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KIRCHHOFF GROUP

K›MOBIL

THE KIRCHHOFF GROUP MAGAZINE

From multi-tonne tipper to hightech lifter. The ZOELLER Group looks back on 70 years of lifters, waste collection vehicles and lots of smart ideas. **More to come from page 96** »

Contents

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the KIRCHHOFF Group magazine

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Characterized by changes

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

J. Wolfgang Kirchhoff, Managing Partner & COO
KIRCHHOFF Holding, CEO KIRCHHOFF Automotive

In the second half of the year we can see a solid development of the global economy, and positive leading indicators worldwide. An economic growth of 3.3% is expected for 2017, which can be attributed to the stable conditions in North America, Europe and Asia, as well as the recovery in South America.

All of this however, takes place in a very risky geopolitical environment, particularly when we look towards North Korea, recognize the global terror threats and still live amongst the unsolved conflicts in Syria and Ukraine.

Generally speaking, the political conditions in Europe have changed after the Brexit vote last year. The right-wing populist and anti-European movements have been stopped in the Netherlands and in France; they could not win the majorities they hoped for. On the other hand, a countermovement arose: Europe-wide, young people rally for further construction of a free, peaceful and economically strong community of states.

» This continuing expansion of Europe, however, has to start with far-reaching reforms «

The set of rules in the EU has to be reduced to a minimum level and the member states have to work on fiscal, economic and labor market reforms. If this does not succeed, Europe is going to be the biggest risk factor in the world economy. The Federal Republic of Germany has to be aware of that and must be ready to bear a higher burden for Europe.

With the Trump Presidency in the USA comes many changes. Tax reforms, infrastructure projects and changes in the social system are domestic policies. However, "America First" will fall short in a global economy and is not going to fundamentally change the rules of the world economy which has grown over the past 35 years. We must not forget that globalization has also contributed to the US' welfare and has allowed for a higher standard of living. Contracts, if they are found to be unfair or unbalanced, can be renegotiated—that is legitimate. The common principle of the North Atlantic economic relations is to be based on free and fair trade. It is said that the European Central Bank is independent, the Euro is not politically influenced and the value-added tax in Europe is an indirect excise tax that does not serve the "support" of exports.

Changes in automotive and mobility are picking up speed. Globally, although to different degrees, people are working on electric, autonomous driving, networking and new mobility concepts. These modifications are going to revolutionize our industry. The market and innovation, however, will drive this change; politics have to give the market enough time for that and must not interfere by further regulation. The result would lead to uncertainty amongst our customers and potential job loss, particularly in Europe.

» Our Company continues to work on the mobility of the future «

KIRCHHOFF Ecotec continuously develops the electrification of the powertrain for compactor trucks and sweepers after the pioneer model, the FAUN Dualpower, has been on the road for nine years already. KIRCHHOFF Automotive is also going to present structures for battery-electric-vehicles and the corresponding manufacturing technologies at the IAA in Frankfurt. You can learn more about it in this issue of K>MOBIL—have fun reading it!

WE.MOVE.FUTURE.

Wishing you a wonderful summer and the best of luck.

Yours,

J. Wolfgang Kirchhoff

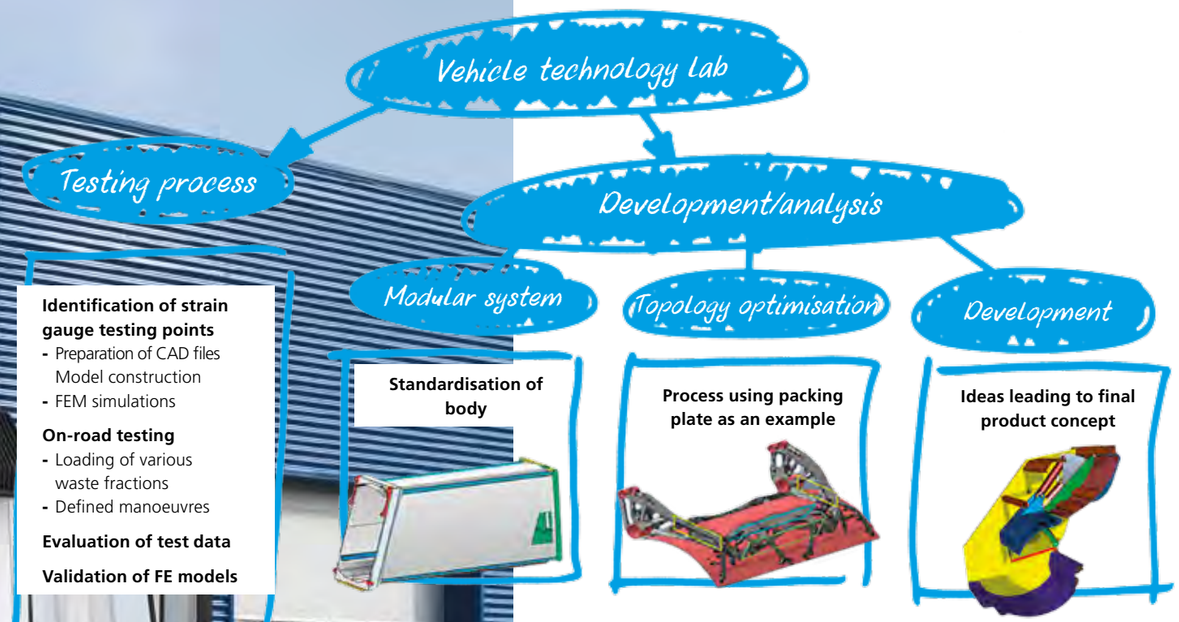
The lighter way

In partnership with LAB, the Competence Centre for Lightweight Construction, Powertrain Engineering and Service Strength at the University of Osnabrück, and with the support of the German Federal Environmental Foundation (DBU), FAUN is working to optimise the kinematicsand weight of the POWERPRESS rear loader.

Waste disposal companies are faced with the challenge of collecting recyclable materials at the right time and in the right location, while also minimising the emissions generated by their waste collection vehicles. Carbon dioxide, nitrogen oxide and fine particulate matter damage the environment and put the health of the population at risk. To minimise these effects, waste collection vehicles need to be lighter, with a larger capacity – so that fewer vehicles are required out on the road. In combination with lower operating costs, these environmental factors are some of the key arguments in favour of the ROTOPRESS, FAUN's rotary drum vehicle. Vehicles with packing-plate pre-compaction are heavier before they are loaded with waste. To tackle this challenge, FAUN partnered with the University of Osnabrück to develop computer simulations, which were then verified in on-road tests. In the automotive sector, the combination of simulation, laboratory and on-road testing produces outstanding results in the field of lightweight construction. For the FAUN project, this basic principle was transferred across to waste collection vehicles.

In partnership with the Competence Centre for Lightweight Construction, Powertrain Engineering and Service Strength at the University of Osnabrück, and with the support of the German Federal Engineering Foundation (DBU), FAUN investigated the lightweight construction options for the POWERPRESS. The aim of the testing process was to optimise kinematics and reduce the weight of the vehicle, resulting in a reduction in emissions and increased energy savings. "Lightweight vehicles are advantageous because their reduced weight means that they can be loaded with and transport higher volumes of waste. Overall, that means fewer vehicles are needed. And the fewer vehicles there are on the road, the lower the CO_2 emissions", explains Johannes Klossek, the KIRCHHOFF Ecotec project manager for this series of tests.

The two-year project focused on the entire rear end of the FAUN POWERPRESS, including the compaction system. The team conducted analyses on topology optimisation, looking at how forces were transferred between components, and identifying comparison stress points. To do so, they developed a procedure involving test drives and computer simulations. They then worked out exactly how much weight could be saved. The resulting modular system can be transferred to other vehicles. The analyses produced a series of values, which were fed into a computer model capable of mapping out and developing a new, optimised, production-ready design. These simulations, combined with easy-to-produce components, formed the organic structure of the new concept.



And the results of all this theoretical calculation? A weight reduction of 36% is feasible, and the final design will require fewer individual parts. FAUN produced a prototype based on the results, and the lightweight POWERPRESS has already taken part in field testing. "The results highlighted some areas where there was further potential to optimise the design. There were forces at play in the compaction system that we didn't take into account in the computer simulation", says Johannes Klossek, summarising the initial on-road tests.

Further tests with an improved version of the design proved that the basic principles of lightweight construction can be transferred to waste collection vehicles. Johannes Klossek is confident in the new design. "The vehicle has been proven stable on the road, and we have been able to reduce the overall vehicle weight by 650 kg. A prototype of the vehicle will now be tested by our customers, with the ultimate goal of creating a new, reliable and advanced waste collection body for series production".

Author: Claudia Schaue

Dr. Jochen F. Kirchhoff is passionate about working with the people in the Company.

An exceptional entrepreneur, a special human being

Jochen Kirchhoff celebrated his 90th birthday in April. He can look back on a fulfilled life. His numerous achievements and experiences would be enough for several books. Yet, he is actually looking more to the future. He is looking at all the exciting times that lie ahead for us—and for him.

A company is not a private meeting.
It has a social responsibility.

Since, at the age of 90, he is in the middle of things, curious, and open to new ideas, he is able to inspire himself and others. In many respects, he is a special entrepreneur because he is a special person. He is a gifted and skilled musician, and he promotes art and culture. A versatile, educated intellectual, he could very easily be a professor of humanities at a university today. However, he was just as passionate about technology and became an engineer. His economic expertise and entrepreneurial experience are beyond belief. His grandchildren value him as a "walking dictionary of economics" and, with a smile, describe him as someone who is "steadfastly ambitious, who really knows the answer to everything, but whose manner is wise and not know-it-all".

He gained his first professional experience after the war as a miner working underground. This internship, which lasted nine months, was a prerequisite for his mining studies at the Clausthal University of Technology in Zellerfeld/Germany. Including semester holidays, he spent a further one and a half years working "underground" in coal and ore mining. This is where he not only learnt to use a wide variety of trades, but the hard work was important experience for his subsequent leadership roles: "Most of all, I saw what you can ask a person to do in terms of physical work and pressure—and what you can't." His secondary education (Abitur) was cut short due to the war; he was thus the youngest student in the university and subsequently had to repeat several subjects such as chemistry. Studying on his own, he acquired the necessary knowledge in just a few months by reading technical literature. This was crucial experience.

Even after his studies in business administration in Cologne/Germany during his few years of employment at Deutsche Babcock AG in Oberhausen/Germany, it is his reading of specialist literature in the evenings that gave him his knowledge of lean processes in industry, thus enabling him to combine his studies with his practical experience and apply them successfully. **Aged 35, he is the youngest member of the Management Board in the company**. He fulfils his contractual obligations and then follows his 80-year-old father to Iserlohn/Germany to join the family-owned company, which would otherwise have to be sold without a successor.

As a successful entrepreneur, he feels that he has a responsibility to contribute to society: "A company is not a private affair, but a binding social responsibility." The charitable foundation named after him serves to promote education and child development, art and culture, sports, as well as benevolent and ecclesiastical activities. He has received many awards for his voluntary commitment to industry and the social market economy. He thus follows in the footsteps of his grandfather and of his father, Friedrich Kirchhoff, who started a commercial association, among other things. That one was also about education. Interesting lectures were held about countries such as China, Russia, or South America—all the countries to which the merchants from Iserlohn delivered their goods. As Dr. Jochen Kirchhoff stresses, the key questions at that time were: "What is going on there? What is their culture like, and how do people live?" He is also defined by this interest in other cultures, which he treats with curiosity, openness, and respect. »

Dr. Kirchhoff (2nd f.r.) with his sons Arndt, Johannes, and Wolfgang (f.l.t.r.)

Venturing into new territory in time,
working on innovations constantly
and investing in modernization.
Especially not being afraid of entering
new markets

This is still reflected today in the internationalisation of the Company. In its locations worldwide, the Company employs local management and specialist personnel wherever possible. "Even if, or precisely because, as German entrepreneurs, we are regarded highly abroad, we should absolutely avoid coming across as German know-it-alls. It is most important to put confidence in local people as well as train and qualify them, if necessary."

Focus on people. This applies to all aspects of his work, even in the economy. Because "its purpose, after all, is to create the foundation and material prerequisites to allow us to live decently". The most important role of a successful entrepreneur, in his opinion, is the commitment to employees. "The main task consists in creating lasting, competitive jobs, and then improving the working conditions of the employees. We want our employees to enjoy their work and be able to feel proud of their achievements." Running a family-owned company is the most appealing job that he can imagine: solving issues and setting objectives with the family, independently and under his own responsibility, for the sustainable and successful management of the Company. "It is a passion and a pleasure to work with the people in the Company as well as for the local community."

The intellectual, humanist, art enthusiast, and art patron also possesses the necessary instinct and courage of a successful entrepreneur. **When necessary, he reinvented the Company.** In the early 1980s, he sold the electrical operating line with its night storage heaters and the first micro wave ovens. He recognised early on that despite its good products this department was not sustainable against the market leaders. He invested instead in the production of passenger car body parts, built a new plant in Iserlohn Sümmern/Germany, and bought the company Kutsch in Attendorn/Germany, thereby laying the foundation for by far the largest department in the KIRCHHOFF Group today. His motto is: "Taking on new challenges in good time, constantly working on innovations, and investing in modernisation. And, most of all, not being afraid to venture into new markets." This applied in particular to the entry into the waste disposal market, initially supported by his second-eldest son Johannes with the acquisition of the FAUN brand in 1994 and subsequently with the purchase of ZOELLER in 2005. Since the mid-1980s, Dr. Johannes Kirchhoff has been a successful figure in the waste disposal industry, including as Managing Director of Edelhoff Polytechnik and later as member of the Management Board of the Edelhoff Group, the largest German waste disposal company at that time. When he joined the family-owned company, he did not want to abandon this industry or, above all, his knowledge of it. On discovering that the owners of the FAUN plants did not have a suitable successor, he convinced his father to visit the owners Rita Schmidt and her two daughters and make a takeover offer. Instead of haggling over the purchase price, however, Dr. Jochen Kirchhoff talked to the women about art and culture, football, and beer rather than simply focusing on the deal. He hit exactly the right note. At the end of the two-hour conversation, the 82-year-old mother expressed her wish for the father to take over the chair of the Supervisory Board of FAUN in order to become better acquainted with the company. Over time, the son would indeed be able to put together a purchase offer. After the successful offer, the purchase price was never discussed again, let alone negotiated. »

Curriculum vitae

Dr.-Ing. Jochen Friedrich Kirchhoff
Born on 21 April 1927 in Iserlohn/Germany

1946 Secondary education (Abitur) at Märkisch secondary school (Gymnasium) in Iserlohn/Germany

1946–1950 Studied mining and mechanical engineering at Clausthal University of Technology (Abschluss Dipl.-Ing., engineering degree)

1950–1952 Studied economics at the University of Cologne/Germany

1953 Doctorate in engineering (Dr.-Ing.) from Clausthal University of Technology (subjects: engineering and business administration) Dissertation: Improved energy supply to the mines in the Ruhr area/Germany using the combined generation of heat and power

1953–1968 Employment at Deutsche Babcock AG, Oberhausen/Germany

1953–1955 Creation and management of the business administration department

1956 Head of assembly and technical sales representatives department

1960 Director of manufacturing operations

1963–1968 Member of the Management Board

1968–1992 Owner and Managing Director of family-owned company Stephan Witter & Comp., Iserlohn/Germany

From 1993 KIRCHHOFF Group, Iserlohn/Germany Chairman of the Executive Board until 2006; Chairman of the Advisory Board and of the Shareholder Circle 2007–2017

Dr. Jochen F. Kirchhoff and his granddaughter Kim Höhne at the production location in Iserlohn/Germany

The successful takeover of ZÖLLER-KIPPER GmbH from its owners Helga Schulz-Zöller and her daughter Antje by the father-and-son team progressed similarly.

The most difficult thing to implement was probably the realisation that is key for the survival of a family-owned company: having to disengage yourself at some stage, let go, and hand the company over in good time to the next generation. "I know of many fathers who are not capable of doing this. They have good intentions and the presence of mind that they need to withdraw. But to do just that and really stay out of it is difficult." Dr. Jochen Kirchhoff, however, also did this resolutely and with foresight. After his sons already took over the management many years ago, he has now handed over his remaining roles on his 90th birthday. Yet he still has his own office, and

Honorary offices

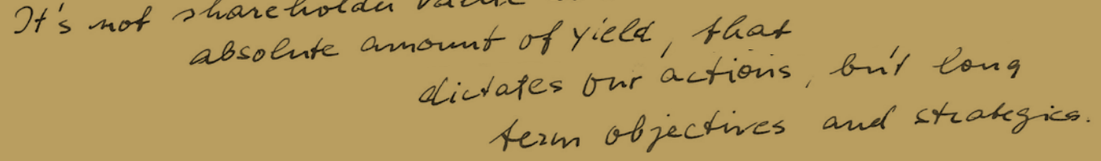
President: Regional Association of Employer Confederations in North-Rhine Westphalia (Landesvereinigung der Arbeitgeberverbände Nordrhein-Westfalen e.V.), Düsseldorf/Germany, 1983–2004, now Honorary President
President: Association of the Metalworking and Electrical Engineering Industry in North-Rhine Westphalia (Verband der Metall- und Elektro-Industrie Nordrhein-Westfalen e.V.), Düsseldorf/Germany, 1983–1997, now Honorary President
Member of the Presidential Board: BDI (Federation of German Industries/Bundesverband der Deutschen Industrie e.V.), 1973–1998 BDA (Confederation of German Employers' Associations/Bundesvereinigung der Deutschen Arbeitgeberverbände), 1980–2005
Chairman of the Board of Trustees: South Westphalia University of Applied Sciences (Fachhochschule Südwestfalen)
Member of the Senate: Wissenschafts-Zentrum NRW (Science Centre of North-Rhine Westphalia), Düsseldorf/Germany, 1995–2005
Honorary Consul: Republic of Estonia, 1996–2009

Other honours

- Honorary citizen of the University of Tartu, Estonia
- Honorary senator of the Märkisch University of Applied Sciences (Fachhochschule) in Iserlohn/Germany
- Knight Commander's Cross of the Order of Merit of the Federal Republic of Germany
- Grand Decoration in Silver of the Republic of Austria
- Order of Terra Mariana of the Republic of Estonia
- Order of Merit of the State of North Rhine-Westphalia

Dr. Jürgen Rüttgers (Federal Minister and former Minister President of North Rhine-Westphalia) presents the Knight Commander's Cross of the Order of Merit of the Federal Republic of Germany to Dr.-Ing. Jochen F. Kirchhoff.

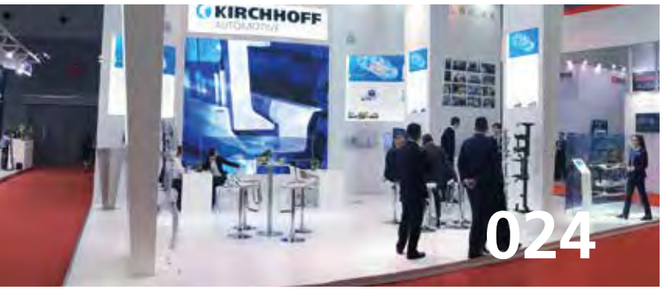
is available in an advisory capacity to his sons and the Company. Arndt, Johannes, and Wolfgang are, in turn, preparing their own children for potentially taking over responsibility in the family-owned company. Regular workshops prepare twelve grandchildren, several of whom have already graduated from university, for a potential future role in the Company. One very important advisor for the next generation is Dr. Jochen Kirchhoff. He believes that it is particularly important to keep the values of the family-owned company alive: "Our actions are not dictated by shareholder value and optimised return on investment, but by long-term objectives, values, and strategies."



He now has more time again for art and sport. Throughout his life, he has been passionate about FC Schalke 04. Even today, the outcome of a game has an impact on his weekend: **"If the royal blues lose, it ruins my weekend. I wake in the night and think what a shame it is."** Yet, even in this aspect of his life he is always open to new ideas, interested, and enthusiastic. At his instigation, KIRCHHOFF Automotive has been the main sponsor of the Iserlohn Kangaroos basketball team for two years. He began this sponsorship because he is convinced that "entrepreneurs must contribute to the attractiveness of the region, thereby ensuring that a company's employees enjoy life here and remain loyal to the company". While initial attendance at the home games was obligatory for the main sponsor, this has long since developed into another of his sporting passions. He tries not to miss any games and spends his Saturday evenings at the Hemberg sports hall in Iserlohn/Germany with his wife Lore or with friends.

He does not see 90 as an age to retire; at most, it is another stage of life with different priorities. One can only wonder what Dr. Jochen Kirchhoff will develop a passion for in the future, where his involvement will be, and how he will make a long-term contribution to his environment.

Author: Andreas Heine



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New products on the road

Author: Vanessa Wilkniß

Also for the latest vehicle models that are being introduced to the market by OEMs KIRCHHOFF Automotive has produced a wide range of innovative components. Laser welded seat structures, cold formed, high-strength door beams and Cross Car Beams—produced in Poland, Hungary and Mexico—reflect our competencies on a global scale.

Opel Insignia Support ASM body drivetrain, bar upper tie and rear seat structure

Technologies:
Support ASM body drivetrain: Forming, projection welding of nuts, spot welding, ARC welding
Bar upper tie: Forming, projection welding of studs and bolts, drawn arc welding, spot welding, ARC brazing, e-coating
Rear seat structure: Forming, profile processing, laser welding, MAG welding, e-coating

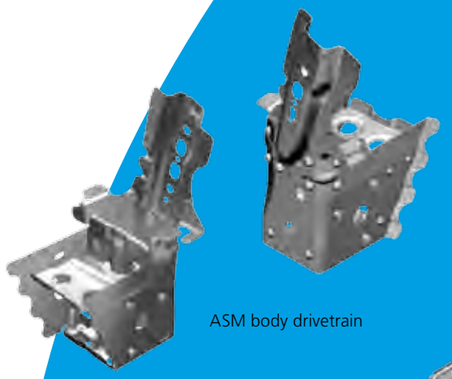
Production plants:
Support ASM body drivetrain: Mielec/Poland
Bar upper tie: Gliwice/Poland
Rear seat structure: Mielec, Gliwice/Poland

Capacity/Year:
Support ASM body drivetrain: 96,825
Bar upper tie and rear seat structure: 146,000

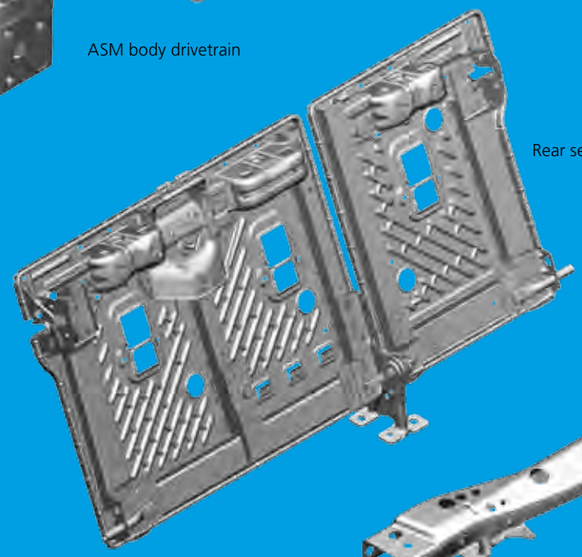
Customer/Model: Opel Insignia

Floor and car body structural parts for the new Opel Insignia

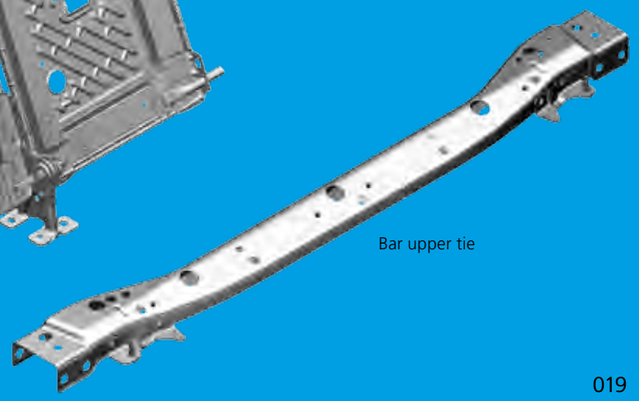
This spring Opel introduced the successor of the middle class model, Insignia, to the market. The vehicle is produced at the headquarters in Rüsselsheim, Germany in four variations: The sedan Insignia Grand Sport, the estate car Sports Tourer, the higher version Country Tourer and a version for the Australian market, a Buick Regal of the Holden brand. KIRCHHOFF Automotive supplies this series of vehicles with an extensive number of structural floor and car body parts. To this belong for example the support ASM body drivetrain and the bar upper tie which are produced by the plants in Germany, Ireland and Poland. In the Polish Gliwice, the rear seat structure for these models are produced.



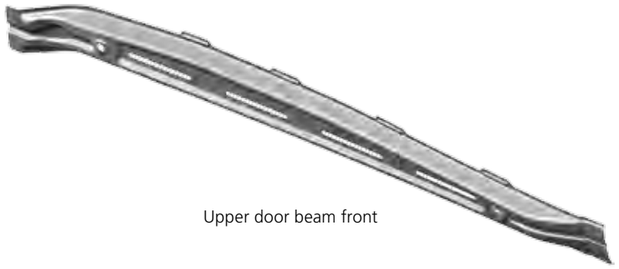
ASM body drivetrain



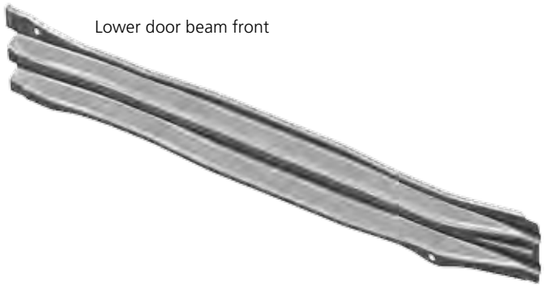
Rear seat structure



Bar upper tie



Upper door beam front



Lower door beam front

Hyundai Tucson upper and lower door beams (front and rear)

Technologies:
Forming

Production plant:
Esztergom/Hungary

Capacity/Year:
235,000 vehicles

Customer/Model:
Hyundai Tucson

Local production of high strength parts for Hyundai's most successful model

Eight products are being produced in our Hungarian plant in Esztergom for the current Hyundai Tucson. To date, the upper and lower door beams for the front and rear doors were produced in Korea, and then imported. Now, however, the manufacturer counts on local production of these high strength components. The Hyundai Tucson is currently assembled in the Czech Nošovice and is considered one of the most successful models of the Korean company.

Tiguan Allspace Assembly Front Cowl

Technologies:
Forming, resistance spot welding, arc welding of bolts, e-coating, riveting, robot controlled foam bead

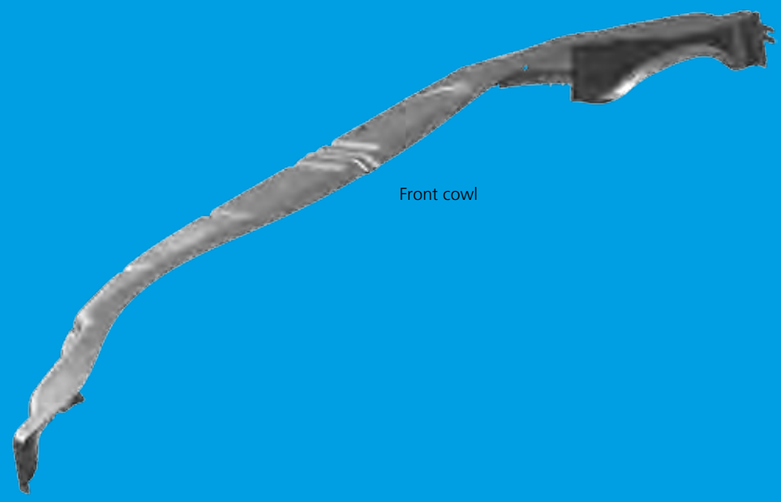
Production plants:
Puebla/Mexico, Gliwice, Mielec/Poland

Total capacity/Year:
500,000 vehicles

Customer/Model:
VW Tiguan, VW Tiguan Allspace, Skoda Kodiaq

Global competence for the VW Tiguan

KIRCHHOFF Automotive already produces the front cowl for the Tiguan. Our successes here have allowed us to also secure production for the Tiguan Allspace. For the North American market, the front cowl of the Allspace is manufactured in Puebla, Mexico. Since January of last year, the same is manufactured in Poland for the European market. The front cowl is a product for a global platform which is used for the production of the VW Tiguan, the VW Tiguan Allspace and the Skoda Kodiaq



Front cowl

Cross Car Beam

Opel Crossland X and Citroen Meriva Picasso Cross Car Beam

Technologies:
Forming, MAG welding

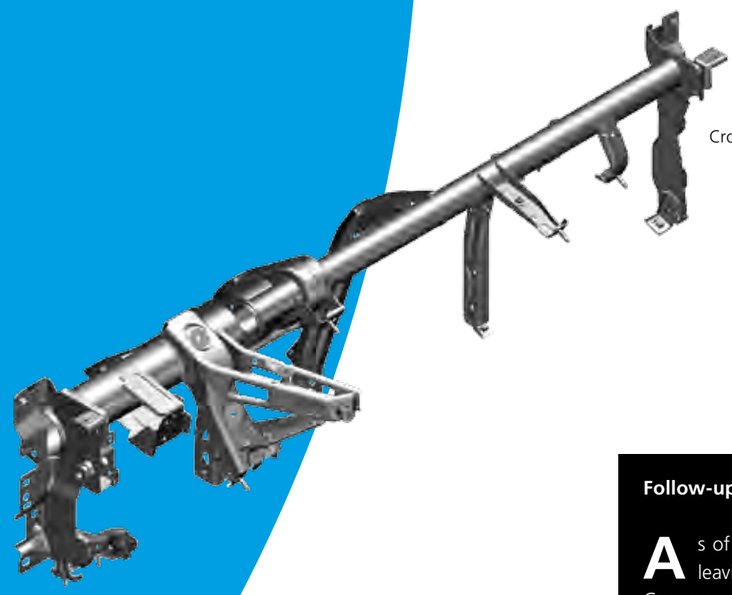
Production plants:
Ovar/Portugal, Figueruelas/Spain

Capacity/Year:
202,100

Customer/Model:
Opel Crossland X, Citroen Meriva Picasso

First commonly developed model of PSA and Opel/Vauxhall is introduced to the market

With the Crossland X, the first product developed through the collaboration of partners PSA and Opel/Vauxhall, enters the market. The B-CUV (Cross Utility Vehicle) replaces the Opel Meriva in order to satisfy the continuing SUV trend. The vehicle is produced in Zaragoza, Spain. Shortly after production of the Crossland X, the Meriva Picasso will begin to roll off of the conveyor belt there as well. KIRCHHOFF Automotive will supply the Cross Car Beam in addition to various structural car body parts and assemblies from our location in Portugal and Spain.



Cross Car Beam

Ford Fiesta Cross Car Beam

Technologies:
Forming, projection welding, MIG welding, automated clip assembly

Production plants:
Mielec, Gliwice/Poland

Capacity/Year:
307,000

Customer/Model:
Ford Fiesta

Follow-up order for the new Fiesta

As of May, the new Ford Fiesta has been leaving the Ford factory in Cologne, Germany; our plant in Gliwice received Ford's follow-up order for the Cross Car Beam. They are supplied from our press plant in Mielec, while the welding and automated clip assembly is executed in Gliwice.

Auto Shanghai— Committed to better life

Auto Shanghai 2017 with facts and figures:

The Auto Shanghai displayed 1,400 vehicles, 113 of which were debuts and 159 of new energy, which attracted more than 1 million visitors—a new record. In a space of 360,000 square meters, more than 1,000 exhibitors from 18 countries (mainly Germany, France, Italy, Spain, Japan, Korea and Taiwan) displayed their innovations. Roughly 11,000 journalists were present to report on the Auto Shanghai.

Auto Shanghai attracted professional audiences and car enthusiasts from April 19th to 28th 2017. The fair is the biggest automotive event on the Asian continent. KIRCHHOFF Automotive participated for the fifth time and presented…

…its latest innovations for the next generation of the automotive light-weight design.

And this will be electric according to the Chinese notion. In the past year alone, almost 500,000 plug-in hybrid and battery vehicles were registered in the Far East—with a rising trend. The Chinese government promotes this development with requirements for the manufacturers and suppliers as well as high investments in the infrastructure. In this year further 800,000 charging poles are going to be installed, until 2020 those are supposed to be five Million. Also at the Auto Shanghai there was almost no local brand that not at least displayed one electronically driven vehicle on their booth.

So KIRCHHOFF Automotive was following the trend with its introduction of its latest project as well: The development of a battery housing in lightweight design (combination of steel and aluminum) for full electric cars. The battery housing's special features include an optimized crash performance, underbody protection and an integrated cooling system.

KIRCHHOFF Automotive can call on many years of experience when developing structural parts for e-mobility. Already in 2009 the Company participated in a benchmark project for urban e-mobility. In a pioneering cooperation project automotive suppliers developed together with the Technical College Aachen the electric car StreetScooter as an example for affordable e-mobility. KIRCHHOFF Automotive developed the lightweight structure for the scalable vehicle. Today the German Post already counts on the StreetScooter as an environmentally-friendly distribution vehicle in many cities. »

01

02

03

04

The topic lightweight was also decisive for the other exhibits of KIRCHHOFF Automotive. Here aluminum products like cross car beams and body-in-white components as well as innovative Crash Management Systems were in the focus.

Almost 300 visitors informed themselves about our services in automotive lightweight design during the trade fair. Decision-makers of our most important customers in China, like CJLR (Chery Jaguar Land Rover), BMW, Changan and Geely showed great interest in our lightweight projects for e-mobility and the application of aluminum.

"We have already opened a production site in China in 2006 and have kept up with the rapid growth of the Chinese market with products for new customers. Today we produce structural parts for German brands but also for international and Chinese automotive manufacturers at three Chinese locations—in Suzhou, Chongqing and Shenyang", says Dr. Thorsten Gaitzsch, Chief Technology Officer at KIRCHHOFF Automotive.

01 F. l. t. r.: Wen Leyendecker, Managing Director KIRCHHOFF Automotive China I Ruan Aijun, SAIC Interior Manager I Dr. Shiqing Fang, Managing Director Sales & Technical Development China and Wang Yonghua, SAIC SQE Senior Manager **02** Thomas Mecklenburg, SVW Senior Purchasing Manager (2. f. r.) in discussion with Dr Shiqing Fang (l.) **03** Dr. Dirk Stahl, Manager of Product Development at KIRCHHOFF Automotive was one of the Key Note Speakers at the international Auto Key Tech Forum which took place during Auto Shanghai. The presentation "Economic lightweight subject to material and design" was very well received. **04** Dr. Shiqing Fang (l.) was pleased about the visit of Shunji Tajiri (middle), Vice President Mazda Motor Corp.

05 China is the leading market for e-mobility. So KIRCHHOFF Automotive was following the trend with its introduction of its latest project, a battery housing in lightweight design (combination of steel and aluminum) for full electric cars, as well. **06** Dong Liqiang, Engineering Supervisor at Changan Automotive (2nd f. l.) was impressed by our know-how in the area of aluminum processing—here at the example of two aluminum cross car beams. **07** Dr. Thorsten Gaitzsch (l.), Chief Technology Officer KIRCHHOFF Automotive, welcomes Chen Su, Senior Manager Interior of EASTONE AUTO. **08** Zhou Hengzhong, CJLR Purchasing Director (2. f. l.), showed his interest in a frontend in aluminum design, which we produce for the BMW 5, 6 and 7series.

China has overtaken the U.S. light vehicle market with its passenger car market in the year 2013 and remains the world's biggest since then. Since the beginning of this decade alone, the market has doubled in size—from 11.3 Mio. cars in 2010 to an estimated number of almost 25 Mio. in 2017. The market share of the German manufacturers takes up about 19 percent whereby the vehicles, for the most part, are built in China for China.

This is not to change in the future either. The automotive sector plays a big role in the "Made in China 2025" strategy. German companies and its suppliers are therein crucial partners of the Chinese automotive industry. Also concerning the topic of e-mobility the Chinese market offers a great potential.

That is why manufacturers, suppliers and the VDA are confidentially facing the future after a successful Auto Shanghai. China keeps up with its growing trend and the quality of German engineering skills remains highly in demand among the Chinese car buyers.

Author: Sabine Boehle

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KIRCHHOFF Automotive presented innovative Crash Management Systems at the Auto Shanghai.

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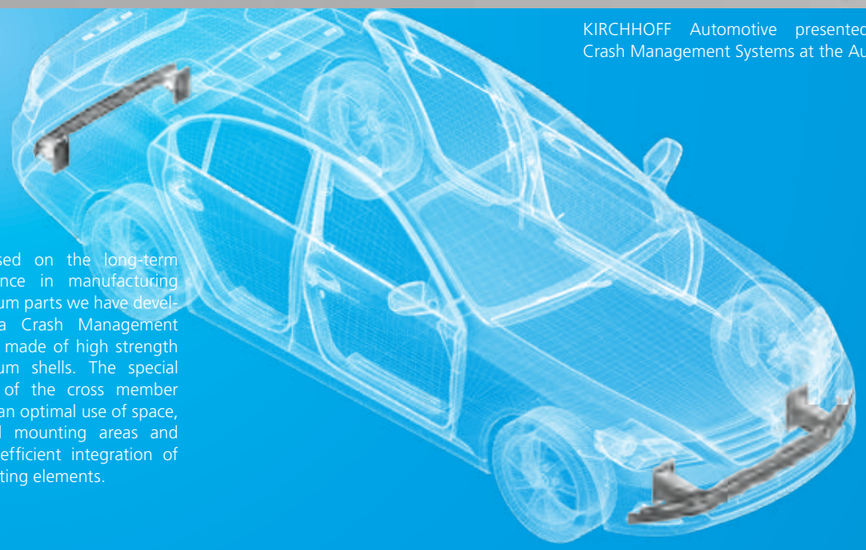

01 Based on the long-term experience in manufacturing aluminum parts we have developed a Crash Management System made of high strength aluminum shells. The special profile of the cross member allows an optimal use of space, tailored mounting areas and a cost-efficient integration of connecting elements.

02

02 We achieved a weight reduction of roughly 30 % per crash box with a steel/aluminum Crash Management System. Hot-formed steel was used for the rigid cross member and crash-proof aluminum shells in the crash boxes.

The booth of KIRCHHOFF Automotive at the Auto Shanghai 2017

From September 12th to 24th 2017 the world's most anticipated automotive trade fair, the 67th International Automotive Exhibition (IAA) Passenger Car will take place in Frankfurt. KIRCHHOFF Automotive will be present at the world's biggest performance show of the vehicle manufacturers and their suppliers with a 400 square meter booth. "Besides the big topics such as e-mobility, CO_2 reduction and digitalization, automated driving will be the focus of this year's IAA", emphasizes Matthias Wissmann, President of the Automotive Industry Association (VDA). Experience the IAA and get to know more about the latest developments in lightweight materials and joining technologies at our booth in hall 5.1, booth B08.

New Managing Director for our Chinese plants

Dr. Fang

After successfully graduating with a Master's degree in automotive engineering in Beijing, he earned his doctorate in the field of mechanical and electrical engineering at the University of Duisburg-Essen, Germany. He then began his professional career in the automotive industry at the Brose Group in Germany in 2003 and worked for the first six years as a Mechatronics Design Engineer.

He then moved back to China. Still working for the Brose Group, he took over the role of Customer Team Director for Closure Systems and experienced great success leading a team of more than 20 employees. In 2015, he joined Knorr-Bremse as Director of Engine and Transmission Products in China. Here, Dr Shiqing Fang was able to substantially widen his expertise in the truck business.

Dr Shiqing Fang has been managing the Sales and Technical Development departments at KIRCHHOFF Automotive in China since the start of February 2017.

At the beginning of this year, he now opted to move to KIRCHHOFF Automotive in China: "In the future, I would also like to devote more of my attention to the passenger car field."

Throughout his long career, he has gained extensive experience in sales and development and will, therefore, be able to provide effective support to our employees in China.

Author: Kristin Menzel

A first in No rth America

In the month of February, the first KIRCHHOFF Automotive Technology Fair in North America took place at the Ford Product Development Center in Dearborn, Michigan/USA. With over 470 attendees in less than six hours this technology fair was a great success.


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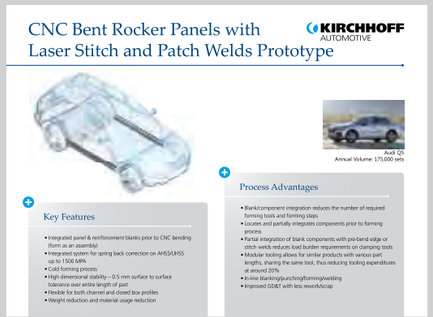


01 More than 470 attendees in six hours–the Tec Show was a great success. **02** The Sales, Corporate Communication & Marketing and Engineering teams at the Ford Product Development Center. **03** Birgit Behrendt, Vice President of Global Programs and Purchasing Operations at Ford, was impressed by the lightweight technologies.

The Ford Motor Company's Product Development Centre is home to over 5,000 engineers ranging between body structure, to seating and front end specialists. For the first time in North America the KIRCHHOFF Automotive Sales Department, assisted by Communication & Marketing and Engineering, decided to showcase its global company technologies within one of its OEM partners. Overall, there were 16 parts from KIRCHHOFF Automotive's global operations shown; with an additional three prototype technologies, showcasing the best of its capabilities and research and development.

02

The focus during the technology fair was on the two key lightweight topics of laser welding and CNC bending of high strength steel. Both of these technologies are used in North America and add great advantages to lightweight design. Laser welding for example suits best for thinner steel (0.6 – 4 mm) but still allows a high dimensional stability. Besides the lowered tooling investments—the case in both technologies—CNC bending optimizes the material utilization in contrast to stamping. Exemplary products made with these technologies were directly on the booth: The Chevrolet Camaro Coupé and Convertible, which consist of 72 assemblies from KIRCHHOFF Automotive in their body-in-white structure, on the one hand are equipped with a CNC bent rocker panel and a laser welded reinforcement crossmember. The considerable weight and material usage reduction was presented by the Audi Q5 with its CNC bent and laser welded rocker panel.


03

On special invitation from Arndt Kirchhoff, Birgit Behrendt, Vice President of Global Programs and Purchasing Operations at Ford joined the team in the afternoon to see first-hand, the lightweight technologies KIRCHHOFF Automotive has to offer. "I'm proud of what our teams have accomplished at this show. The second part now, also very important, is the follow up and we have every intention to continue putting our best foot forward with Ford." shared Josh Forquer, VP of Sales about the first ever KIRCHHOFF Automotive technology show in North America.

Author: Nathalia Abreu

Now it is official: Welcome Gniezno!

The fifth KIRCHHOFF Automotive plant in Poland.

In record time of seven months KIRCHHOFF Automotive built a fifth plant in Poland in order to supply VW's new plant in Września with chassis parts for the new VW Crafter. With this, KIRCHHOFF Automotive runs five plants in Poland located in Mielec, Gliwice, and Gniezno and employs more than 1,700 people. »

At the ceremonial opening of the plant in Gniezno (f.l.t.r.): J. Wolfgang Kirchhoff (CEO KIRCHHOFF Automotive), senator Robert Gaweł, Maciej Brewka (Plant Manager of KIRCHHOFF Automotive in Gniezno), Eva Kirchhoff, archbishop Wojciech Polak, Dr.-Ing. Jochen F. Kirchhoff, Beata Tarczyńska (District Administrator Gniezno), Jens Ocksen (President of the Management Board, VW), Ralf Nitzschke (Manager of the VW plant in Września), Tomasz Budasz (Mayor of the city of Gniezno) and Stefan Leitzgen (COO of KIRCHHOFF Automotive)

The shop floor becomes the stage for acrobatics

On April 5th, 2017 the plant in Gniezno celebrated its official opening. The chairman of the Catholic church in Poland, Archbishop Wojciech Polak, consecrated the plant and inaugurated it in a ceremony. Many high-ranking representatives of our customer VW, like Jens Ocksen (President of the Management Board, VW), Ralf Nitzschke (Manager of the VW plant in Września) and Uwe Lüders (Director Procurement Metal, VW Commercial Vehicles) as well as guests from the industry and administration, took part in the celebration.

J. Wolfgang Kirchhoff, CEO KIRCHHOFF Automotive, thanked the architects, builders, local authorities and all involved employees of KIRCHHOFF Automotive for completing the plant in this short period of time. He expressed his thanks to the Managers of KIRCHHOFF Automotive, Dr. Thorsten Gaitzsch, Andreas Haase, Stefan Leitzgen and Janusz Soboń for the initiative, planning and realization. Moreover, he praised the good cooperation of German and Polish employees: "They are the best example for a free and economically unified Europe and how it should be practiced in the future." In his speech, Archbishop Polak also reiterated this sentiment by referencing the longstanding cooperation and friendship of Polish and Germans. Jens Ocksen praised the smooth start of production with KIRCHHOFF Automotive and wished the mutual functions the best of luck.

Only a year has passed since the groundbreaking ceremony and the successful start of the serial production for the VW plant in Września. By January 2016, the production hall and administration area was completed. That way about 6,500 square meter of new production and storage area emerged within a short time. A launch team consisting of specialists from the Polish plants in Gliwice and Mielec supported the employees in Gniezno during the commissioning of the new plant. In September 2016, the serial production of the VW Crafter started in Września, which is close to Poznan and Gniezno. We now supply major parts of the floor assembly—67 in total—as well as the cross car beam which was developed by KIRCHHOFF Automotive in the new Gniezno plant.

Arguments for the location in Gniezno were specific to the proximity of the Volkswagen plants as well as the attractive labor market with good prospects for the future. In fact, Gniezno's city administration signaled a great interest in the project beforehand and supported during the construction phase in various of administrative capacities.

Author: Sabine Boehle

Archbishop Wojciech Polak officially inaugurates the plant.

Thirteen years of dynamic development in Gliwice

It began in 2004, when KIRCHHOFF Polska Assembly Sp. z o.o. was established in Gliwice in 2004, as part of the international corporation KIRCHHOFF Automotive. The first plant was launched in a production hall leased from Zakłady Mechaniczne "Bumar-Łabędy". Today the parts are produced with cutting-edge technologies in a 15,000 square meters hall.

Initially, sets for a complete structure of the Opel Agila were produced in the Special Economic Zone of Katowice. The next stage of production involved manufacturing components of the Astra II.

Over time, KIRCHHOFF Polska Assembly relocated machinery and production infrastructure to the plant located in Łabędy. There, the first parts were produced on manual welding jaws. "There was not a person who did not initially suffer from pain in their wrists. Nobody had worked with this kind of device before", recalls Mariusz Burczyk, current Production Foreman.

"I took my first steps under the watchful eye of Ryszard Czachor who imparted his rich experience and knowledge to me, for which I am very grateful", says Quality Manager, Dawid Tausz, former Quality Engineer and now Quality Manager. "The first employees in the administration department still working in Gliwice did not have any experience in the automotive industry. After preliminary contact with various customers, we realized how important this requirement was in this industry. These were some of the difficult lessons that we learned, which make us laugh looking back."

Today, the degree of automation in the production lines, employee competencies and administrative infrastructure bear no resemblance to the resources available 13 years ago. »

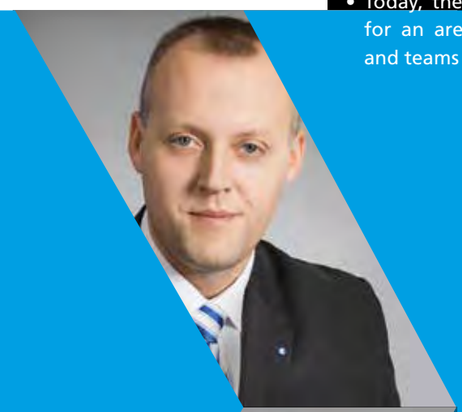
Interesting facts

- The very first employees began work at KIRCHHOFF Polska Assembly I on February 9th 2004
- By March 31st 2004 the KIRCHHOFF Polska Assembly I employed 31 staff
- The production starts in plant I in Gliwice as of April 2004
- In 2006 KIRCHHOFF Polska Assembly II officially opened
- By 2008 a new CDP system is implemented
- In 2015 parts for the new Opel Astra are produced with cutting-edge technologies
- In March 2016, investments in the new hot forming technologies
- Today, the plants in Gliwice account for an area of 41,000 square meter and teams of 660 employees

„Very first parts in Gliwice for Opel Agila"

2004 production hall

2006 new plant launch



Dawid Tausz

Ryszard Czachor

"When I started at KIRCHHOFF Polska, everyone was open to new experiences and thirsty for interesting challenges. Today, the challenges may remain the same, but we are richer with 13-years of experience behind us", recalls Magdalena Barszcz, Payroll and Human Resources Specialist.

Over recent years, the company has been involved in intensive development. At the beginning of 2016, the transfer of production from the plant in Łabędy to the new location in the Special Economic Zone in Gliwice, approx. 15,000 square meters, was prepared. "Relocation of a plant is a complex process. It requires an approach directed at the whole process, on a large scale, while progressively focusing on its individual components", says Mariusz Burczyk says.

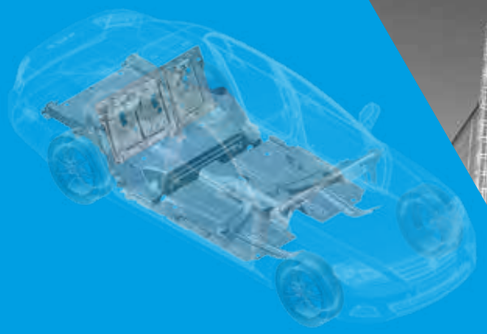
Only five months after the opening of the new location in Gliwice there was a ceremonial launch of a new technology was launched. Łukasz Cytarzyński, Area Production Manager in the new "Hofo hall" adds: "The current relocation of so many complex and high-volume projects underlines the professionalism of the Gliwice team. The challenges require the involvement and cooperation of the whole team."

In the first week of November 2016, the relocation project was completed as scheduled with the final transfer of the remaining manual welding jaw machines. The official transfer of the production hall in Łabędy was on December 31st 2016, thus closing a chapter in the history of KIRCHHOFF Automotive plants in Gliwice.

Looking back on the operational activities and all of the changes that we experienced over the past 13 years, what remains the same are the KIRCHHOFF Automotive values. They are the foundation of our organization and have led us to achieve the objectives at both locally, and globally.

Authors: The Gliwice team

Current product portfolio



The latest building in 2016

Magdalena Barszcz

Mariusz Burczyk

Łukasz Cytarzyński

Our best suppliers in Europe

With the award "Supplier of the Year" KIRCHHOFF Automotive honored its best suppliers of 2017 as part of a festive ceremony in the Polish plant in Mielec.

Klaus Lawory, Vice President Procurement, and Janusz Soboń, Managing Director of KIRCHHOFF Polska, welcomed the representatives of the two awarded companies with the words: "This award symbolizes our recognition for your performance. We want to thank you—because you support the growth of KIRCHHOFF Automotive with your commitment." Our best two suppliers are the austrian manufacturer of aluminum coils AMAG Rolling GmbH and the specialist for fasteners NES Ltd. from Taiwan. Both companies demonstrated outstanding supplier performances in the categories of Raw Materials and Bought-In Parts. »

The team from NES Limited—awarded as Supplier of the Year 2017 in the category Bought-In Parts.

We interviewed the two companies awarded with "Supplier of the Year".

At AMAG we spoke with Felix Weber, Manager Sales Automotive:

Mr. Felix Weber, what does the award "Supplier of the Year 2017" mean to you and your company?

First of all, I want to thank you very much for this award. It is a real honor to be named as "Supplier of the Year 2017" and additionally a confirmation of our quality as suppliers. We have always supplied our products at the right time with excellent quality—and we will continue to deliver this level of performance.

What contributed to you achieving this award?

AMAG is well-known as a supplier of top quality innovative products. We always try to find the best solution to meet the needs of our customers for the most diverse applications. The customer satisfaction is definitely in the focus. These are our strengths and probably the main reasons for this great certification.

How will the aluminum market develop in the three main markets (EMEA/NAFTA/APAC) in the following years, in your opinion?

Aluminum consumption has been growing yearly in all kinds of markets. Reducing CO_2 emissions of new vehicle models is the goal of all automotive manufacturers worldwide. Aluminum and its light weight potential is one of the main contender in reaching the specified legal limits. Forecasts of independent market researchers see growth rates in the transport and automotive sector of around 10% per year.

Which alloy grades will increase in popularity?

In the automotive industry, the main focus will stay on the 6xxx and 5xxx alloys. But I think in the near future, steel will be substituted by advanced aluminum solutions like AMAG TopForm UHS® or AMAG TopForm SPF®.

What is your investment plan?

We made two very big innovative investments in order to build Europe's most modern rolling mill in Ranshofen, Austria. This allows us to deliver aluminum coils and sheets in new dimensions up to a width of 2,200 mm. This ensures that we will have two independent production streams for maximum reliability to all of our customers.

The Team from AMAG (f.l.t.r.): Kathrin Prilhofer, Anita Prillhofer and Sarah Aglas, Internal Sales, Felix Weber, Manager Sales Automotive and Michael Aumüller, Manager Sales Business Segment Brazing, Automotive, Transport

At NES Limited, we spoke with Sammy and James Kuo:

Mr. Kuo, what does the award "Supplier of the Year 2017" mean to you and your company?

It is a great honor to receive this award. It means that all our efforts in the past have been recognized. KIRCHHOFF Automotive is one of our most important customers and of course we want to keep improving the relationship.

What contributed to you achieving this award?

NES provides total solutions for our customers, from manufacturing, engineering and design support to logistics services. NES is a full-service provider with local engineering services and warehouses in North America, Europe and China, as well as manufacturing facilities in Taiwan and North America.

How will Taiwan's fastener business change in the next five years?

We are trying to improve our fastener industry in four general ways in order to ensure our competitiveness:

- Development of high-tech and high quality fastener products for all fields
- Upgrade and optimization of our equipment
- Intensive training of professional workers
- Consideration of ecofriendly processes in the development of new processes

Which products are you going to introduce to the market?

NES is currently developing gears made through cold-forming. We are also going to expand our machinery capabilities to better meet the demand for sleeves and bushings of the automotive market.

What is your investment plan?

NES is currently building a new plant which will be officially launched at the end of 2018. The plant, almost 1,400 square meters will host production of nuts, screws, hangers, clips and sleeves as well as a warehouse. By this we will immensely improve our effectiveness and efficiency.

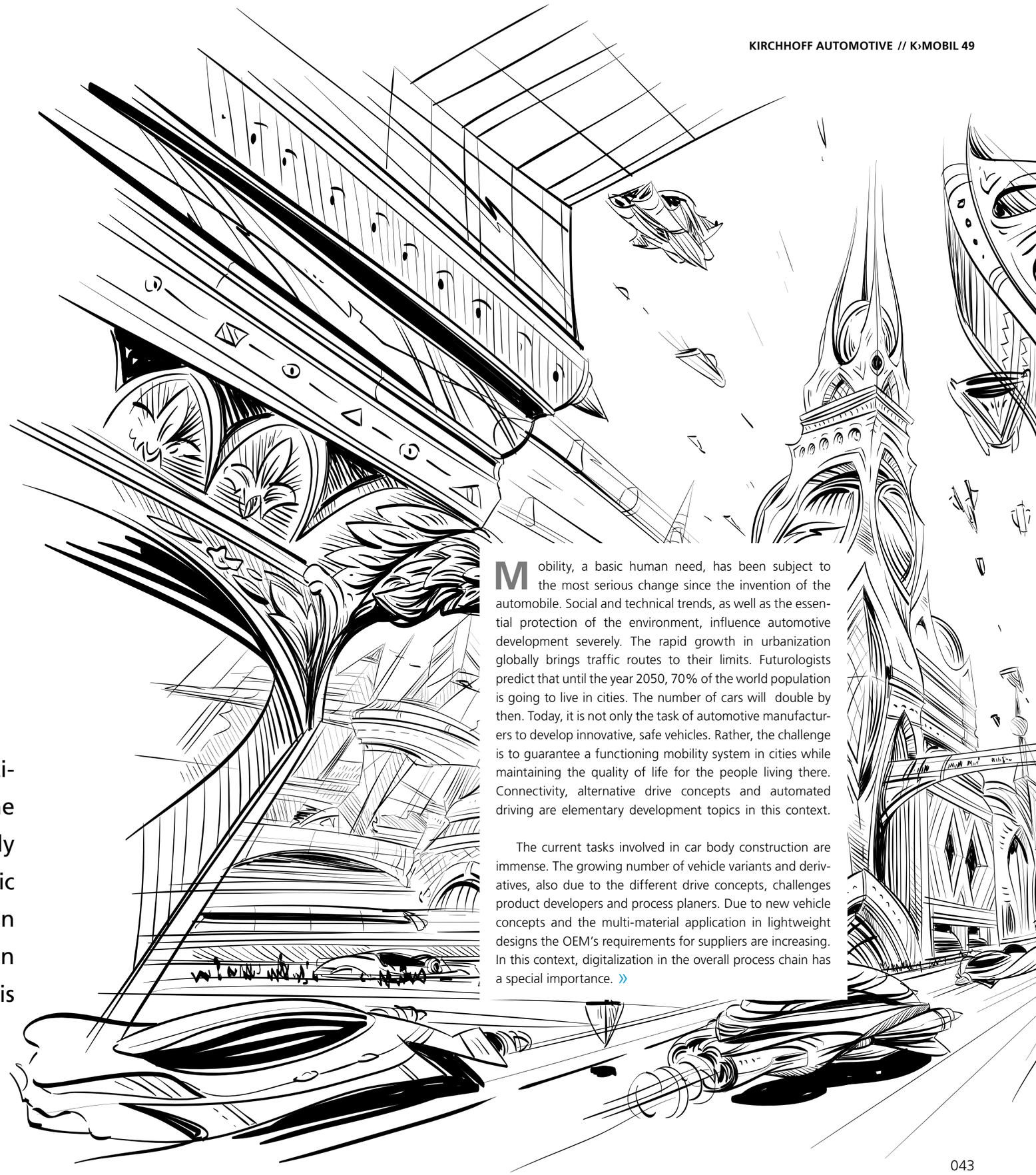
Author: Tomasz Marczuk

The awarding of the "Supplier of the Year" per product category is based on the annual average of supplier ratings. These ratings are based on quality, logistics, and service performance as well as the status of the environment management system of the suppliers.

Congratulations to the manufacturers of aluminum coils AMAG (Austria Metall AG) as well as the supplier of fasteners NES Limited from Taiwan, who recently have been awarded for their great quality in the category Raw Materials and Bought-In Parts as Supplier of the Year 2017.

Changing mobility

Due to new vehicle concepts and the multi-material application in lightweight designs, the OEM's requirements for suppliers are continuously increasing. Therefore, a growing need for a holistic approach regarding the car body process chain arises. The AUTOMOTIVE ENGINEERING EXPO in Nuremberg, at which KIRCHHOFF Automotive is present, is a perfect platform for that.



Mobility, a basic human need, has been subject to the most serious change since the invention of the automobile. Social and technical trends, as well as the essential protection of the environment, influence automotive development severely. The rapid growth in urbanization globally brings traffic routes to their limits. Futurologists predict that until the year 2050, 70% of the world population is going to live in cities. The number of cars will double by then. Today, it is not only the task of automotive manufacturers to develop innovative, safe vehicles. Rather, the challenge is to guarantee a functioning mobility system in cities while maintaining the quality of life for the people living there. Connectivity, alternative drive concepts and automated driving are elementary development topics in this context.

The current tasks involved in car body construction are immense. The growing number of vehicle variants and derivatives, also due to the different drive concepts, challenges product developers and process planers. Due to new vehicle concepts and the multi-material application in lightweight designs the OEM's requirements for suppliers are increasing. In this context, digitalization in the overall process chain has a special importance. »

Left: Alongside various companies in the region, KIRCHHOFF Automotive displayed innovative concepts for components of the vehicle structure at the common booth of the Automotive Center South Westphalia. **Right:** During the 'Innovation Star' Tour Marco Töller, Manager Research & Product Predevelopment, introduces the support frame in aluminum monocoque construction which has been developed by KIRCHHOFF Automotive and is an example for efficient light weight design in assembly components.

Has been nominated for the "Innovation Star": the support frame in aluminum monocoque construction.

Globally, the Automotive Engineering Expo is the only platform which deals with the whole car body process chain. Between May 30th and 31st 2017 the trade fair took place in Nuremberg for the third time. With the main topic "The right materials and suitable processes along the whole, digital car body process chain" about 100 exhibitors presented their technological solutions around the theme car body construction, varnish and final assembly.

Alongside various companies in the region, KIRCHHOFF Automotive displayed innovative concepts for components of the vehicle structure at the common booth of the Automotive Center South Westphalia earlier this year. Inter alia, the support frame in aluminum monocoque construction, was introduced as an example for efficient light weight design in assembly components. Besides the classical steel construction, such components are realized as mixed construction solutions made of aluminum (for example a combination of cast, profile, and sheets). The construction made of aluminum sheets designed by KIRCHHOFF Automotive has the following advantages:

- **Production processes such as deep drawing and inert-gas welding suitable for large series production**
- **Crash-proof aluminum wrought alloys with a high energy absorption capacity**
- **High space utilization due to the degree of freedom in the design**

Additional innovations presented by KIRCHHOFF Automotive at the AEE 2017 include a partially tempered B-pillar, a hybrid solution for a bumper crossbeam or products with a flange width which is reduced to the necessary minimum with aid of an innovative laser flange welding optics.

Author: Prof. Christoph Wagener

Sharing best practices across the pond

Top: The SFM-meeting area in the Lansing plant is similar to the one of its partner. **Left:** Craiova served as a role model: The KAPS measure Milkrun is already established in the Romanian plant for a long time.

Integration through transfer of knowledge—the North American plants are to benefit from the globally introduced KIRCHHOFF Automotive Production System (KAPS). An example of that is the plant partnership between the KIRCHHOFF Automotive plants in Craiova, Romania and Lansing, Michigan, USA.

The so called "Plant Partnership Program" allows a plant at any of our global locations to work very closely with one of their sister plants from KIRCHHOFF Automotive that has more experience using the KAPS tools. The partnership between Craiova and Lansing was obvious as both plants have similarities, increasing the likelihood of learning from one another. Both are JIT plants which focus on assembling metal structure parts and applying the same welding techniques, such as resistance welding and MIG welding/brazing.

Employees from Lansing were able to learn best practices from the KAPS-experienced plant in Craiova, and saw some of the KAPS tools being used in their automotive manufacturing environment. Shop Floor Management (SFM) tools were particularly highlighted; SFM boards pertaining to material, maintenance and quality assist in providing clarity on the plant floor. Plant meetings on the three different levels (Team Leader, Production Manager, Plant Manager) were also proven to be a good learning opportunity. During the meetings, the past 24 hours were recapped in an effort to prompt discussions around potential improvements that could be implemented. As a result of this Program, the plant in Lansing also implemented Total Productive Maintenance (TPM), Milkrun, and First-in-first-out (FIFO) systems result, in addition to key processes.

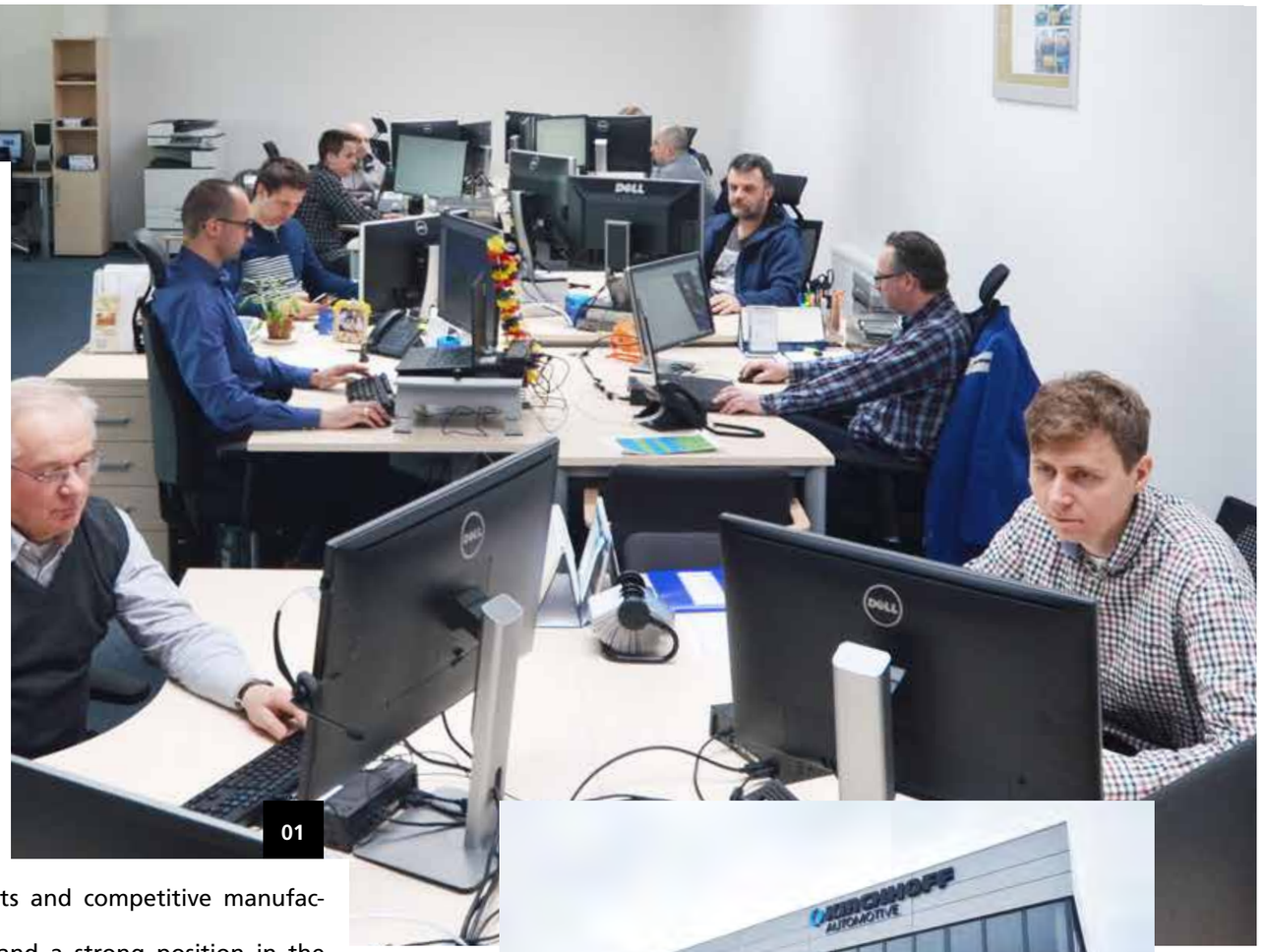
Though the importance of KAPS is evident internally, it also benefits our suppliers. When our customers receive the right part of the right quality, at the right time in the right quantity, a long term partnership can be guaranteed.

Managing Director of Craiova plant, Gabriel Porojan, visited the plant in Lansing in November 2016 and was pleased about the successful implementation of the KAPS principles. In the meantime, the role model plant has become a training center for other KAPS Managers in North America. Missy Smith, Plant Manager in Lansing, and Gabriel Porojan are excited for their teams to meet their fullest potential: "We look forward to continuing our common journey together."

Author: Cristina Ursu

Always one step ahead

The development of innovative products and competitive manufacturing processes are key for constant growth and a strong position in the automotive market. In this context technical development plays an integral role. Therefore, KIRCHHOFF Automotive expands its competencies in this area continuously—exemplary for this is the development of the Technical Development Department in the Polish plant in Mielec.



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02

01 The office of the Technical Development team **02** In February 2017, the Technical Development team moved to the second floor of the newly extended building in Mielec which provides 22 workplaces, a social room and a meeting room.

In 2003, new projects such as the Suzuki Ignis and Swift, as well as the Opel Agila and Zafira, required the development of a Program Management team. Subsequent projects for the Suzuki SX4, the second generation of the Skoda Superb and Volvo Trucks followed. As the projects grew larger in scope, so did the team in Mielec. In the following years, new teams were formed for Skoda and Suzuki and new Specialists were introduced to support the projects of GM, Ford, Daimler, PSA/Renault, BMW and VW. In 2008, these teams also encompassed CAD engineers and cost estimators. This began the introduction of both Product Development and Process Development teams; FEM simulations and local APQP (Advanced Product Quality Planning) employees expanded these competencies to what is now considered the Technical Development team in Mielec.

The implementation of a software-aided Product Development process in 2013 illustrates all individual steps of product development. This ultimately ensures optimal documentation and transparency, both internally and externally. Healthy growth, however, also depends on the forecasting of future generations. Therefore, the Technical Development team in Mielec works closely with local universities such as the University for Science and Technology in Krakow and the University of Technology in Rzeszow. Currently, the focus of the Mielec team and representatives from the University of Technology in Wroclaw is on BIW structural parts made of aluminum—one major step forward in securing the competitiveness of KIRCHHOFF Automotive.

Authors: Janusz Soboń, Waldemar Zasowski

Protecting the environment— a corporate obligation

In order to counteract the climate change, potential environmental risks are to be integrated into the business processes even more in the future. Furthermore, one has to take current developments and the involved impacts on humans, nature and biodiversity into account. This is defined in a binding form in the new ISO 14001:2015. KIRCHHOFF Automotive has passed the certification of the new standards at all German locations successfully.

Also the monitoring audits associated with work safety and the use of energy were successful without any variances. The auditors were impressed by the new norm's exemplary implementation. "To my mind this certification was no simple undertaking. Finally, the company's obligation to integrate environmental topics into the business processes, to continuously question and deal with these on the highest management level accrues from those norms", emphasizes Uwe Suchland, Director Work Safety and Environmental Protection in Attendorn.

At KIRCHHOFF Automotive environment protection is an important aspect of the company's policy. Together, we have a responsibility to humans and environment. That is our goal: producing profitably while improving the environment-related performances and reducing the environmental pressures. This is not only an important contribution to the protection of the environment but in the medium and long term also a condition for an effective cost reduction.

A smooth organization, progressive management methods and the use of modern environment technologies constitute the necessary framework for that.

Additionally a sustainable cooperation with our customers is based on the application of existing, environmentally relevant norms and guidelines. Examples are VW 91102 "Requirements for a recycling concept" or VDA 260 "Labelling of materials" as well as the participation in the "International Material Data System IMDS".

Author: Uwe Suchland

Go-Live: Digitally integrated and connected intra logistics

Having the right part at the right time, in the right quantity at the right place—this is one of the major tasks of internal logistics. Digitization improves coordination, and our plants in Esztergom, Hungary and Gniezno, Poland benefit as the first ones with technology 4.0.

Left: Mobile scanner dialogue
Right: Open transport orders on the mobile application of the forklift terminal

The use of transparency, interconnectedness and real-time capabilities was a goal for the International Project team, consisting of Logistics and IT Specialists. In an effort to better understand the processes at KIRCHHOFF Automotive, the project was initially launched at the pilot plant in Esztergom, Hungary.

As a warehouse clerk, how do we know which screw or stamped part is needed at which welding robot? How do we know which container is to be taken out of the warehouse according to the First-In-First-Out (FIFO) principle and where can it be found? As a Quality Assurance clerk, how do we determine when a component batch has been delivered and whether it is processed into the final product with the ERP (Enterprise Resource Planning) system?

The solution is SAP Warehouse Management (SAP WM).

At the beginning of the project, the main goal was to develop a real-time, digital requirement request from the production areas to the supermarket warehouse at our plant in Hungary, which is almost 3000 square meters. After analysis of the processes that were already in place, it became obvious that there was a need for an extended solution across all locations. The Hungarian project members, Polish IT SAP Specialists and Central logistics worked closely to design and program the solution. »

Confirmation scan of a container label

Advantages of SAP WM

- Real-time & pull driven material supply
- Real-time & transparent stock status, company-wide
- Reduced stock on the shop floor
- Elimination of downtimes due to missing parts
- Efficient, transparent and clocked material transports
- Efficient warehouse management with reduced search times
- Traceability to container level integrated into the system
- Reduced risk of mislabelling
- High stock accuracy

The basic concept is to have every coil, every box with screws or each container with stamped parts assigned to a defined number. This number is associated with newly designed container labels which can be scanned with a barcode reader. A new, modern and user-friendly design of all mobile transactions has also been developed. It is intended to extend transparency by capturing, confirming and informing of all relevant activities in a logistics environment.

The use of digitization allows data to be available in real-time. Warehouses will know which materials have been received, stored, repacked, produced, processed or delivered. It will now also be possible to generate scanner-based, fully automated material requirement requests which are initiated by SAP. These will function as “work orders” for warehouse clerks as well as forklift or milk run drivers; once the respective container has been taken out of the warehouse, in accordance with the system proposal and FIFO, the driver will receive a notification on their mobile device. This initiative ensures punctual delivery into the production area.

After the pilot plant in Esztergom, SAP WM was also introduced to the Polish plant in Gniezno. Since 2016, this initiative has extended further to our plants in Mielec and Gliwice, Poland as well as Iserlohn and Attendorn, Germany.

“Many thanks go to all employees involved in the development and implementation for their great international cooperation.”

Author: Andreas Denso

Waverly plantwide material re-organization

In recent months, KIRCHHOFF Automotive Waverly has worked together to reorganize the Work-In-Process (WIP) and Bought-In-Part (BIP) storage areas to improve material flow throughout the plant. Additionally a narrow aisle racking system was installed in a central location to improve material storage.

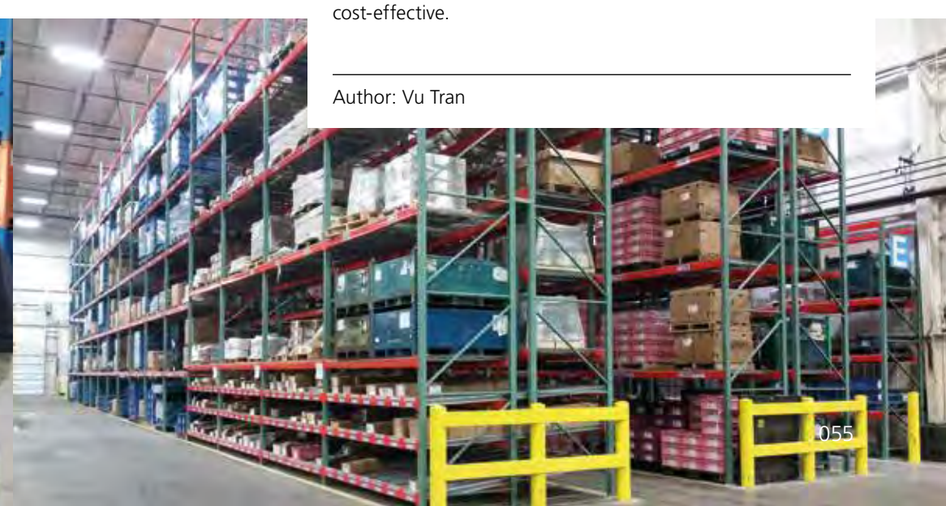
Waverly now has the narrow aisle racking system to hold roughly 90 percent of the components necessary to support daily production. Furthermore, Span Track racks were also installed to hold bought-in-parts such as nuts, bolts, clips etc. Again, all at one central location and all tracked via FIFO (First-In First-Out) boards.

Prior to these installations, the WIP area was too small to hold materials such as stamping parts and various bought-in-parts. Parts now have their home spots. The new organizational system utilizes a turret truck that can take operators up high to store and remove materials. The span track racks help operators to easily locate the needed nuts and bolts for their lines.

The optimization of the material management will allow for more efficient use of time, and in turn, will prove to be cost-effective.

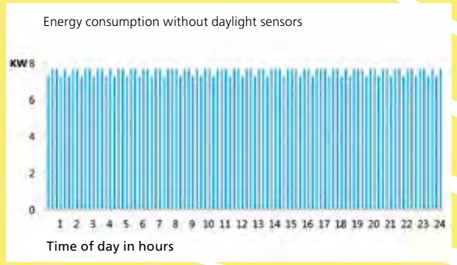
Author: Vu Tran

Left: The high bay narrow aisle racking system after the reorganization. **Right:** The project started with a shop floor walk.

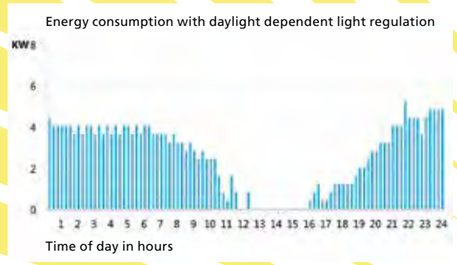


More safety, less energy consumption

New lighting in the plant halls of Iserlohn, Germany and North York, Canada now provide optimized working conditions while reducing energy costs and emissions.

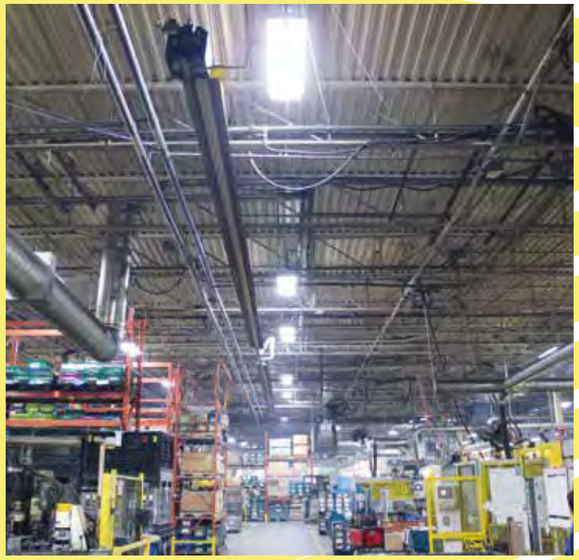


The former lighting in the press shop in Iserlohn, Germany. Without the daylight sensors the energy consumption reached 179 KWh.



With the new lighting concept the energy consumption in the Iserlohn plant was significantly reduced and now only accounts for 60 KWh.

The new lighting in the plant in North York ensures a comfortable working atmosphere.



In Iserlohn's press shop, 70 LED lamps with daylight-dependent lighting regulations have been installed at a height of 14 meters. Well received, the new LED lighting system has also been mirrored in the North York plant. These lights are equipped with special, narrow-angled optics and a luminous flux of 26,000 lumen. Therefore, the light reaches from the high ceilings down to the working area without issue. The lighting immediately reaches 100% intensity and helps to increase motivation, prevent exhaustion and avoid work accidents.

A similar lighting concept was implemented at Iserlohn's coil warehouse last year. This change has led to a permanent decrease of costs by 70%, in addition to a reduction in CO_2 emissions. Moreover, the new lighting has a lifespan of 60,000 hours, and is considerably low maintenance. Easily controllable daylight sensors identify the necessary share of artificial light needed, and thus regulating the units of lumen necessary to reach full lighting capacity. Artificial lighting is matched with the existing natural light, thus, light intensity is always maintained on the work surface. In order to fulfill the required light intensity in spite of a lengthy lifespan, the lights are checked regularly and the dim value is adjusted accordingly.

The installation of the new LED technology, in combination with the integrated motion and daylight sensors, is expected to save the press hall in the German plants 100 € per day during the three-shift operation. The result is cumulated savings of roughly 25,000 € a year. Simultaneously, CO_2 emissions are expected to decrease by 79 tons annually. Due to the proven benefits and efficiencies, installation of the LED lighting system has also been installed in the areas of tool shop and hot forming in Iserlohn.

A surrounding as bright as day with less power consumption

Authors: Dieter Hoffmann, Brian Rankin

Change is the only constant

The geopolitical circumstances and economic situation are becoming more and more complex and volatile on a global scale. Therefore it is crucial to prepare Top Management for future challenges and ensure our competitiveness.

In light of external factors, such as politics and developments in the automotive industry, as well as internal factors, including the integration of our locations worldwide, we must continue to ask ourselves if the status quo is still the best option. Successful leading through necessary changes, however, is met with many challenges. How are employees led through times of change? Why do people react differently to insecurities and how do we mitigate resistance?

A Global Executive Development Program was launched by the Global Executive Team, Managing Directors, Plant Managers, Vice Presidents, and Corporate Service Directors in October 2016 in an effort to support Senior Management. The program consists of several modules, including 360° feedback at the beginning and end of the program, Leadership in Times of Change, Running a Company/Plant/Department, and Leadership in an International Context.

"To me, the workshop was the best experience of my professional career. I was able to take away things that were relevant to me and would remain valid after taking the course. I have already discussed it with my team in Dallas... The tools and methods that we discussed in the workshop are precisely what we need to overcome our challenges", explains Marco Garza, Plant Manager in Dallas, Texas, USA.

One goal of the initiative is to create a strong, integrated, global executive team. This was particularly important during the complete takeover of majority shares of KIRCHHOFF Van-Rob in December 2016. For Armindo Jales, Managing Director from Portugal, a training program in which employees from all three continents participate was, inter alia, a new experience: "My personal conclusion is that what we have in common far outweighs our differences, so there is great potential to learn from each other."

Author: Lisa Kitterer

Partners, Managing Directors, and EVPs taking part in leadership training in Iserlohn.

The kick-off workshop to the global leadership development training in Aurora.

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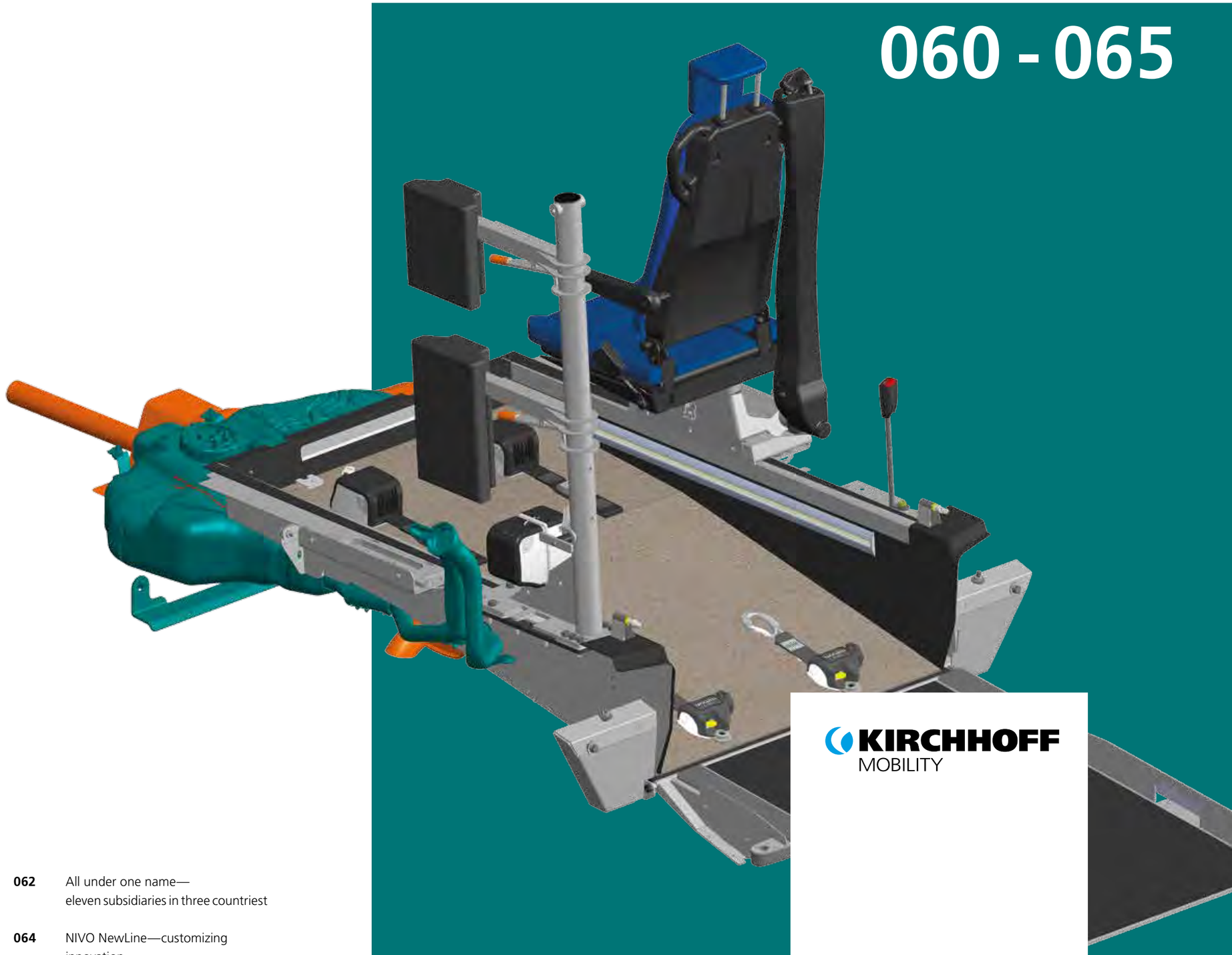


KIRCHHOFF
MOBILITY

Custom-made cars

All under one name— eleven subsidiaries in three countries

Associated with KIRCHHOFF Mobility as the fourth business area of the KIRCHHOFF Group were so far REHA Group Automotive, the Jelschen GmbH and the Austrian company Pruckner. Since January 1st, 2017 now all companies run under one name:

KIRCHHOFF Mobility

Widespread subsidiaries of KIRCHHOFF Mobility in Germany, Austria and in Switzerland.

With the merger of the company the belonging is strengthened and a powerful and uniform company develops. KIRCHHOFF Mobility has been an independent vehicle retrofitter offering versatile, user-friendly, and custom mobility equipment in standard production vehicles for over three decades. They offer perfectly customized vehicle modifications for persons who are limited in their use of standard motor vehicles due to illness, age, or injuries.

In the year 1981 the REHA Group Automotive was founded as the REHA GmbH in Düsseldorf. In the meantime many traditional companies from the area vehicle modification were taken over by the REHA Group. That way a strong company for the development and retrofitting of versatile mobility aids in serial cars came into being. Since eleven years the REHA Group Automotive is a part of the KIRCHHOFF Group.

The Jelschen GmbH from Bad Zwischenahn, Germany has a longtime experience with the modification of rear entry vehicles. By now, the Jelschen GmbH became VanPartner of Mercedes-Benz, Premium Partner of Volkswagen Commercial Vehicles, participant in the Qualified Vehicle Modifiers (QVM) Program of Ford and revceived certificates from Opel. Since 2011 the Jelschen GmbH belongs to the KIRCHHOFF Group.

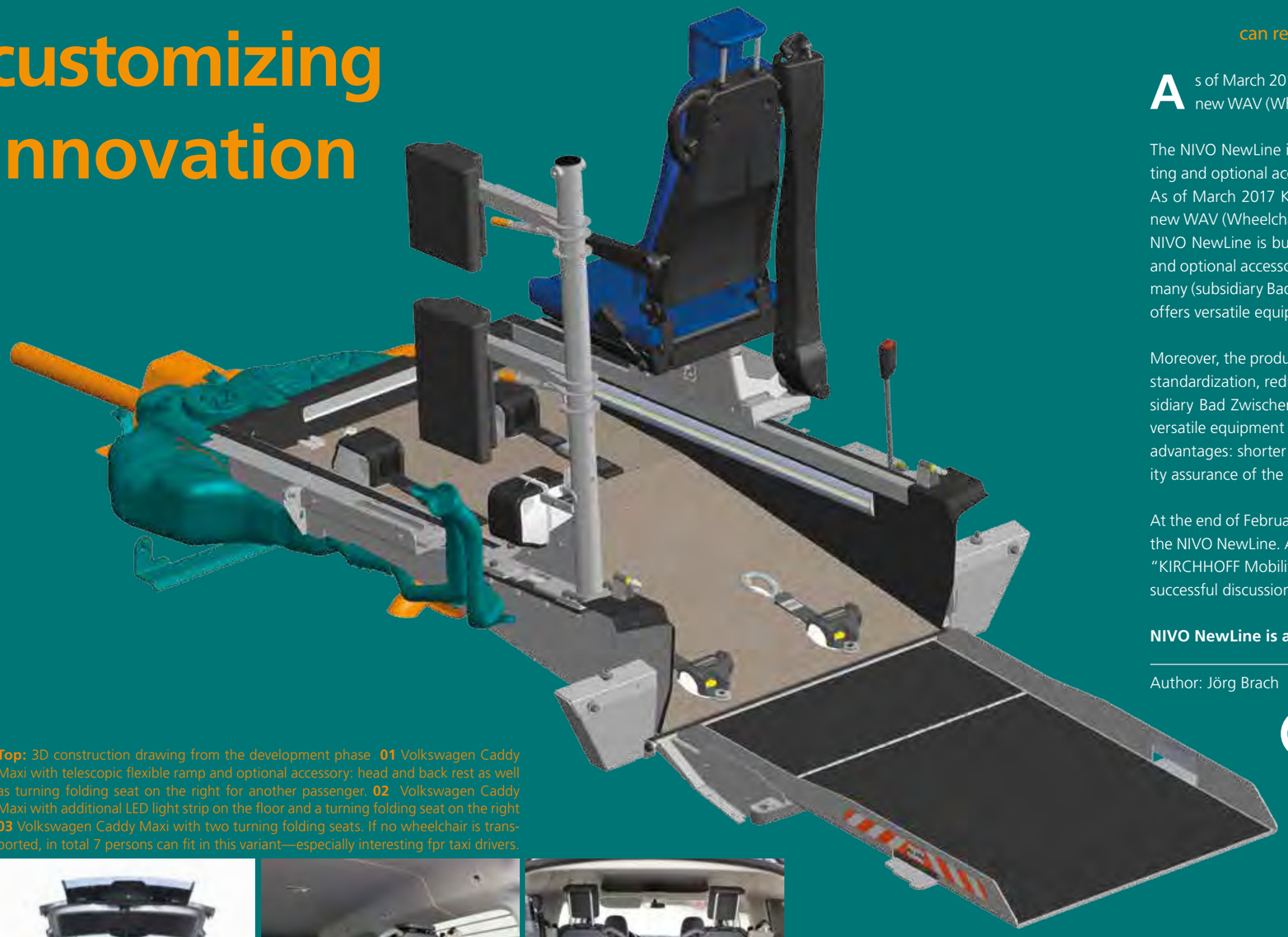
With in total eleven subsidiaries KIRCHHOFF Mobility provides a broad and interconnected service and sales network. A customer or interested party reached the next subsidiary within 150 or 200 kilometer at maximum. This is unique in this industry. Additionally, the subsidiaries are connected with each other so that the vehicle data can be accessed everywhere. Only this way a fast and perfect service can be guaranteed. Every year more than 3,000 individually modified vehicles for active or passive drivers leave the production sites.

The beginning of the New Year was also met with a unifiedonline presence: The companies can now beaccessed through www.kirchhoff-mobility.com in German, English and in Switzerland also in French.

Author: Dominik Schiller

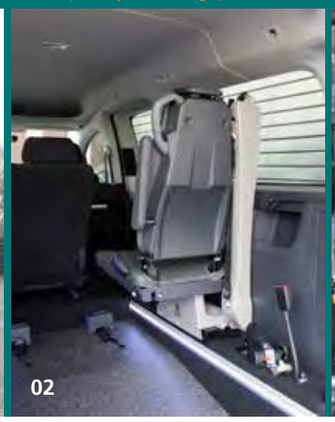
One name - one homepage. On the new homeoage now all services appear at one glance.

NIVO NewLine— customizing innovation



Top: 3D construction drawing from the development phase **01** Volkswagen Caddy Maxi with telescopic flexible ramp and optional accessory: head and back rest as well as turning folding seat on the right for another passenger. **02** Volkswagen Caddy Maxi with additional LED light strip on the floor and a turning folding seat on the right **03** Volkswagen Caddy Maxi with two turning folding seats. If no wheelchair is transported, in total 7 persons can fit in this variant—especially interesting fpr taxi drivers.


01


02


03

The new NIVO modifications for KIRCHHOFF Mobility makes wheelchair accessibility a priority. With enhanced space in the rear of the vehicle, wheelchair users can reach their destinations safely and comfortably.

As of March 2017 KIRCHHOFF Mobility launched another innovative modification for drivers with the new WAV (Wheelchair Accessible Vehicle) NIVO NewLine for Volkswagens' Caddy and Caddy Maxi.

The NIVO NewLine is built on the concept of flexibility and innovation. It boasts a high quality retrofitting and optional accessories for commercial customers (driving services) as well as private customers in As of March 2017 KIRCHHOFF Mobility launched another innovative modification for drivers with the new WAV (Wheelchair Accessible Vehicle) NIVO NewLine for Volkswagens' Caddy and Caddy Maxi. The NIVO NewLine is built on the concept of flexibility and innovation. It boasts a high quality retrofitting and optional accessories for commercial customers (driving services) as well as private customers in Germany (subsidiary Bad Zwischenahn), Austria and in Switzerland (Stäfa). This newly developed retrofitting offers versatile equipment for almost every purpose.

Moreover, the production of the assembly kit has various advantages: shorter construction times, higher standardization, reduced warehousing, and better quality assurance of the modificationsGermany (subsidiary Bad Zwischenahn), Austria and in Switzerland (Stäfa). This newly developed retrofitting offers versatile equipment for almost every purpose. Moreover, the production of the assembly kit has various advantages: shorter construction times, higher standardization, reduced warehousing, and better quality assurance of the modifications.

At the end of February 2017 all Subsidiary and Sales Managers of KIRCHHOFF Mobility got a first look at the NIVO NewLine. After a test in pre-series vehicles and an intensive exchange of thoughts it was clear: "KIRCHHOFF Mobility now has a stronger position in the market with this new product and is ready for successful discussions with retailers and customers."

NIVO NewLine is available now.

Author: Jörg Brach

NIVO NewLine: Innovation and flexibility

- Lasered and CDP-coated (cathodic dip paint) metal
- Usage of gluing technology
- Biggest possible cutout width (≤ 840 mm) already in the basic version
- Gas pressure spring from inside to outside (full cutout width usable without any restrictions)
- For the first time, Flex ramp with two turning, folding, seats for passenger transport (up to 7 persons)
- Standard parking sensors in place
- Easy retrofitting capability or exchange of the various ramp types possible
- The retrofitting is EU-type approved and is delivered with a CoC document (Certificate of Conformity). This also allows for an identical modification/ service in Austria and Switzerland.

068 "Made in Germany"
at the Netherlands construction fair

070 Pink is beautiful

072 It is ultimately in the hand of the user

066 – 073

MAXX PLUS

360°

WITTE
WERKZEUGE

When function and effect are in line.

“Made in Germany” at the Netherlands construction fair

The Bouwbeurs takes place every two years and specifically focuses on the concerns of the construction industry. In total 620 exhibitors from Sweden, Estonia, Germany, Turkey and Poland presented their products on a total area of 26,000 square meters. The trade fair halls were very well attended on all days.

From February 6th to 10th the International Construction Fair Bouwbeurs took place in the Dutch Utrecht. Similar to the 2015 Electrical Engineering Fair, WITTE Tools supported their Dutch representative RURO Gereedschappen B.V. at their booth.

Quality in the premium segment—fair visitors convinced themselves of that promise at the common booth of RURO and various German manufacturers. Equipped with the mobile torque app, WITTE Tools encouraged visitors to try the premium tools during a live demonstration to prove their great handling; as quality is the focus of the brand “Made in Germany”.

WITTE Tools uses these fairs to present concrete competencies, establish new partnerships and get in touch with potentially new customers. During the fair, the team exchanged their thoughts with a broad professional audience, smaller retailers and major clients in an effort to discuss a potential expansion of businesses or potential collaborations. The successful conversations and suggestions from customers promise an exciting future.

Author: Christian Piccari

Nina Packwitz, Inside Sales and Christian Piccari, Area Sales Manager took care of the professional audience at the international fair "Bouwbeurs".

Participation in the Expo Ferretera Argentina

From 30th August to 2nd of September 2017 WITTE Tools will exhibit at the Expo Ferretera Argentina in Buenos Aires. This tradefair is considered to be the hardware fair on the southern part of the South American Continent with a positive impact on the markets of Chile, Uruguay, Paraguay and Brazil.

Pink is beautiful

Now on sale for the demanding do-it-yourself woman: Approved WITTE Tools quality of the MAXXPRO® series is now available with a limited edition pink handle.

By women for women: This screwdriver series is not only tailored to the needs of women in its appearance, but also in its handling. The standardized handle size has been adjusted for women's hands.

The ergonomic MAXXPRO® multi-component handle allows for comfortable screwing thanks to the WITTE triangle handle design. This makes the perfect power transmission with a hand movement of 120° possible. The blades are made of a high quality chrome-vanadium-molybdenum steel and are matt chrome-plated. The compact set, consisting of four parts, includes screwdrivers for the most common applications.

In February, WITTE Tools first presented the screwdriver set to an expert audience at the International Construction Fair Bouwbeurs in Utrecht (Netherlands). The set can be bought at WITTE Tools now.

Author: Christian Piccari

The Women Line screw driver set is characterized by its very easy handling and an appealing design.

The new Women-Line screwdriver set:

MAXXPRO® slotted screwdrivers SB 6.5 x 125 mm
MAXXPRO® Phillips screwdriver PH 1 x 80 mm
MAXXPRO® Pozidriv screwdriver PZ 2 x 100 mm
Voltage tester SB 3.0 x 0.5 x 65 mm

Even in the age of Industry 4.0, people are central to product development at WITTE Tools. When it comes to our screwdrivers, the grip in particular, as the connection between human and tool, is at the heart of our engineering prowess.

From the outset, the design of WITTE screwdrivers has therefore focused on user benefit. Each technical detail is about safety and efficiency during use.

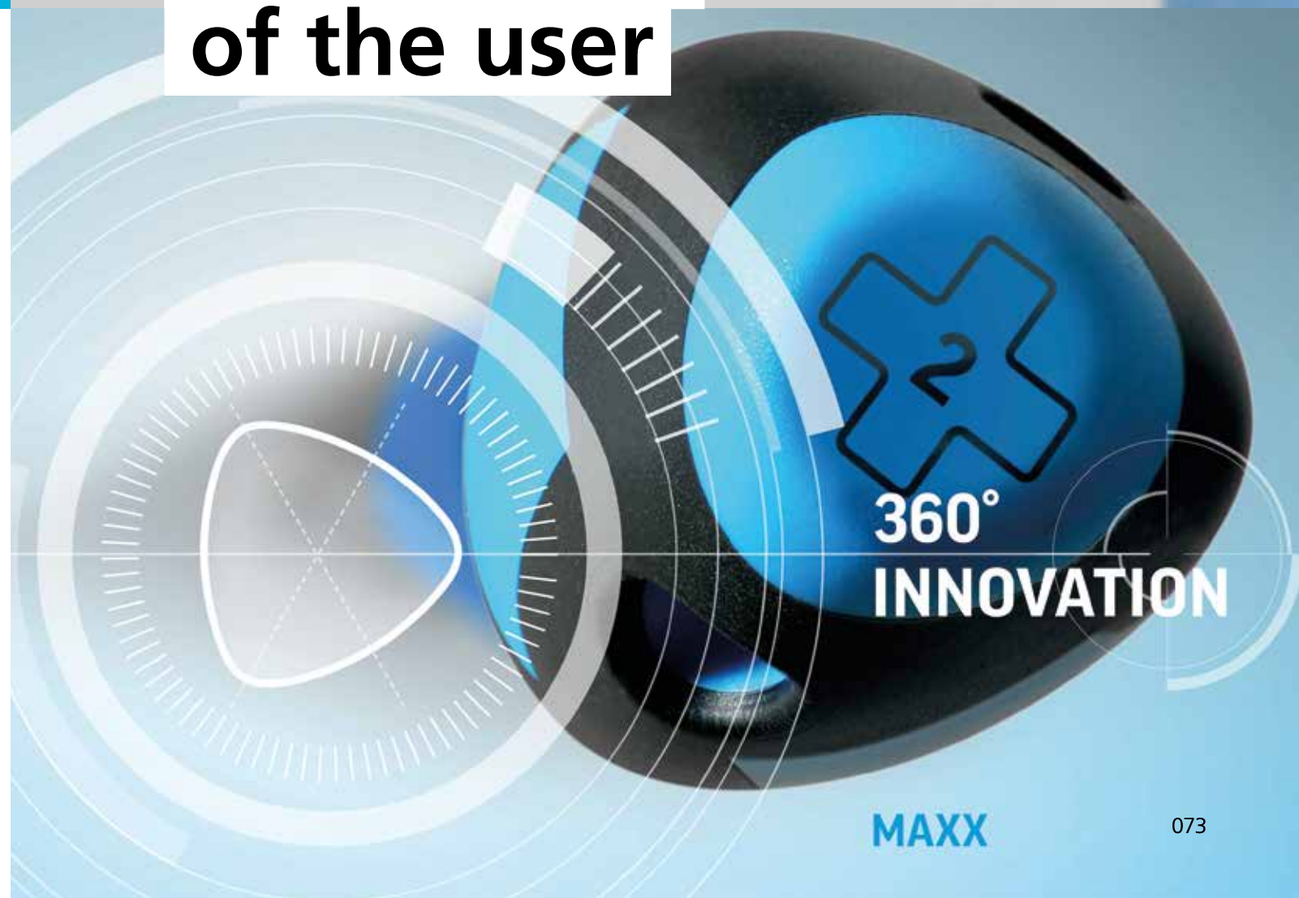
The core requirements are therefore ergonomics and the optimal transmission of force. The WITTE grip shapes and surfaces are designed to handle the torque created by the hand movement optimally and safely to the screw head with the perfect contact pressure.

To this end, an ergonomic grip concept that matches the inner contours of the closed hand has been developed. The triangular grip profile corresponds to the 120° angle of the human hand-arm system. This enables the force originating from the hand rotation to be ideally transferred to the screwdriver.

Aside from high productivity and excellent product quality, the requirement for harmony between human and tool is a key element of all WITTE Tools products.

Author: Martina Hagebölling

It is ultimately in the hand of the user



STRONG BRANDS – INTELLIGENT STRATEGIES

Tanja Tamara Dreilich

As part of its multi-brand strategy, KIRCHHOFF Ecotec GmbH is focusing its energy on individual brand strength, the maximum degree of innovation and a high level of discipline. We bring you Chief Financial Officer Tanja Dreilich's vision for KIRCHHOFF Ecotec, its objectives and possibilities.

Sometimes opposites are not mutually exclusive. In the case of KIRCHHOFF Ecotec, opposites even provide the opportunity to combine the proven and the new. This is exactly where CFO Tanja Dreilich sees her challenge. "The innovative potential of the three strong brands of KIRCHHOFF Ecotec is immensely high, and the courage to develop new technologies remains as staunch as ever. In order to weigh up which innovations will make leaps and bounds and which will not, we draw on the expertise of an established, internationally oriented family business", explains Tanja Dreilich. Dr. Johannes Kirchhoff, shareholder of KIRCHHOFF Ecotec GmbH, and Tanja Dreilich further to Patrick Hermanspann (CEO FAUN Group) and Thomas Schmitz (CEO ZOELLER Group) see tradition and innovation as the successful recipe for the business unit. Crucial in strategic planning is the freedom bestowed upon FAUN, ZOELLER and HIDRO-MAK to consistently expand the individual brand strength. This is not an easy task, given the fact that the brands are in competition with each other. This means that a focussed brand strategy for each single brand is even more in demand, in which FAUN, ZOELLER and HIDRO-MAK reflect on their strengths and calculate their real added value. In this way, competition with one another can play out in a sporting and fair way, and can even act as a small development impetus. For the customer, ultimately the decisive factors in making a purchase are how clearly recognisable a brand profile is, and which additional benefits are offered in addition to the product.

In product development there is a high level of innovation. This applies to all brands and their product focus areas. This is the only way to maintain and further expand a competitive position. This consistent developmental aspect led to the first developments in electric drives at FAUN, with its ECOPOWER Options: HYDROPOWER (lifter with hydraulic accumulator), E-POWER (battery pack for the electric drive of the superstructure and lifter, DUALPOWER (diesel-electric hybrid drive), and in the case of ZOELLER, the electro-hydraulic supplementary supply for the lifters with the Clean Option, ZOELLER has developed a special feature for all rear loaders, which significantly reduces the burden on public health resulting from dust, odours and mould fungi, thus minimising adverse health effects. Through FAUN's development of a globally unique reverse drive safety system, refuse collector personnel are provided with a safe way to ride the vehicles, using footboards. However, in order to maintain the level of this technological advancement, not only is a high willingness to invest required, but also speed, decisiveness and a high degree of discipline in project management. In this way, every employee is required to work as efficiently and economically as possible in order to contribute to the expansion of the market position.

"We still have a number of plans, and are working intensively on new ideas for waste disposal in the future. We are focussing on the question as to how we can make logistical tasks even more efficient and sustainable for people, the environment and the economy," comments Tanja Dreilich. "With this approach, we want to establish ourselves as a technological market leader in the future, and to further expand our competitive strength. This is not just about the markets that we already know, but also about markets that we want to conquer with our unique technology, "adds the CFO.

Authors: Julia Godoy and Tanja Tamara Dreilich

We are family

FAUN has now been manufacturing waste collection vehicles from its base at Heilshorn business park for 15 years. Our team of 500 committed employees works with passion and dedication to produce 1300 vehicles each year. This anniversary was a great opportunity for our team to show their families around their workplace and introduce their colleagues. We also reflected on years gone by and looked ahead to what is on the horizon for FAUN. »

FAMILY & FRIENDS

FAUN-FAMILYDAY 2017

Back in 2000, the topping out ceremony for this building was plagued by showers, and the heavens even opened on the site's official opening day. But the skies were blue and the sun was smiling down on our guests for the 15th anniversary celebrations. At the start of June, members of the FAUN team and their families and friends gathered together to celebrate the 15-year anniversary of the building, which opened in 2002 – and to celebrate what they have achieved during this time.

A combination of the excellent weather and exciting programme for the day attracted around 1400 visitors to Heilshorn. FAUN opened up its production facilities and offices to allow the entire team to show off their workplace to family and friends with pride. In the bright sunshine, guests strolled around the site and enjoyed the attractions on offer. The tombola in aid of the German Red Cross raised 1,000 euros, and FAUN owner Dr Johannes F. Kirchhoff has since proudly handed over the cheque to the charity.

Away from all the festivities, a 15-year anniversary is also a great opportunity to look back at what has been achieved, and look ahead to what is next for the company. Behman Balooty, who joined FAUN in 2008 and was appointed head of waste vehicle production in 2015, told us more about his experiences over the past few years, and what he thinks the future will hold for this site.

"There is one key idea that motivates my team and I, and that idea is this: We want to retain our position as quality leaders in our sector, and remain part of KIRCHHOFF Ecotec. We believe that we achieve more as a team, so over the last ten years, we've all been working hard at FAUN in Osterholz-Scharmbeck to keep improving and getting better at what we do. Every process of change presents challenges, and you might not see progress day to day. Although, in the beginning, many employees were sceptical and our successes weren't visible everywhere, we are now seeing effects trickle through to the team. Success is a motivator for many colleagues. Our goal is to continue to improve the quality of our processes and our products so that our customers can be proud that they chose FAUN – and so that we can share in that pride. We've been working on this vision of being a quality leader for a number of years. We know that it is only thanks to our employees' hard work and support that we can make these improvements. The successes we've shared are an enormous source of motivation and drive us to become even more ambitious. Over the past two years alone, our dedicated team has managed to further boost productivity and delivery time reliability while also significantly reducing quality issues. Even if the journey hasn't always been smooth, all of these achievements prove that hard work pays off. We have to keep at it. We value each and every improvement measure initiated by employees, as these actions show that our team is not giving up, and is instead solving problems with initiative and tenacity. For us, this is just the beginning – there's a lot more work to do. In fact, our work won't ever be done. Standing still is going backwards. With this in mind, I'm incredibly thankful to the entire team. Everyone works so hard and gives their best each day to help make our vision a reality". We know we can do it – and we look forward to celebrating our 20th anniversary in five years' time.

Author: Claudia Schaue

Cleanliness made in Sachsen

At the end of May the FAUN Viatec GmbH team celebrated its 25th anniversary. A celebratory day for the road sweeper creators and their families, because we love road sweepers!

The halls of the Grimma industrial area in the Bahnhofstraße are a beehive of activity. From everywhere, the hustle and bustle of production can be heard, as well as the humming of motors. 25 years ago, few manufacturing enterprises had found their way to the former chemical and plant engineering complex.

A first-time tenant was FAUN Viatec GmbH, which opened a production plant and a service base for wet vehicles in 1992, in the new federal states. Back then, the company still traded under FAUN Müller Umwelttechnik GmbH. It started with a team of 30 colleagues, many of whom are still on board today.

Just four years later, the company entered the road sweeping business, assembling sweeper kits from France. The Saxon inventor's spirit then came to the fore, and the team began to question why they were just assembling the kits, and not driving forward their own development processes. In terms of its company history, FAUN was no stranger to road sweeper machines, so a separate construction department was set up. In 1998, the first sweeper to be manufactured and constructed in-house was driven out of the factory gates, and the success story of the still young FAUN Viatec GmbH continued its upward trajectory.

Today, road sweepers from the Mulde area (a river down there) are a true hidden gem and a team of 130 colleagues now work at the Bahnhofstrasse plant. The demand for, and variety of, machines have also increased, so the team relocated in 2007 to a new plant on a 5,000 m² site.

FAUN Viatec has developed into a specialist within the industry and is one of the leading suppliers in Europe. 300 vehicles leave the production halls every year, going on to sweep the streets in all corners of the world. The product line ranges from small 4 m³ sweeper machines for city centre areas, up to large 12 m³ vehicles on a 3-axle chassis, or special vehicles such as the TERRAJET, which is used for maintaining runways.

"In addition to the excellent structural and infrastructural prerequisites, it is our employees who generate our progress and success," explains Managing Director Helmut Schmeh. "We aim to train our professionals ourselves from the very outset. Nowadays, finding the right specialist staff with enthusiasm for the industry is not easy. In addition, we have to compete for talent with major companies such as BMW or Porsche in Leipzig. But the thing that sets us apart from the "major players" is that at FAUN, young people get to contribute their unique abilities to a great extent, and to realise their ideas. Here, staff don't have to work on assembly lines, but rather we require individual work and we build our sweeper machines with enthusiasm for the task."

Author: Claudia Schaue

Left: Bernd Sackmann (former Managing Director FAUN Viatec GmbH 1995 - 2000), Patrick Hermanspann (CEO FAUN Group), Matthias Kohlmann (CFO FAUN Group), Helmut Schmeh (Managing Director FAUN Viatec GmbH) and Tim Collet (Managing Director FAUN Expotec GmbH) (from left to right)

Bottom: Even the youngest had fun that day. A quiz got them know if an elephant is even more heavier than a road sweeper.

This fantastic project was realised by: MERB Managing Director Hugo Gerber, Authorised Representative Kathrin Gerber-Schaufler as well as Marko Schaufler and those from the company FAUN: Burkard Oppmann (FAUN Managing Director, 2nd from left) and Edgar Baumgartner (FAUN Sales Representative, left)

Top guys! Hitting the big 50

In the places where other people go to take a holiday, Hugo Gerber and his team from the waste disposal company MERB are working hard. Not only did MERB (Mittelbadische Entsorgungs- und Recyclingbetriebe GmbH) take on the waste disposal commissions in the Ortenau district and rural district of Rastatt once again at the beginning of the year, it also acquired 50 new FAUN vehicles.

Since the beginning of the year, the 50 new vehicles have been rolling through the south-west of Germany, collecting refuse from around 700,000 citizens. The rear and front loaders are used for domestic, bio, bulky waste and green waste disposal, as well as for the collection of light packaging.

"We were once again able to win the tender for waste disposal contracts and then wanted to go into the field with the latest vehicle technology," explains MERB's Authorised Representative Kathrin Gerber-Schaufler. The existing fleet has been replaced with modern Euro 6 vehicles, and now 20 VARIOPRESS, 15 POWERPRESS, 12 ROTOPRESS and 3 FRONTPRESS are in use. The fleet is provided the 'full service' by FAUN and the fantastic staff from its Customer Services.

Burkard Oppmann, FAUN Managing Director noted: "for us, full service means a round-the-clock programme. In addition to maintaining the availability of the vehicle fleet, we also advise our customers on servicing and financial concepts. I am delighted that MERB is also committed to this concept and places its trust in our expertise."

Author: Claudia Schaue

2017—Off to a great start

Author: Simon Hyde

It has been a great start to 2017 for FAUN ZOELLER UK, both order intake and sales have surpassed all expectations. We have increased our market share with significant order intake and sales of both the refuse collection vehicles and sweepers.

Simon Hyde, CEO of FZUK explained, "After years of change within the business it appears that our strategy is paying off with a growing list of new customers benefiting from our product performance and level of aftersales support. As I have always said if we stay focused, work hard and be patient there will always be results!"

VARIOPRESS mit OMEGA Lifter

Continue to trust in the VARIOPRESS and OMEGA lifter combination for their commercial fleet with yet another 21 vehicles ordered for delivery in 2017 and more to follow in the coming months.

SELECTAPRESS

The first order was for their new fleet in the Isle of Wight, for 7 SELECTAPRESS complete with Pods and Rotary Triple lifts, built in Valence. The winning combination of Mercedes Econic, VARIOPRESS and Rotary 3 lifters were also rolled out at Ealing, Trafford and Solihull in significant numbers but we managed to keep one aside to proudly show off at the RWM exhibition in Birmingham. Simon Hyde, CEO FAUN ZOELLER UK said: "We see AMEY as a key partner moving forward and working with them jointly on new projects and for their fleet departments to fully understand the extend of the product and service offerings from FAUN ZOELLER UK Ltd."

VARIOPRESS

The winning combination of Mercedes Econic, Variopress and Rotary 3 lifters were also rolled out at Ealing, Trafford and Solihull in significant numbers but we managed to keep one aside to proudly show off at the RWM exhibition in Birmingham.

VIAJET 6 & EVOPRESS

We were pleased to receive the order for two new VIAJET 6 Sweepers and five EVOPRESSES on Mercedes Econic chassis with ROTARY 3 lifters. All vehicles have now been in operation for a few months and they have proved to be reliable and very efficient with-any task that they are asked to complete. Paul Bennett, Assistant Fleet& Waste Operations Manager at Guildford B.C. said: "I would say the transition to the new fleet has been seamless". Gary Kirk, Waste and Street Scenes Officer added: "The new sweepers are very good and the after sales support is second to none."

Let's go seaside

The Fylde is a coastal plain in western Lancashire, England. The Borough of Fylde is a local government area covering the south of the Fylde plain over an area of some 64 square miles with a population of just under 80,000 though that swells dramatically in the summer months with the tourists flocking to the seaside. So they need a new sweeper.

Fylde is roughly a 13-mile square-shaped peninsula, bounded by Morecambe Bay to the north, the Ribble estuary to the south, the Irish Sea to the west and the Bowland hills to the east.

We consulted with Fylde Borough Council over many months during the procurement process as we wanted to be sure that they got a tailored solution specifically for their needs. This initially meant meeting with the fleet department to get a full picture of what they wanted to achieve, with particular emphasis on the operational capabilities, with a lot of feedback given directly from the operators.

A detailed specification was then put together, discussed with the drivers, and then Fylde requested a demonstration of our new sweeper as their existing equipment lacked the durability they need as the collect a lot of sand and sand is in plentiful supply in Blackpool! But they also need it for other functions such as road clearances after traffic incidents.

After successful completion of the demo we were very pleased to receive the order for two new VIAJET 6 Dual Sweep mounted on a DAF LF 16 t chassis. The specification includes a complete stainless steel hopper, a uprated fan, John Deere auxillary engine, pneumatic wander hose, high pressure system (incorporating the extended package, with water jet bars to the channel and roller brushes. They have now been in operation for a few months and they have proved to be extremely reliable and very efficient with any task that they are asked to complete.

Ben Lord, Regional Account Manager for FAUN ZOELLER says: 'We hope that this will be the start of another strong relationship in the North West Area, and are looking to use this as another building block to grow our Sweeper presence in the area'.

Author: Deborah Hinckesman

From Wales to Switzerland

Having successfully operated a fleet of our Heavy Ground Mobility Systems (HGMS) since 2008 a repeat order has been requested by the Swiss Armed Forces. This additional contract has come to fruition as a result of the Swiss Armed Forces demand for fleet expansion fulfilling wider requirements and offering further capabilities. Christian Gnaegi, Project Manager Engineer Equipment from Armasuisse the Competence Center for Procurement within the Federal Department of Defence commented on the newly awarded contract; "We would like to praise the high level of professionalism of the employees at FAUN TRACKWAY. We can confirm that FAUN TRACKWAY has fulfilled the technical requirements and all stipulations. We are looking forward to the future cooperation".

FAUN TRACKWAY's Heavy Ground Mobility System (HGMS) is a temporary modular roadway which deploys, recovers, transports and stores up to 100 m of MLC 70 (Military Load Classification) TRACKWAY improving mobility for heavy and wheeled vehicles inall types of operations. 50 m of TRACKWAY is laid by two men in less than six minutes on the toughest terrain. The aluminium TRACKWAY will withstand repeated loads of up to 150 tonnes dependent on the ground conditions. The original requirement in 2008 was a portable roadway system which deploys up to 100 m of MLC 70 roadway. FAUN TRACKWAY delivered units which consisted of; 100 m of TRACKWAY, the aluminium panels that make the roadway, a trackrack system for the launch and recovery of the roadway and a spoolrack to carry additional road lengths to replenish the launch system.

FAUN TRACKWAY Limited are delighted to have secured a multi-million-pound contract with the Swiss Armed Forces.

FAUN TRACKWAY are the world's leading provider of temporary aluminium roadways and runways. Our products are unsurpassed in functionality, quality and durability. Having delivered contracts to a number of NATO nations including; Belgium, Canada, Denmark, Greece, Netherlands, Norway and Turkey,this contract builds upon our already strong working partnership with Armasuisse.

FAUN TRACKWAY are thrilled to be delivering additional equipment requirements to the Swiss Armed Forces and look forward to a continuous relationship. Our CEO Chris Kendall commented; "This is an exciting time for FAUN TRACKWAY and securing this contact exemplifies how the pride we take in designing and manufacturing unbeatable products and maintaining exceptional service results in repeat business".

Author: Danielle Thomas

Squeaky clean

Electric waste collection vehicle with STUMMER body

Contena-Ochsner AG is participating in the pilot project for an integrated electric waste collection vehicle for the Swiss market.

The Sulzareal in Wintherthur is buzzing with activity. In the old brick halls, where Swiss heavy industry history was once written, Designwerk is now developing the mobility solutions of tomorrow. The young company's mission is to drive forward electric mobility through innovative products. To this end, it is developing electric vehicles all the way through from studies to prototypes, and producing charging devices.

One study in particular has caught the attention of the Designwerk team. It highlights waste disposal logistics as an almost natural area of application for E-trucks. Waste technology is characterised as a niche sector by its limited, clearly defined route lengths. When it comes to the frequent stops for collecting bin bags, conventional trucks cause noise and pollutant emissions in sensitive residential areas. An E-truck, on the other hand, allows the energy released during braking to be recovered, has a low noise level, and allows for faster acceleration. In practice, these criteria therefore favour the ecological superiority of an E-truck. This means that electrical vehicles are likely to gradually enter the waste collection logistics sector. Designwerk intends to prove feasibility with a first series of 26-tonne E-trucks. Here, the Winterthur company is dependent on external partners, for example Contena-Ochsner AG. From the body specialists we are presented with the electric waste disposal body, a STUMMER compaction vehicle.

Contena-Ochsner AG - partner for the pilot project

The manoeuvrable refuse collection truck has a compact rear section with a short overhang, complemented by the new automatic lifter rotary by ZOELLER, which is ideal for urban use. Thanks to the swift loading system and high compression, a high level of waste can be transported, meaning that collection times and driving times are reduced – a plus in terms of pollutant emissions and traffic conditions. The special feature of this ECO vehicle is the electrification of the superstructure and lifter. In conventional diesel vehicles, a secondary drive for the hydraulic pumps is constantly under a basic load. If additional waste is compacted or containers are emptied, the engine and gearbox must bear a higher load. This is why collection vehicles remain stationary during the compacting process. In the case of the E-truck, the electric auxiliary drive is decoupled from the transmission, and the hydraulic compacting process has no effect on driving performance. This enables further time savings, and makes the vehicle more quiet.

Four electric motors provide the actual vehicle drive, as the 'heart' of the vehicle. They enable an output of 760 hp and an efficiency of up to 97 per cent. A high-performance battery developed by Designwerk is used to store power. This is standardised and marketed by a joint venture company, Batteriewerk Schweiz AG. The truck's fast-charging battery has a capacity of 270 kilowatt hours. After a full charge over night, day trips of 150 kilometres can be completed. An average of 70 kilometres is required in Swiss waste management logistics. There are therefore no problems in terms of the scope of driving distance. According to surveys, three quarters of the municipalities dispose of waste within a radius of less than 30 kilometres.

Technology transfer creating possibilities

Through the collaborative project, the future of energy usage in both public and professional circles should become more tangible. The project is also supported by Volvo Trucks.

The first electric utility vehicle is to be deployed at Haldimann AG in Murten. Tests carried out by Collect 26E have already shown very positive results. The test drivers are enthusiastic about the fast acceleration and low noise levels. As the next stage, further vehicles are to follow, with field trials to be run in Neuchâtel, Thun and Lausanne. The lighthouse series vehicles are constantly monitored, and the transmitted data evaluated. This will result in findings that are conducive to the production of a small-scale series.

Author: Renato Heiniger

FAUN
ENVIRONNEMENT

CLASSIC DE L'ARDÈCHE
RHÔNE CRUSSOL

The French are not just passionate sailors, they are also highly enthusiastic about cycling. The most famous cycling race has to be the Tour de France. However the season opener and trial run for the big races is the "Boucles Drome Ardèche", for which FAUN Environnement was the sponsor this year. »

Tour de FAUN

This year, the Tour de France takes the world's most famous cyclists from Düsseldorf to Liège, all the way to the grand finish line at the Champs Elysées. Since the first tour in 1903, many two-wheel enthusiasts shape their lives around the rhythm of the different cycling events. The smaller (but still well-known amongst its followers) "Boucles Drôme Ardèche" is one of the first major international competitions of the season, and is considered a test for the teams; those who want to be at the forefront of the action in the "Grande Boucle", as the Tour de France is also known.

In Guilherand-Granges, the headquarters of FAUN Environnement, situated in the middle of the Ardèche, everyone will of course be familiar with the "Boucles Drôme Ardèche". When Etienne Blaise, the President of our French company was approached as a partner for this competition, he immediately jumped on board with enthusiasm, with at least five good reasons for doing so:

The desire for peak performance: Athletes must be ready when it matters. They have an iron will and train hard. The team stands behind a joint commitment.

The interplay between sportsmen and team cars: Whether it's a new wheel or a banana to combat the energy low, the team car that drives alongside competitors is always there to provide support. Just as we do for our customers.

The publicity: If Guilherand-Granges were to organise a Formula 1 race, FAUN Environnement would of course also participate.

The geographical proximity: The only way the race could be closer to the FAUN plant would be if the route actually went through the production halls!

The atmosphere and nature: In the Ardèche nothing has a higher significance than cycling, except perhaps for the chestnuts.

On 25th February, thousands of enthusiasts lined the circuit and accompanied the athletes on their stage, cheering them on. In the end, the crown of victory was awarded to the Italian Mauro Finetto.

Author: Etienne Blaise

FAUN Environnement Managing Director Etienne Blaise (on left in picture) with the victor of the Tour, Mauro Finetto.

From multi-tonne tipper to high-tech lifter

Many technological advances in the waste disposal sector are now such a common sight for us that it's hard to imagine how waste collection might have looked 70 years ago. Back then, two years after the end of World War II, the collection of waste required immense physical exertion. Waste disposal often involved laborious, manual labour, shifting items piece by piece. In terms of progressive steps towards today's modern system solutions, ZOELLER played a major role.

The ZOELLER Group looks back on 70 years of lifters, waste collection vehicles and lots of smart ideas.

One of the key influencers who laid the cornerstone for a waste disposal system that is as clean, safe and ergonomic as possible, was the company founder Hans Zöller. Mr Zöller was a workshop manager in the city of Mainz In the 1930s. He had always had the nagging feeling that it must be possible to reduce the enormous energy expenditure that waste disposal entailed.

In 1938 he developed a device which could be used to make the emptying of the then-widespread 110-litre bins noticeably easier. In the same year, he filed a patent for the resultant "bin tipper". The invention was a small revolution for waste disposal; the manual lifting of refuse bins, which had been necessary up until that point, could now be automated.

Then came the war, after which many German cities lay in ruins. Mainz, with its heavy industry, suffered particularly in the bombing. In the mid-1950s, heaps of rubble could still be seen in the streets.

These scenes were so gloomy that they really provided an impetus for any solution that would help to ease the hard manual labour, and to shape new technical standards and systems for disposal. Hans Zöller noticed this, and in 1947, founded his company in Mainz-Laubenheim. The success proved him right.

Word spread in the cities and municipalities about the innovative ideas stemming from Mainz. The metropolitan areas of Duisburg and Essen in the Ruhr were the first to express their interest, soon ordering the first "bin tippers". By 1951, 20 employees were already involved in the production of lifting and tipping devices for waste disposal trucks. The reputation of the quality of the products and their high technical standards had long since spread beyond the national borders. »

In many German cities, so-called "open collections" still took place. All kinds of vessels were tipped onto a vehicle by hand. This was a time-consuming, painstaking process. More and more cities and municipalities therefore realised that they had to make refuse collection more efficient. Waste bins with a volume of 35 or 50 litres and larger bins with a 60 or 110-litre volume became popular. These were the beginnings of the removal system as we know it today.

Business is progressing nicely. In 1958, a two-story administrative office was the latest addition. At the time, the rapidly growing company had 82 staff.

In the middle of this dynamic period, the company founder Hans Zöller died. Responsibility for the company was inherited by his daughter Helga Schulz-Zöller, and at this time the legal form of the company also changed. The company began to trade under the name

ZÖLLER-KIPPER GmbH. The focus on innovative waste disposal solutions and the dynamics of the company remained constant factors, however, in the successful development of the business.

The first steps towards the standardisation of the interface between the bin and the refuse collection vehicle were displayed at the exhibition of the Association of Municipal City Cleaners [Ausstellung des Verbandes der kommunalen Städtereiniger] in 1959, in Mönchengladbach. The fact that ZOELLER was able to build upon its leading position in the market was mainly due to the fact that employees from the companies played an active part on the relevant standards committees. The ZOELLER product developers therefore played a key role in the development of large wheeled waste containers.

The German innovation quickly attracted attention from abroad. This laid the foundation for ZOELLER's international success. In the course of this development the "tipper" then became the "lifter". The standardised refuse containers were the initial trigger for the development of new lifting systems.

Increasing environmental awareness drove the innovation even further forward. Cities and communities realised that clean cities enabled a certain quality of life. During the consistent efforts after this to make the emptying of refuse bins even more thorough (low dust levels), odour-neutral and noise-optimised, over the course of the years more than 450 different lifter variants were developed, of which around 200 are currently on the market. Today, ZOELLER covers this entire range, with load capacities ranging from 60 litres to 10,000 litres.

Thomas Schmitz, CEO of ZÖLLER-KIPPER GmbH explains: "For our customers, working with ZOELLER entails the assurance of reliability: in addition to technological quality and individual solutions, it is increasingly important to develop the perfect service in all aspects relating to the product. Repairs, maintenance, service contracts, original parts and advice are decisive factors these days, and are therefore important facets in long-term relationships that connect us with our customers."

A milestone in the evolution of the sector was the development of automatic lifters in the late 1980s. Here, ZOELLER filled a niche in the international market. Through strategic alliances and new branches in the Czech Republic and Poland, the product range was systematically expanded. ZOELLER took over two experienced, high-performing companies, HALLER Umweltsysteme GmbH & Co. KG and the French SEMAT S.A., both of which had proven know-how in waste collection and the specialised vehicle sector. With the acquisition of Hagemann GmbH in 2012, the product portfolio was further extended in terms

Today, ZOELLER is the complete waste disposal provider, with its own unique solutions.

of small waste collection facilities. In Poland, ZOELLER opened Tech 2014 – a new, modern production facility for waste collection vehicles. In the Czech Republic, 2017 sees the 25th anniversary of ZOELLER Systems.

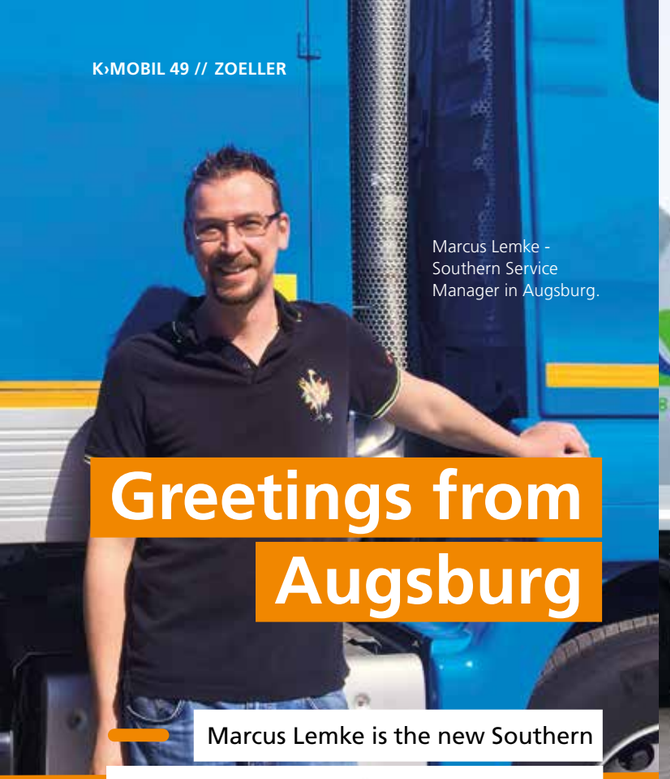
Rear loaders with superstructures from the product groups MICRO, MINI, MEDIUM and MAGNUM as well as side loaders, changing systems and multi-chamber vehicles are essential components of the product portfolio.

ZOELLER also continues to establish new advancements in lifter technology. Here, modern 3D CAD simulations and other state-of-the-art development technologies enable pioneering innovations such as new energy and drive concepts.

In the case of all of its technological developments, ZOELLER always has people's needs at the forefront of its focus. These needs relate to all of us (as we all produce refuse) but also taken into consideration are those who collect the refuse, and those who produce lifting systems and waste collection vehicles. Despite the constant innovation, their jobs are still physically demanding and hazardous. ZOELLER has accepted this challenge, and continues to be a pioneer in work safety and ergonomics.

As a member of the KIRCHHOFF Group, ZOELLER has been under the umbrella of KIRCHHOFF Ecotec since 2005. Together with the brands FAUN and HIDRO-MAK, the companies stand for robust, reliable and high-quality waste disposal vehicles, road sweepers and lifters. 1,300 lifter and vehicle specialists are now employed by ZOELLER across six countries (Germany, France, Austria, the Czech Republic, Poland and the Netherlands), shaping the image of modern, safe waste disposal worldwide through their product portfolio.

Author: Claudia Schaue



Marcus Lemke - Southern Service Manager in Augsburg.

Greetings from Augsburg

Marcus Lemke is the new Southern Service Manager for ZÖLLER-KIPPER GmbH.

Greetings Mr Lemke, and congratulations on your new position! You've been with us since January 2016 as Workshop Manager and then took over the Service Manager position at the Augsburg branch in December. What are your main duties?

Marcus Lemke: What are the main tasks I've taken on? Anything and everything that arises during the day! I'm responsible for the technical area and for our service technicians. In addition, I'm the point of contact for our customers, I work on cost estimates and of course aim to promote our services and full service contracts. I have been working closely with our Branch Manager Ingo Strasser. In addition, I see myself as an interface to construction-related issues, and will be more intensively involved in quality assurance rounds. Feedback from the field must be incorporated into the further development of our products.

Marcus Lemke: As I was previously employed on the customer side of ZOELLER, my focus is on acting in the interests of our customers. This means providing the best possible support and the fastest possible assistance in terms of repair or maintenance works. If the customer is satisfied, we are satisfied.

The interview was conducted by ZOELLER Northern Service Manager, Thomas Lippardt, for K> MOBIL.

Neat removal

The waste management services of the district of Ludwigslust-Parchim (ALP) have been carrying out some public waste management activities of their own in the district this year. For these activities, an invitation to tender was issued for the supply of four rear loaders, three side loaders for waste paper collection, and four rear loaders for bulky waste.

ZÖLLER-KIPPER GmbH was awarded the contract following a Europe-wide tender. In December 2016, ZOELLER Head of Sales and Services for Germany, Jürgen Kowalke, and the Head of Sales for the Northern Region, Bernd Schmidt, delivered the vehicles.

"The excellent collaboration between ZÖLLER-KIPPER GmbH and Mercedes Benz was essentially a guarantee of the very successful realisation of this project. I am glad that we were able to begin the removal process using a reliable partner," noted Steffen Grünwaldt, Managing Director for Waste Management, Ludwigslust-Parchim ALP, regarding the successful project.

The project was preceded by very intensive training and thorough instructions regarding the vehicle, superstructure and lifting technology from ZOELLER. The 22 employees of ALP who were specially appointed for the new waste disposal task welcomed the training measures. And there is always a swift connection to a service technician, should difficulties occur. Steffen Grünwaldt continues to be satisfied with the equipment. "The SLF XL side loaders and the MEDIUM X2i and XXL rear loaders have been working flawlessly since the beginning of the operation. I am absolutely satisfied with the implementation of this complex procurement project."

Author: Claudia Schaue

The silver-green vehicles sparkle in the sun and the photographer artfully presents the new ZOELLER vehicles and the proud ALP team.

Steffen Grünwaldt, Managing Director ALP

Excellent flight attendants

Excellent flight attendants. Operating 365 days a year, 24/7 - the STUMMER MEDIUM XL.

Vienna Airport further strengthens its 15-year collaboration with STUMMER with an addition to the waste disposal vehicle fleet.

Flying high. Delighted with the new STUMMER waste compactor vehicle: Novica Krstic (vehicle driver), Wolfgang Föttinger (Sales STUMMER East), Anton Popp (Head of Waste Management, Vienna Airport) and STUMMER Managing Director, Hannes Streif, from left.

The first waste collection vehicle on a Euro 6 CNG gas chassis with a STUMMER body has now been in use for a few weeks at Vienna Airport in Schwechat. Vienna has been a pioneer for years, as the first customer in Austria to choose a Mercedes Benz Econic chassis. "It was our demonstration vehicle at the time, which the Viennese then took over," recalls STUMMER Managing Director Hannes Streif, upon delivering the fourth waste collection vehicle, with a MEDIUM XL body.

"The airport is one of the largest employers in the region. Approximately 20,000 people work on site. The Waste Management department permanently employs six staff, who provide services 365 days a year. Approximately 3,600 tonnes of waste and recyclable materials are transported annually with the four STUMMER waste disposal vehicles. We therefore rely on having a reliable partner. We need stable vehicles that run 12 hours a day, 365 days a year," explains Anton Popp, Head of the Waste Management department, working together with STUMMER.

With the handover of the new vehicle, the two teams also celebrated their 15-year partnership. Anton Popp commented on the basis of the collaboration: "We value the quality of the product, the extremely high availability, the low service and maintenance costs and the resulting low life-cycle costs. When we need assistance, we receive fast and competent support. The quality of STUMMER products meets the requirements of Vienna International Airport."

And it's not just Vienna International Airport; Zurich Airport has also relied on STUMMER vehicles for years. Hannes Streif: "We are particularly proud that our waste collection superstructures prove their value in these specialised areas, and that we meet the high quality requirements of the airport operators."

Author: Hannes Streif

Making waves

Dirty refuse bins are not an issue in Freiburg and Luxembourg. The waste management services in Freiburg and the waste disposal company Osch in Luxembourg both opted for waste collection vehicles from ZOELLER.

A special feature of the vehicles is the integrated hot water high-pressure washing device for refuse bins.

How it works:
The "water pack" hopper washing device is mounted between the driver's cab and the superstructure, allowing for the dual use of the waste collection vehicle: on the one hand, the emptying, and on the other, the cleaning of refuse bins. In the case of bio-waste in particular, or in the warm summer months, this is an ideal solution. Hygienically cleaned refuse bins are therefore always available to the public. This entails an economical working process involving a superstructure and lifter, as well as a vehicle crew.

Automatic high-pressure cleaning of the containers and lids with a water pressure of more than 100 bar, by means of rotating rotor jets with low water consumption and fast cycle times.

Approximately 3 litres of water are used per 2-wheel container. The washing time is unrestrictedly adjustable – a short or long washing programme can be selected. It is also possible to wash the containers with cold or hot water. The dirty water pumps function automatically and are wear-free. The collecting basin and the waste water tank are cleaned automatically.

Structures:
ZOELLER MEDIUM XLS with DELTA 2301 premium automatic lifter

Chassis:
The company Osch from Vianden, together with the ZOELLER dealer in Luxembourg, obtained a MAN TGS 28.360 6x2-4 BL with a 4,200 mm + 1,350 mm wheelbase

The Waste Management and Municipal Cleaning services of Freiburg drive the Mercedes Benz Econic, type 2635 L ENA 6x2/4 E08 with a 3,900 mm + 1.,50 mm wheelbase.

Removal groups:
Bio, residual waste and recyclable materials

Areas of application:
2-wheel containers up to 360 l and 4-wheel containers up to 1,100 l as per EN 840/1/2/3

Successful delivery: The team of Freiburg and STUMMER Managing Director Hannes Streif (left).

Freiburg operates waste disposal services in the municipal area with a fixed route, and the company Osch also operates under a municipal contract for the local authorities and on a subcontracting basis, e.g. for camp sites and hotels.

During various demonstrations in the respective areas of application, users were impressed by the dual concept. In Freiburg in particular, the comparison of handling and performance data and availability amongst the product range was a decisive factor.

Author: Michael Ambruch

Go green

After having built 220 NGV and BIONGV vehicles in three years, SEMAT has unique experience in this sector and has seen its order portfolio increase again with 102 machines to produce in the coming months. SEMAT is convinced of the relevance of this clean energy and has installed a NGV compression station on its own site – which has already paid for itself – at which the vehicles going into production are recharged and then delivered tour clients and which also supplies the fork lift units on the site. By the end of 2017, SEMAT will have delivered over 300 machines out of the 380 NGV vehicles that the city of Paris and its contractors use every day.

Considered to be "low emission", NGV vehicles also contribute to reducing sound pollution during refuse collection (3 to 10dB less than a diesel chassis).

SEMAT has also been selected by MOULINOT, a specialist in bio-waste collection from the capital's restaurants; these small vehicles mounted on NGV chassis are a major addition to the refuse collection and cleaning product lines proposed by SEMAT.

As well in 2017 SEMAT will supply the cities Rouen, Grenoble and Lyon conglomerations which have also made the decision to use this clean motorisation.

Author: Philippe Carpentier

SEMAT
GROUPE ZOELLER

Paris and Madrid have just awarded SEMAT a contract to build 52 + 15 new refuse collection vehicles mounted on NGV chassis in the continuing effort to improve quality of life and move towards "clean transport" when renewing public and private fleets.

Focusing Paris opera - CARGOPAC REL with MAXI lift.

www.kirchhoff-group.com

We wish you a great summer season

KIRCHHOFF GROUP