse collection vehicles for waste disposal companies in southern Lower Saxony, covering areas such as Hildesheim and Göttingen and Berlin, Brandenburg, Saxony-Anhalt and Saxony.

Author: Claudia Schaeue

## I'm your man...

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## Professional development – with a history lesson thrown in



— Servicing our vehicles to maintain their value is a key part of our work. Vehicle fleets must be kept on the road and fully functional to ensure that our streets are kept clean. Through regular courses and training sessions, FAUN equips partners and subsidiaries with the skills they need to safely handle and service our sweepers and waste collection vehicles.

In February, employees from FAUN dealer NV de Kegel (Belgium) and Komop (Croatia) came together with colleagues from FAUN ZOELLER UK to complete sweeper training at FAUN Viatic in the town of Grimma in Saxony. In addition to sharing his theoretical and practical knowledge on sweeper maintenance and servicing, training centre manager Jens Hofmann had a special surprise in store for the course attendees: An excursion to his home town of Colditz.



The picturesque town of Colditz (located by the river Mulde, around 20 km from Grimma) and the United Kingdom are connected by a shared story that played out against the backdrop of some of Europe's darkest days. During the Second World War, Colditz Castle was used as a prison for British and Allied officers. Uniquely, the high-ranking officers captured here were kept in very good conditions compared to other prisons, and had a great deal of freedom. The friendly relationship between the UK and Colditz today can be traced back to this period. The spectacularly daring escape attempts made by the officers – some of which ended in success – have been immortalised in various films. The most lavish escape scheme involved the construction of a glider in the attic of the castle. Inmates worked on their winged means of escape for months, but unfortunately it was never used – the prison was liberated in April 1945, before the glider could take off. Visitors to the site today can marvel at a carefully constructed replica of the model and the setting in which it was planned and built. The castle itself is now used as a youth hostel and museum. The events that took place in and around Colditz Castle are part of the school curriculum in the UK; in some circles, more people know about Colditz than about Coca Cola. The events at the castle have been the subject of multiple television series and four films.

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Author: Claudia Schae

# Just amazing

— Aylesbury Council signs off 22 new VARIOPRESS and has been amazed by the FAUN production.

Pat Brown, FAUN ZOELLER UK Business Development Manager, first met the team from Aylesbury Vale District Council at the Fleet Forum event at Stoneleigh in 2016. Following a number of productive meetings and several demonstrations of various products within our extensive range the decision was taken to order 22 26 t VARIOPRESS, 17 of which are mounted on Mercedes Econic chassis and 5 on Dennis Eagle narrow chassis. These are currently being delivered on a rolling programme with the last due to be in service in 2018. The FAUN VARIOPRESS is our best-selling refuse collection body in Europe, together with the FAUN ACTIFIT Air; it offers the best load distribution, protecting not only the gross vehicle weight from overloads but also individual axle weights too. It can also be utilised for a variety of different waste streams including household residual waste, trade waste and green collections. This flexibility allows operators the ability to maximise productivity.

The vehicles were also all supplied with ZOELLER lifters and there is a mix of ROTARY XL and OMEGA trade lifters which will enable the local authority to deliver an effective and comprehensive service for all waste streams. David Clark, Transport & Waste Transfer Station Manager & Amy Bridgford, Operations Manager for Recycling & Waste for Aylesbury Vale District Council also visited the FAUN production facility on Osterholz-Scharmbeck, Germany earlier in the year to sign off the first two vehicles. Amy said: 'It was a really useful visit for us as we saw just how

**Bottom:** Pat Brown, Amy Bridgford, David Clark & Martin Hughes (v.l.)



vast the FAUN production facility is and to actually see how each vehicle is constructed from sheet steel to a finished product. The tour of Bremen that was also arranged by the team was amazing!

The first four VARIOPRESS's were delivered in October 2017 and are already operational out on the streets of the Aylesbury and the surrounding areas. The staff have already commented on the improved speed of the lifter and accuracy of the FAUN ACTIFIT Air body weighing system. Working in conjunction with Intercounty Mercedes we have also agreed a full and detailed training plan for all drivers and operators which is currently underway. This involves the drivers



The vale is named after Aylesbury, Aylesbury is the county town of Buckinghamshire; the name is of is thought to mean "Fort of Ægel", though who Ægel was is not known! Aylesbury was major market town in the middle ages and was actually awarded the county status by Henry VIII (but that may have been because Thomas Boleyn owned much of the land and at the time he was trying to curry favour with Ann). The council itself covers an area of just under 349 square miles. The world famous silverstone circuit sits on the northern boundary of the district.

being trained by Mercedes on the manoeuvrability of the rear steer Econic, low entry Euro 6 chassis and Pat Brown delivering full training on the body and lifters.

'We are really impressed with the vehicles' said David Clark, Transport & Waste Transfer Station Manager for Aylesbury Vale District Council, 'Pat and the team at FAUN ZOELLER UK have understood exactly what we wanted and have delivered exceptional vehicles on time and the operational staff are also impressed!' Pat Brown commented: 'For me the whole experience from procurement, through to delivery and training has been a great one – hopefully these are not the first vehicles that we will deliver to Aylesbury and I am looking forward to working closely with them in the coming years'.

# The Pfundskerle of tomorrow!

— A good education lays the foundations for a successful career. But education is about more than what you learn in the classroom. To make sure that our young trainees blossom into great guys and girls, FAUN provides them with a structured training plan and the chance to get involved in the day-to-day operations of our company – and shows them how to think outside of the box.

There are currently 36 trainees getting to grips with the tools of the trade with FAUN. At the beginning of May, these trainees from all over Germany got together at the first trainee meet-up hosted by FAUN Viatic GmbH. The event was a chance to exchange experiences, talk about their concerns and discuss the latest news from FAUN. The young FAUNis shared their experiences at school and from their time in the company, and also enjoyed a visit to the sweeper plant in Grimma and a guided tour of all of Leipzig's trendy hotspots.

For most of the three day event, the participants worked in groups on two different tasks. HR Manager Marc Grube explains: "It's important to us that young people who have chosen to train with FAUN get to know the company outside of the usual contexts too. We have a laid-back but respectful culture and we want to be an attractive employer for the next generation of talent". With this in mind, training programme managers Ina Westermann and Mike Schtolas put their heads together before the event to think about what fascinating challenges might lie in wait for the great guys and girls of the future. The talented mechanics and engineering enthusiasts were tasked with

planning a race car building kit known as the "AC COBRA". The creatives in the team developed a campaign to boost the presence of our great guys and girls on social media. In addition to producing Instagram posts, the group also filmed marketing videos. To close the workshop, the proud participants presented their results to the Management Board. Mike Schtolas: "I have seen time and time again that having a project that they can use as a springboard for development is really important to bringing out the best in young people. They want to take responsibility and be proud of what they achieve". We look forward to seeing the first pictures of the AC COBRA soon.

**Want to know what the great guys and girls of the future are up to at FAUN?**

Follow the FAUN Group on: [Facebook](#) and [Instagram](#)

Author: Ina Westermann



# Under- standing the market

For the ZOELLER team, IFAT 2018 was packed full of engaging discussions, presentations and – last but not least – fun. Over the course of the five-day event, the Group focused on the convenience and comfort features and operator safety systems in its products, using IFAT as an opportunity to showcase its innovative vehicles, lifters and options.

"The customer is at the heart of everything we do", says Jürgen Kowalke, Sales and Service Manager for Germany, summarising the ZOELLER Group's approach to this year's event in Munich. "All of our products, innovations and services aim to offer our customers exactly the solution they need based on their own individual profile of requirements. At ZOELLER, we don't offer standard products; we offer series-manufactured individual solutions".

The strategy is proving successful: The products and options on show in Munich were prime examples of the Group's technological and ecological innovations, and there was something for everyone among the exhibits.



### THE HIGHLIGHTS:

- Facelift for the ZOELLER lifter: Integrated DELTA 2316 and DELTA 2318 and new ROTARY 2418 – a new design and optimised features for this outstanding piece of equipment
- ZOELLER CLEAN OPTION air pollution control system
- New generation of the ZOELLER MEDIUM X4 in a new design
- Fully electric FUTURICUM vehicle with STUMMER body for an exceptional environmental performance
- New design for SLF and SLF XL side loader body with enhanced lifter performance
- New ZOELLER working area monitoring system on lifters to ensure operator safety
- KOCO connect products for level monitoring and fleet management
- Reversing assistance systems for improved safety in busy environments
- Modern underground disposal with the INNIVO system
- The agile MICRO HG and MINI refuse collection vehicles
- Solar-powered SOLARPRESS waste containers for clean towns and cities

Detailed information on our products and services can be found on our website: [www.zoeller-kipper.de](http://www.zoeller-kipper.de)



"We're thinking about tomorrow today. Our discussions at IFAT proved that we're on the right track", concludes Thomas Schmitz, CEO of the ZOELLER Group, on the positive results of IFAT 2018 for his company. "Our industry not only needs innovative products, but also solutions for system networking, fleet management, fill level-based route planning and telematics to enable it to take waste disposal logistics to the next level. We understand the market and we're ready to provide these solutions".



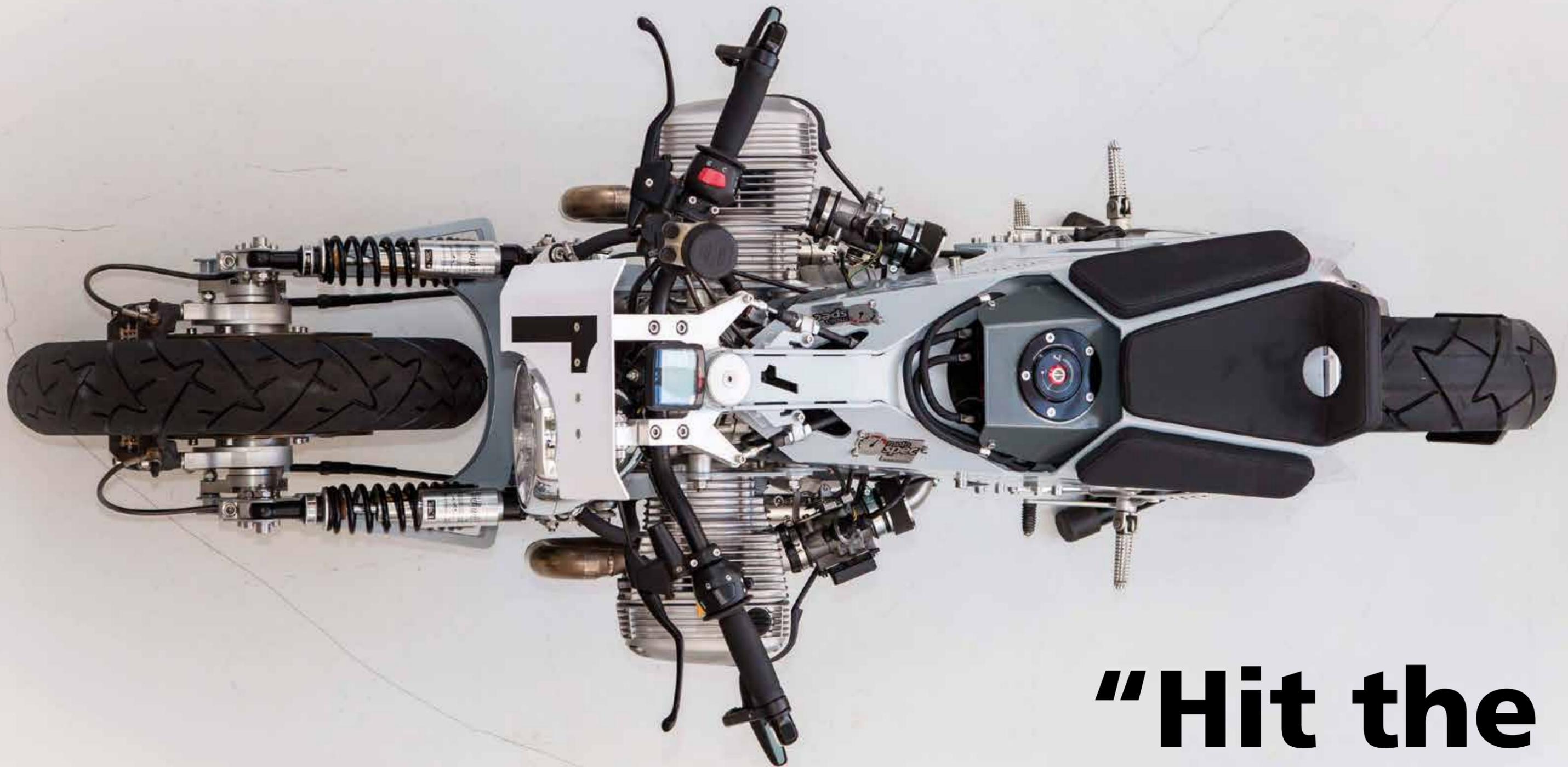
ZOELLER was awarded first place in the assemblies/components/control technology category of the VAK INNOVATION PRIZE for its active air purification system CLEAN OPTION.

Even at the very early stages of development, ZOELLER engineers take operator comfort into account: A breath of fresh air for the operators on the footboard.

**ZOELLi and the entire ZOELLER team would like to thank everyone who visited us at IFAT 2018.**



For more photos: [www.zoeller-kipper.de/messe-impressionen-ifat-2018](http://www.zoeller-kipper.de/messe-impressionen-ifat-2018)



**“Hit the  
road Jack”**

At first glance, Jacek Czyżewicz looks like any other guy; by day, he develops and designs refuse collection vehicles for the ZOELLER Group in the Polish village of Rekowo Górne, near Gdańsk. But a closer look reveals a different story. This young engineer became a living legend in the custom bike scene – under the pseudonym of Jack Watkins – after building his own motorbike: the **Watkins M001**.



Watkins M001

The Watkins M001 is a futuristic piece of engineering: A naked bike stripped back to bare metal, based on a BMW R1150 RT. Nine years ago, when Jack first saw the legendary BMW Harrier built by Stellan Egeland, he knew that he would one day build his own motorbike too. The process would put his knowledge and his burning curiosity to the test.

The design, engineering and construction of the customised bike was all done by hand. As part of the team at one of the world's largest vehicle manufacturers, Jack's industry contacts were invaluable in helping him bring his vision to life and finding the right partners for his project. The back end of the bike is laser-cut, and Jack obtained expert design and engineering advice from Moto Spec. There's little remaining of the original BMW on which the bike is based. Jack kept the components he wanted and remained constantly on the lookout for parts, finding much of what he needed on eBay. The shock absorbers are taken from the BMW R1150, but the rear wheel comes from a BMW GS; the front wheel was originally fitted to a Yamaha XJ6. Jack also took



parts from a Moto Guzzi V750. The bike has more than 300 handmade components, a third of which can be found in the front suspension alone. This feat of engineering purrs away at 95 hp. Hour by hour, month by month, year by year, Jack worked passionately on his dream. This passion and persistence would ultimately be the key ingredient for his success. After four years – involving numerous dead-ends, hundreds of discarded drawings and countless dismissed ideas – the Watkins M001 made its maiden journey.

These days, the engineer and his "baby" are well-known on the motorcycle scene. Just like in Ray Charles' famous song, Jack and the Watkins M001 now regularly "hit the road" to feature at shows and fairs across the world. The inventor is modest about his achievements, and a friend had to convince him that his bike was worthy of being shown off to a larger audience. And he was proven right: The Watkins was a magnet for visitors at the prestigious Bike Shed London 2018 show. The unique motorbike has also been displayed at two of the largest shows on the Polish motorcycle scene. Jack is now

working on getting his bike certified as road-legal. The ZOELLER team is also impressed by the bike and Jack's achievements. Rainer Rohler, Managing Director at ZOELLER TECH, is full of praise for Jack: "I've never known anyone be as committed and passionate about his projects as Jacek. I'm incredibly proud to have such a great engineer in our team". The Watkins M001 will not remain an only child: Various enhancements to the development process and driving performance will be incorporated into a Watkins M002 at some point in the future. But Jack is keen to take his time. "I've got plenty of time to explore all avenues and make sure my curiosity is fully satisfied. I want to enjoy the process just like I did the first time", says Jacek – aka Jack – with a smile.

Has Jack's story sparked your curiosity? Find out more on his website:

[Watkins.pl](http://Watkins.pl)

Author: Claudia Schaeue

A summer essential: STUMMER bin washer in action. Two washing arms with rotating washing heads thoroughly clean two-wheeled and four-wheeled containers at a working pressure of up to 120 bar, using either cold water or hot water heated to temperatures of up to 50 degrees.



#### Brantner Österreich GmbH:

Innovation based on tradition. With over 2500 employees (in 2017), the BRANTNER Group – founded by the Brantner family in 1936 – is one of the most successful national and international waste disposal and logistics companies. Now under the leadership of the third generation, the family company is active in six countries, with stakes in around 60 companies and joint ventures. From its base in Krems, Austria, where the company was originally founded, the Group provides waste disposal services for more than 1000 municipalities and cities and for more than 30,000 commercial and industrial customers at home and abroad.

#### Facts and figures:

Wholly owned family company now in the hands of the third generation  
 Represented in six countries  
 60 branches and joint ventures in Europe  
 Over 2500 employees (in 2017)  
 Over 1000 vehicles and machines  
 16 landfills in Europe  
 12 sorting plants in Europe  
 9 composting sites in Europe  
 6 further treatment plants

[www.brantner.com](http://www.brantner.com)

# A shower for refuse containers

— Austrian refuse

disposal pioneer

Brantner Österreich GmbH

has ordered ten

cutting-edge

refuse collection vehicles

from Austrian municipal

vehicle specialist STUMMER.

Entrepreneur Bernd Brantner has a clear idea of how he wants to do business: "In the future, we will remain true to the principle we have always applied to our work: Striving to recognise the needs of our ever-changing society and environment and to adapt our services to these needs, using innovative waste disposal concepts and cutting-edge technology. Our success is based on being one step ahead".

With this motto in mind, the Group's decision to obtain its vehicles from Austria's number-one manufacturer STUMMER is a logical one. Johannes Streif, Managing Director at STUMMER, is proud to be delivering ten new refuse collection vehicles to the family company. Two of these vehicles are equipped with a container washing system to clean containers with a capacity of 120 to 1,100 l.

The combined refuse collection and washing vehicles are highly efficient, with excellent volume and weight distribution. The vehicle has a volume of 19.5 m<sup>3</sup>, and is equipped with a 2,500 l clean water tank and a 1,800 l used water tank. This means that around 650 two-wheeled containers can be emptied and washed in a single round with one vehicle, without needing to stop to refill or empty the superstructure. It's a smart solution – one that not only saves money, but also helps protect the environment. Residents are particularly pleased to see their refuse containers getting a refreshing shower during the warm summer months. The vehicles are constructed on modern four-axle chassis and are used to collect organic waste in the St. Pölten-Land district. "We work for many companies in the refuse disposal sector. But we only have really close partnerships – like the one we have with Brantner – with a very small number of those providers", says Johannes Streif. And both parties agree on why: They both strive for sustainability, cleanliness, efficiency and complete satisfaction for household and commercial customers at each and every stop. **So what are you waiting for? Let's get the shower on the road!**

Author: Johannes Streif



Smiles all round: From left to right: Günther Deibler (Brantner waste disposal driver), Otto Burger (Operations and Fleet Manager at Brantner), Hans Christian Nehammer (CFO at Brantner), Johannes Streif (Managing Director at STUMMER), Stefan Tollinger (Board of Management, Brantner Austria and Germany), Andreas Hofbauer (Sales, Brantner Austria), Wolfgang Föttinger (Sales, STUMMER East).

# Clean island

STUMMER has been working with Croatian firm Ponikve for 20 years. It is because of this long-standing partnership that STUMMER Managing Director Johannes Streif is particularly proud to be able to hand over the keys to 20 new refuse vehicles in 2018 – 20 years after the companies first joined forces.

The island of Krk is located in the northern Adriatic Sea, and is the largest island in Croatia. In 1980, the island was connected to the mainland via a bridge, marking a turning point in its economic fortunes. Ponikve Eko Otok Krk d.o.o, founded in 1970, is modern company owned by the seven island municipalities. It is responsible for water supplies, refuse collection, recycling, sorting, landfills, sewer cleaning and various other municipal services. The company aims to provide a modern recycling management service. In mid-2005, the island launched a project to create an "Ecological waste management system" for Krk. As part of the program for the project, an old waste landfill was modernised; the island also built a recycling centre with a sorting and composting plant, as well as an additional landfill.

The greatest challenge for the island is its booming tourism industry. In the winter, the island houses 19,500 people, but in the summer months, the number of people on the island increases exponentially, to a total of around 130,000 residents and guests. "Our services and infrastructure need to be fit to cope with this number of people", says Ponikve Director Ivica Plisic. "Last year, 4.7 million overnight stays were recorded on the island, accounting for around 6% of all of Croatia's tourism".

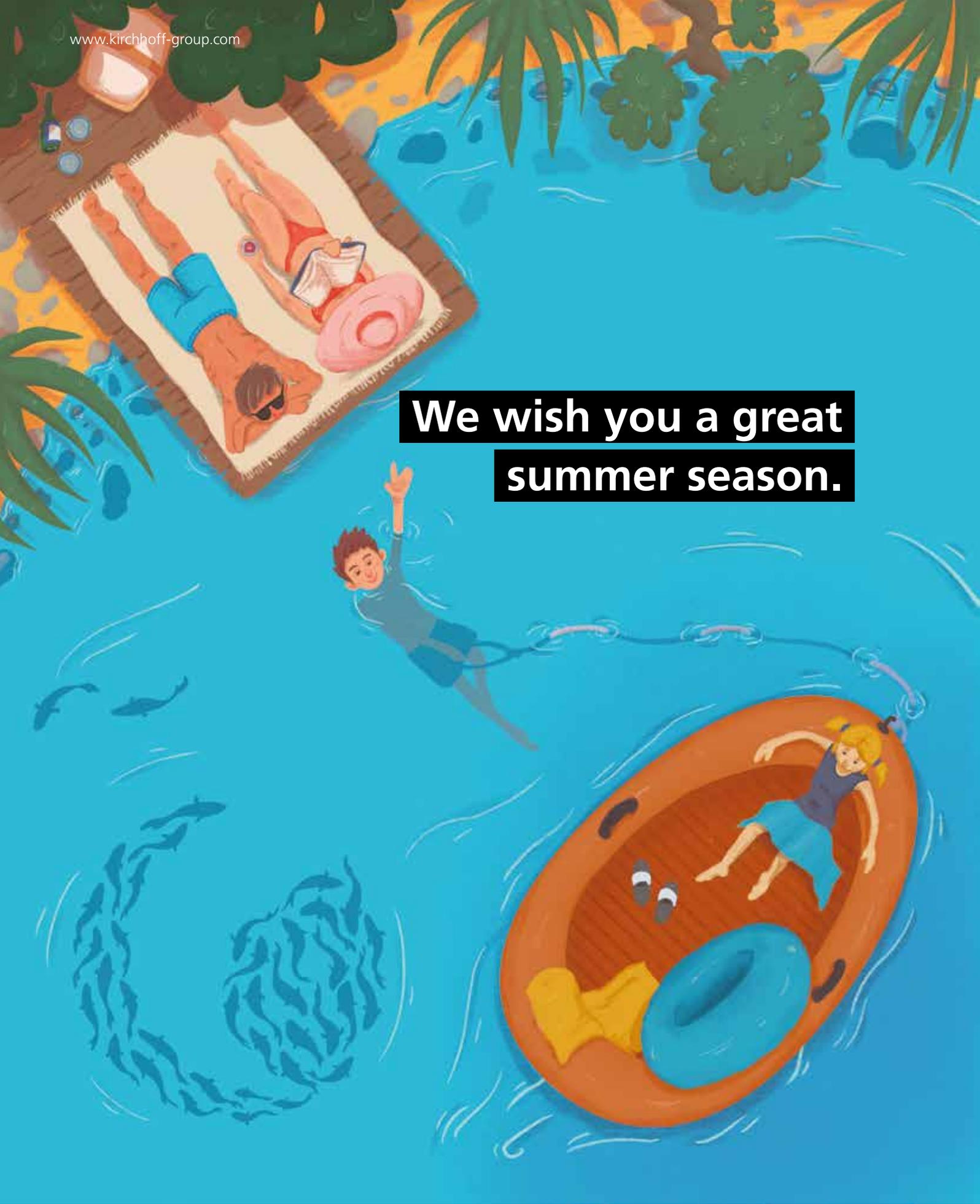
105 employees and a fleet of 28 vehicles – including 20 new refuse collection vehicles from STUMMER, supplied by STUMMER bin washer in action dealer CNM in Rijeka – collect more than 21,000 tonnes of recyclable waste each year. The recycling quota of the 1500 green collection points (which accept paper, packaging, organic waste, glass and metal) is 54%. "We need our fleet to be completely



reliable to meet the expectations of our guests and visitors. This is why we've opted for refuse collection superstructures from STUMMER for the last 20 years – they offer outstanding reliability, great service and the best value for money", explains Ivan Juresic (Deputy Director at Ponikve).

Hannes Streif, Managing Director at STUMMER, adds: "We're proud to have served Ponikve as a customer for over 20 years. Ponikve is a company that leads by example, setting the bar for the entire region and Croatia as a whole. I'm especially pleased that the company's first vehicle from us, an 8 m<sup>3</sup> STUMMER bin washer in action MINI built in 1998, is still in daily use. It just goes to show that quality pays!"

Author: Johannes Streif



**We wish you a great  
summer season.**