

K»MOBIL

THE KIRCHHOFF GROUP MAGAZIN

INDUSTRY 4.0



The new industrial revolution

The Industry 4.0 era is leading to higher production and resource efficiency, thereby increasing our competitiveness. Read more beginning on page 4.

KIRCHHOFF

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Publisher: KIRCHHOFF Group,
Dr.-Ing. Jochen F. Kirchhoff
Stefanstraße 2, D-58638 Iserlohn
Postfach 26 26, D-58634 Iserlohn
Tel. +49 2371 820 - 261
Fax +49 2371 820 - 264

Responsible for the content:
Dr.-Ing. Jochen F. Kirchhoff
Editorial team: Sabine Boehle,
Andreas Heine, Claudia Schaub,
Stefanie Schnütchen

Pictures:
BMW Group, Chery Jaguar Land Rover
Automotive Company, Daimler AG,
Geely International Corp., Institut der
deutschen Wirtschaft, KIRCHHOFF Group,
Nissan Group of North America, privat,
Shutterstock, Fotolia, The Ford Motor Company,
FAUN Group, ZOELLER Group

Translation:
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What does the future hold in store? Appraisals of Industry 4.0 and TTIP

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TTIP and Industry 4.0 present the industry and economy both with changes and opportunities. It is up to us to address these challenges and contribute to positive developments.

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

The global economic climate has changed for the better compared with the beginning of the year, although uncertainties still exist due to the partially negative economic trends in areas of Europe and South America, as well as the strain of international conflicts related to Russia, Ukraine, and IS.

The global economy will grow by 3.75% this year, compared with 3.5% in 2014, while a rate of 4% is anticipated for 2016. International trade is even expected to increase by 5% this year. Our fiscal year is also running accord-

ing to plan, and we are seeing steady progress with 10% in Europe, 17% in America, and 25% in China.

TTIP—a unique opportunity

Negotiations on the free trade area between Europe and the USA are on the home straight. TTIP—the Transatlantic Trade and Investment Partnership—forms the world's largest economic area and has the chance to lay down standards before they are dictated by others. Besides customs and trade facilitations, which generate savings of

around EUR 3.5 billion, the savings from the so-called non-tariff barrier reductions are of even greater significance. As we in the automotive industry well know, all vehicles under construction need to be designed, computed, and tested twice in order to take into account the different requirements for frontal, rear, and side impacts, as well as rollovers. If we manage to avoid this duplication of effort, we can free up considerable engineering resources, allowing our engineers to invest this time in new innovations, markets, and customers. According to a study on behalf



of the European Commission, these savings or freed-up capacities amount to 20–25%.

Industry 4.0 is not a passing trend

Digitalisation is accelerating changes in society and the economy. A new industrial revolution, which is enabling us to organise and control the entire value chain throughout the complete life cycle of products and services. We use the smartphone to operate our car, home, and even production. This is also called smart mobility, smart home, and smart

production. The “Internet of Things” connects people, objects, and systems with the aid of mass data processing to create dynamic, real time-optimised, and self-organising enterprise-wide value-added networks, also known as cyber-physical systems. This simplifies our work and changes our jobs at the same time. However, there is no need to be afraid. Our education systems and training have put us in an excellent position and entitle us to shape the dig-

ital revolution—adding digitalisation to our machines, if not already done, as well as to our processes and workflows. It is up to us. We can influence our values, our image of society, and realise our vision of a self-determined life in a digital world. The focus here is on the individual—at his workplace—and politics has the task of regulating the secure handling of data. The key question in this regard is: who owns the data? This applies to private data as well as company data. We have initiated projects to develop completely new/digital cooperations with universities, our suppliers, and our customers. Initial studies show that we have

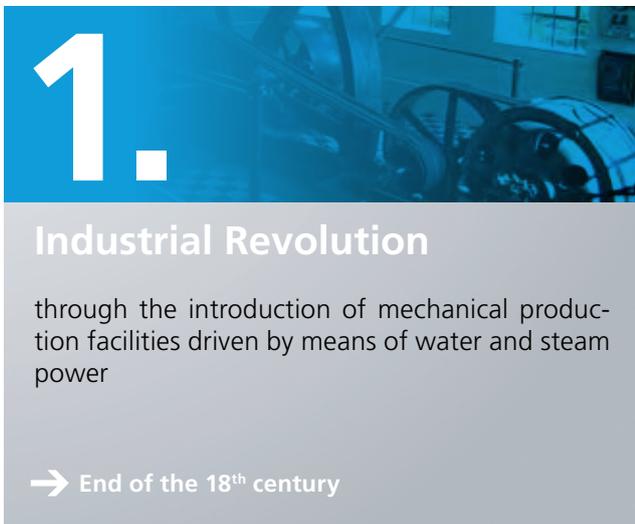
not registered any job losses. On the contrary, we have merely experienced changes, such as in training needs, as is always the case with each new machine or change in the production process. Instead of harbouring fear and uncertainty, we see great opportunities for personal development. The Industry 4.0 era is leading to higher production and resource efficiency, thereby increasing our competitiveness.

I wish you and your families a beautiful summer and all the best.

Sincerely,



Arndt G. Kirchhoff

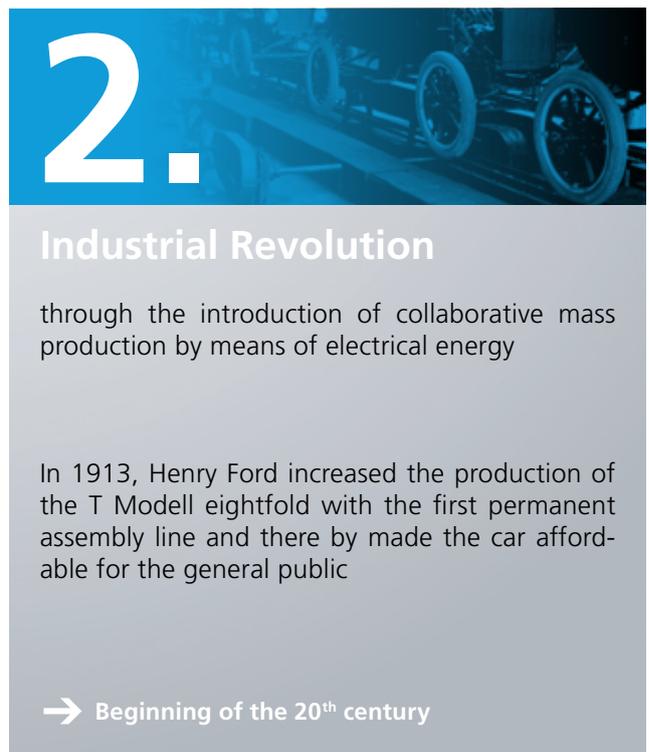


1.

Industrial Revolution

through the introduction of mechanical production facilities driven by means of water and steam power

→ End of the 18th century



2.

Industrial Revolution

through the introduction of collaborative mass production by means of electrical energy

In 1913, Henry Ford increased the production of the T Modell eightfold with the first permanent assembly line and there by made the car affordable for the general public

→ Beginning of the 20th century

The four steps of industrial revolution

3.

Industrial Revolution

through the usage of electronic engineering and information technology for the further automation of production

→ Beginning of the 1970s

4.

Industrial Revolution

Industrial Revolution through the combination of information, software technical components with mechanical and electronic parts which communicate by means of a data infrastructure, e.g. the internet. This is also called **Cyber-Physical System (CPS)**

→ Today



230 years of Knowledge. Values. Change.

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— Dr.-Ing Jochen F. Kirchhoff, Chairman of the Advisory Board and of the Shareholder Circle KIRCHHOFF Group, interviewed by Andreas Heine, Head of Corporate Communication & Marketing, about the successful management of a family-owned company that has been in existence for 230 years and is now a global player.

Andreas Heine: What does operating a family-owned company mean to you?

Dr Jochen F. Kirchhoff: For me, it is the most appealing job that I can imagine: solving issues and setting objectives independently and under your own responsibility with the family for the sustainable and successful management of the Company.

It is a passion and a pleasure to be able to work with the people in the Company as well as for the local community.

Andreas Heine: What are the principles and values that have remained constant throughout all the necessary changes over the decades and continue

to apply in the future?

Dr Jochen F. Kirchhoff: A company is not a private affair, but a binding social responsibility. It should not be based on the short-term pursuit of success, but on long-term strategies and objectives.

The company's interests are of prime importance. The personal interests of the partners must take second place. Objectives and values should be aligned with Kant's imperative "conform your actions to universal law" and to the Christian rules "love your neighbour as yourself" or "respect for others is as important as respect for yourself." The social orientation of the corporate management and executives should be

visible and tangible internally as well as externally, as should the corporate leadership values, which shape the strategy and culture of the family-owned company.

It is essential to create and embody trust within the company.

Andreas Heine: What have been the most important events in the development of the KIRCHHOFF Group over past decades?

Dr Jochen F. Kirchhoff: I would like to highlight two points. Firstly, the "diversification" policy, and secondly the "internationalisation" we initiated in 1994.



Left: The machine room of the needle factory: until 1950 still with transmission-pulley drive. **Right:** Research and Development at KIRCHHOFF Automotive: Highly qualified engineers and technicians investigate and develop product innovations and technologies for complex components to enable our customers to realize their future car models.

Let me outline the key steps regarding the first point, "diversification": From its inception in 1785, the Company produced sewing needles. In addition to the production of needles, Friedrich Kirchoff constructed the first press shop for the vehicle industry in 1894.

As of 1950 the production of needles was discontinued step by step and replaced by the manufacture of hand tools, primarily screwdrivers at first.

From 1955 to 1982, we also produced electrical appliances, storage heaters, as well as the first microwave ovens.



Dr.-Ing. Jochen F. Kirchoff, Chairman of the Advisory Board and of the Shareholder Circle KIRCHHOFF Group (I.) in the interview with Andreas Heine, Director Corporate Communication & Marketing KIRCHHOFF Automotive.



Dr.-Ing. Jochen F. Kirchhoff: „To be a family business entrepreneur is for me the most appealing activity I can imagine.“

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At the beginning of the 1980s, we acquired the supplier Kutsch in Attendorn/Germany and thereby also started with the production of passenger car parts. Today this represents our largest business unit.

Furthermore, my sons have established two completely new business units since the 1990s, namely KIRCHHOFF Ecotec, which produces refuse collection trucks and road sweepers, and then KIRCHHOFF Mobility. This business unit converts passenger cars and estate cars for people with limited mobility at 12 locations in 3 countries.

The basic idea and strategic objective behind “diversification” is to offset cyclical fluctuations and market changes. By expanding the production of finished products for final customers, we also want to avoid an excess of supplier activities in the Company as a whole.

Andreas Heine: What were the key success factors?

Dr Jochen F. Kirchhoff: Not retaining product ranges for too long that are

declining as a result of market changes, 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.

Andreas Heine: Some family-owned companies find it rather difficult to take the step towards internationalisation. In the past years, the KIRCHHOFF Group has been very successful in this respect. What recommendation would you give to other family-owned companies?

Dr Jochen F. Kirchhoff: As it is frequently necessary to deal with cultures and customs that we are unfamiliar with, it is often a good idea to first improve your own knowledge of foreign languages. However, it is most important to put confidence in local people as well as to train and qualify them, if necessary. Even if, or precisely because, as German entrepreneurs, we are regarded highly abroad, we should absolutely avoid coming across as German know-it-alls!

In our locations worldwide, we employ only local management and specialist

personnel wherever possible. This has worked very well over the last 20 years.

Andreas Heine: What role do the locations in Germany play?

Dr Jochen F. Kirchhoff: They represent our roots and our history, which we are proud of. It is also where our know-how and experience was developed. We want to pass this on to our foreign locations, but at the same time constantly develop further improvements for new products and processes, while always remaining receptive to suggestions and good ideas from our employees around the world.

Andreas Heine: What provisions are the partners from the Kirchhoff family making for the Company to remain successful and family-run in the future?

Dr Jochen F. Kirchhoff: We have 12 grandchildren, of whom 4 have already obtained a graduate degree and 3 are studying or about to study. For five years already, we have been holding “Next Generation Days” at our locations in Germany and abroad, in order to familiarise the grandchildren with the way our Group works.

This will enable them to freely decide in their own time whether they wish to qualify in due course for a job in the Company by means of appropriate studies and internships or through relevant work in different companies.

However, we also regularly observe our pool of managers that are not related to the family as to whether they are suited for a top management position.

Andreas Heine: When it comes to the sustainability of family-owned companies, the greatest problem is often the family itself. How can you make sure that the family acts in harmony for the good of the Company?

Dr Jochen F. Kirchhoff: We have a proven cooperation in the Shareholder Circle for more than 20 years, i.e. between the father and his three sons.



WE.MOVE.FUTURE.—with our employees worldwide.

From the outset, we developed a “culture of debate” so that only the matter in question is discussed and settled in the event of any differences in opinion.

We want to continue to ensure that the principle of unanimity applies to all key decisions—as has been the case so far. Moreover, we have had a Supervisory Board for almost ten years, which consists exclusively of internationally experienced family entrepreneurs and can be called upon whenever necessary. Lastly, the Shareholder Circle, in cooperation with the Supervisory Board, plays a key role in final decisions.

Andreas Heine: Where do you see the KIRCHHOFF Group in the future and what are the greatest challenges?

Dr Jochen F. Kirchhoff: We enjoy good conditions for growth and economic success in all business units if, depending on the competitive environment, we ensure that we are one of the top five companies in the global market and one of the top three in Europe. In the purely domestic business units, we strive to be market and technology leaders in Germany.

We will achieve these objectives if we continue to respond to market changes on a timely basis and remain at the forefront of technology through innovations and corresponding investments.

An equally decisive factor is to make sure that our employees are proficient, qualified, and motivated. We must ensure a non-authoritarian style of management and delegate responsibility according to qualifications with the aim of having “many entrepreneurs in the Company”.

And, of course, we must continue to guarantee competent management of the Shareholder Circle and Supervisory Board for the final decisions.

Andreas Heine: Dr Kirchhoff, many thanks for the interview.

From research and development: measuring the cleanness

— The following is an article by Georg Sandkühler, Head of Development at FAUN, on the subject of environmental efficiency, and the standardisation of rating processes for evaluating and classifying municipal vehicles into environmental efficiency classes.

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Since 2009, the European guideline 2009/33/EC has been in place, the aim of which is to integrate considerations regarding environmental impact into the evaluation of tender results, with regard to vehicles that are procured and operated for public services. Article 1 of this “Green Procurement Directive” states the following: “This Directive requires contracting authorities, contracting entities as well as certain operators to take into account lifetime energy and environmental impacts, including energy consumption and emissions of CO₂ and of certain pollutants, when purchasing road vehicles with the objectives of promoting and stimulating the market for clean and energy-efficient vehicles and improving the contribution of the transport sector to the environment, climate and energy policies of the Community.” The term “road vehicles” here must be distinguished from “off-road vehicles”, so that it is clear that waste collection vehicles and road-sweepers are also included, as they are of course approved road vehicles. Our products therefore come under this directive.

This is where the problem arises: The evaluation of the impact on the envi-

ronment can only ever be useful in comparison with other similarly functioning products; a benchmark must be found. This in turn means that a standardised rating process must be used, because otherwise each manufacturer can determine his own figures. For long-haul trucks, a rating process is integrated into the directive itself. For heavy-duty vehicles, an assumption is made that it will travel one million kilometres during its lifetime. 2009/33/EC Article 7 Paragraph (2) states that: “Fuel consumption, as well as CO₂ emissions and pollutant emissions as set out in Table 2 of the Annexe per kilometre for vehicle operation, shall be based on standardised Community test procedures for the vehicles for which such test procedures are defined in Community type approval legislation. For vehicles not covered by standardised Community test procedures, comparability between different offers shall be ensured by using widely recognised test procedures, or the results of tests for the authority, or information supplied by the manufacturer.” In plain English, this means that: in so far as there is a rating process that is coordinated Europe-wide, such as the NEFZ (New European Driving Cycle), this

must be used—otherwise it becomes very difficult, as manufacturers are not always comparable.

Due to this situation, at the beginning of 2013 the development of a method for measuring the consumption of waste collection vehicles began, at the initiative of customers. Here, manufacturers from the industry were asked to provide technical support, as partners. As preliminary work was already in place in terms of driving the trucks, it was decided that only the usage of the vehicles in the waste collection sphere would be taken into consideration. The test journeys should be covered by the driving cycles specified by the ACEA (European Automobile Manufacturer’s Association). The onus was therefore on simulating the movement from waste container to waste container as closely as possible. It very quickly became clear that it was not sufficient to simply concentrate on the driving aspect, because an essential proportion of consumption lies in the operation of the superstructure. All of the vehicles used in the trials on the ADAC test route in Hannover were therefore fitted with identical load simulation valves. In addition, precise measuring



In the future, municipal vehicles like the DUALPOWER will be grouped into environmental efficiency classes by means of a standardised rating process.

devices were installed to measure fuel consumption.

After these preparations were in place, the dance of the waste collection vehicles took place during three driving events in 2013 and 2014, which each lasted 3 days. Up to 10 waste collection vehicles were positioned on the route, widely spaced out. Upon a signal given by radio, all of the vehicles drove at the same time to the next cone on the course—these cones were placed around the route at alternating intervals of 20m and 40m. At each of these stopping points, the vehicles stopped for a 25 second pause; this corresponded to the average stopping time per collection stop in a real-life scenario. During these stopping times that were interspersed amongst 4 test drives of 3 hours each—this amounts to 100 start-stop procedures—different activities were carried out: in the first round, the vehicles simply paused, in the second, the body was switched on for a single cycle. In the third round, the body and filler ran at the same time, and in the fourth, just the filler separately. This approach meant that the consumption of the major components could be calculated separately. In the first round, only the

consumption of the chassis was recorded, which could then be subtracted from the results of the other three rounds.

The subsequent evaluation of the results showed that it had been possible to obtain results with sufficient statistical accuracy. The reproducibility of the data was also acceptable from a statistical perspective. The methods tested were therefore registered as a standardisation project with the DIN. Under the label **DIN-Spec 30752 Part 1**, the results gained were registered in

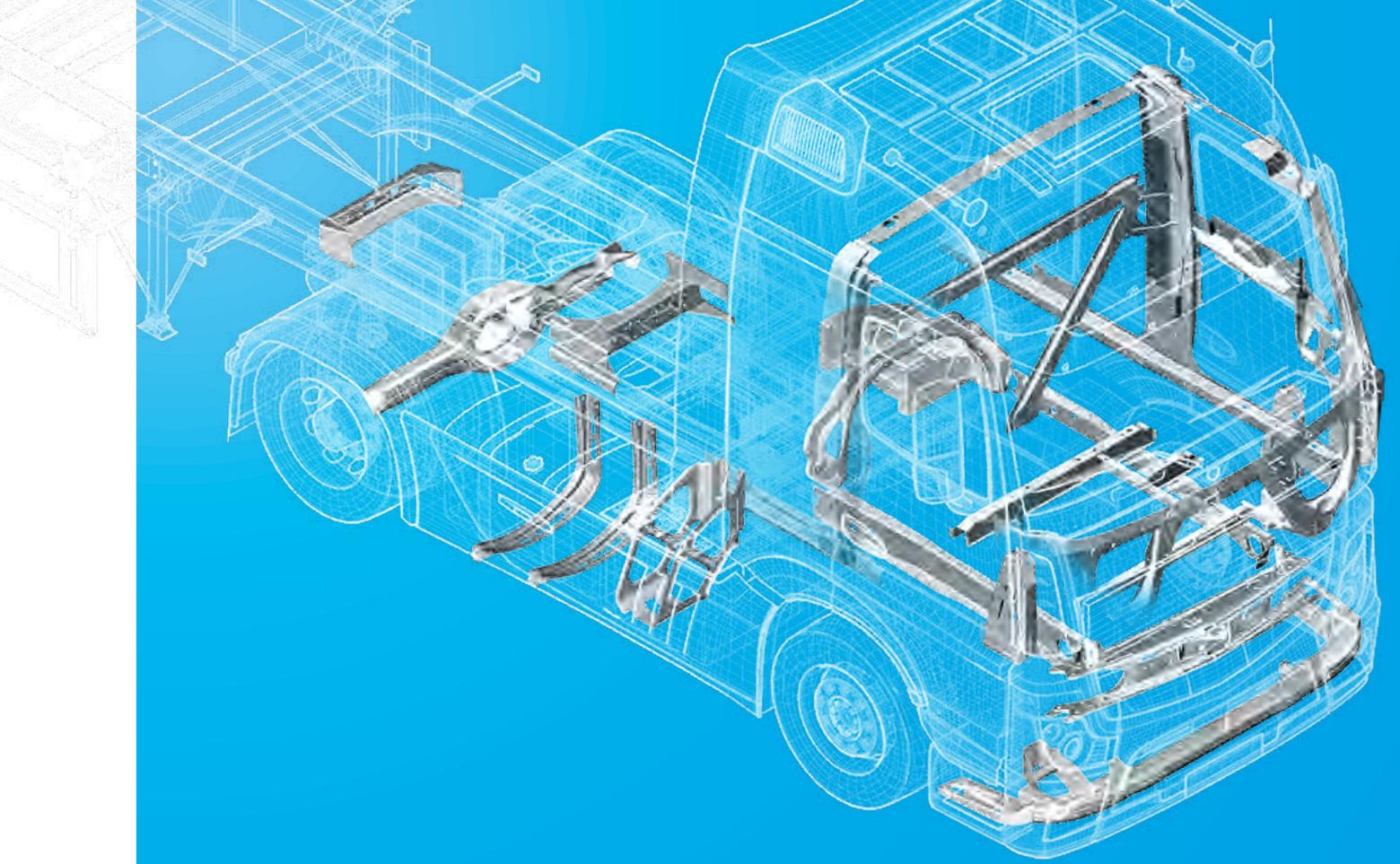
a standardised form, and a proposal was also developed to make the test track procedures applicable to testing facilities. The draft specification is currently in the editing stage, however the technical part of the work is done. The publication of the DIN-Spec is scheduled for the near future. After that, it will be possible to classify municipal vehicles under environmental efficiency classes, and a uniform rating method will be used as a basis during tendering procedures.

Georg Sandkühler

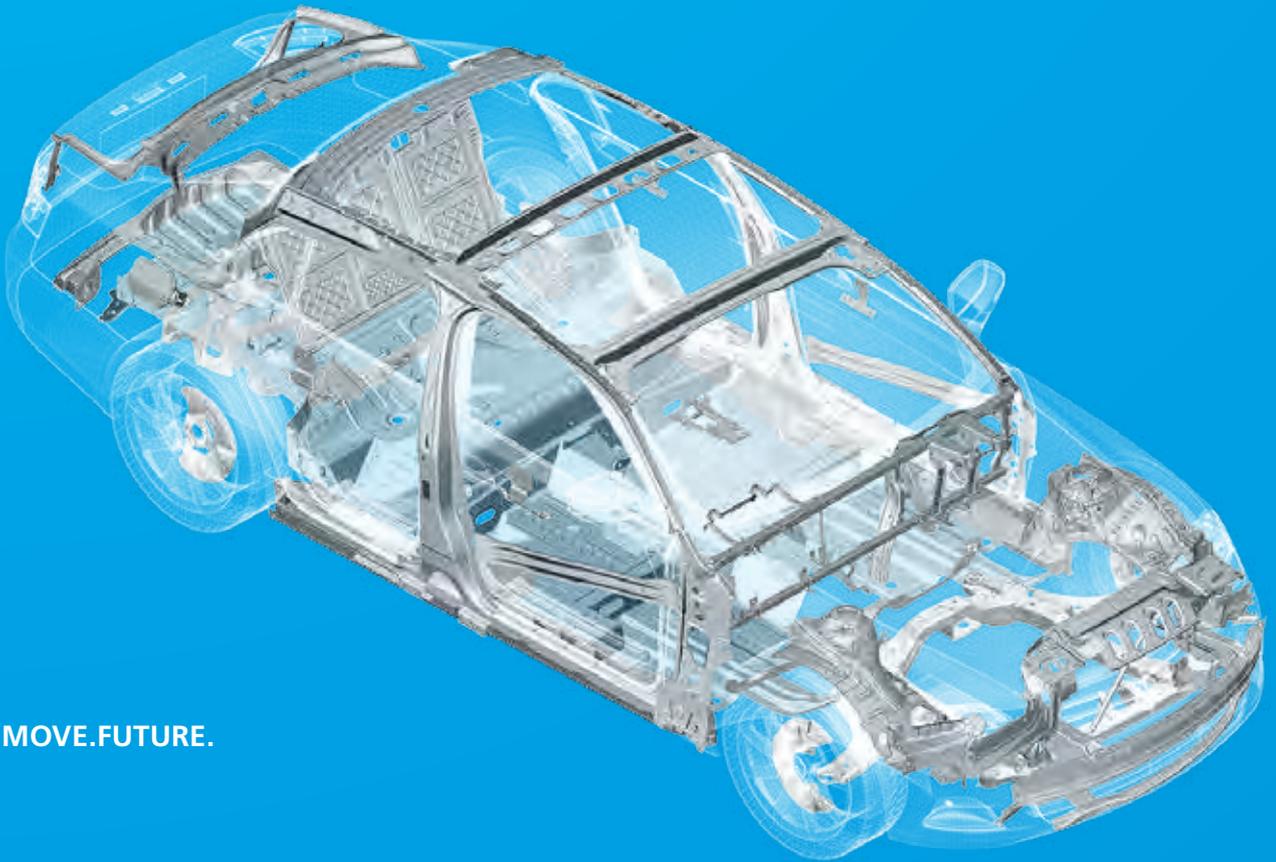


DIN-Spec

This involves a very condensed processing method time-wise, which, by leaving out some of the formal aspects, can lead to short processing times. The specification is aimed at manufacturers and users and contains in its preface a note saying that that feedback from application in the field is very welcome.



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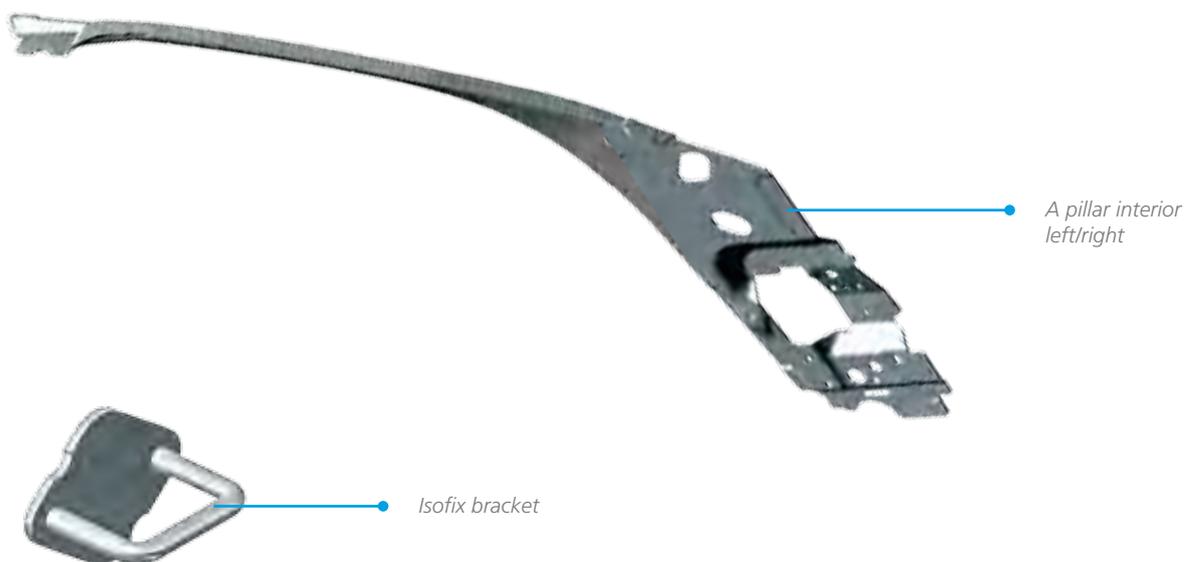
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New products on the road

In time for the start of the 2015 summerseason, we will see the new BMW 2 Series Convertible on the road, for which KIRCHHOFF Automotive manufactures numerous body components. Among other things, we produce A and B pillars with an optimal crash performance—thanks to a special combination of materials—for the new Mercedes CLA Shooting Brake.



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©BMW AG

Isofix bracket

Technologies:
Forming, laser welding

Production plant:
Attendorn/Germany

Capacity/year:
175,000 vehicle sets

Customer/vehicle:
BMW Mini



©BMW AG

A pillar interior left/right

Technologies:
Direct hot forming, laser cutting, blast cleaning, welding

Production plant:
Esztergom/Hungary

Capacity/year:
40,000 vehicle sets

Customer/vehicle:
BMW 2 Series Convertible

The new **BMW Mini** will continue its success story from 2015. KIRCHHOFF Automotive manufactures numerous body parts at several locations for this model series. The spectrum ranges from forming components with standard processes through to assemblies with highly automated production methods. Hot-formed parts with subsequent blasting, lasering, and joining are manufactured in Esztergom/Hungary.

For the **Mercedes CLA Shooting Brake**, we manufacture, amongst others, assemblies for the battery holding

system, which can also be utilised in other vehicles on the MFA platform. High-strength steels of up to 1,200 MPa are used. These components are formed and welded at the KIRCHHOFF Automotive plant in Mielec/Poland and CDP-coated in Gliwice/Poland.

KIRCHHOFF Automotive produces A and B pillars for the Mercedes CLA in Hungary. Both pillars are manufactured in a hot-forming process, whereby the B pillar has a distinctive feature. The upper section consists of high-strength hot-formed steel and the lower section

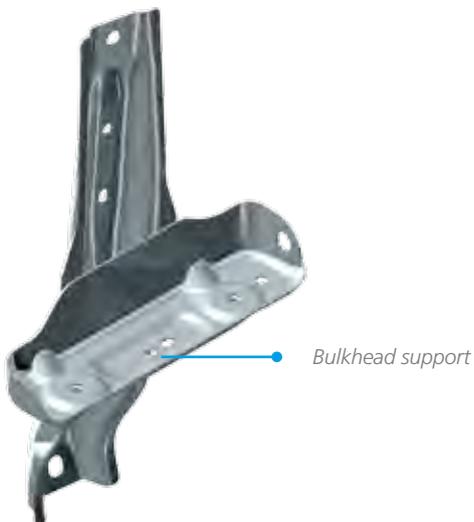
of a cold-formed steel grade. This mix of materials makes for an optimal crash performance. The individual parts are joined in a spot welding process.

Our products are delivered to Kecskemét/Hungary, a Daimler plant that is located about 130 km away.

Dr Thomas Steinhaus



B pillar



Bulkhead support



Battery holding system/A and B pillars

Technologies:

Forming, hot forming, lasering, spot welding, nut welding, CDP coating

Production plants:

Mielec/Poland
Gliwice/Poland
Esztergom/Hungary

Capacity/year:

100,000 vehicle sets

Customer/vehicle:

Mercedes-Benz CLA Shooting Brake



Ahead of the game with new welding machines

— 2015 brings new growth for our plant in Gliwice: two new production technologies provide the opportunity for new projects with our customers.

From now on, laser welding and aluminium MIG welding enhance the portfolio of production techniques in Gliwice/Poland, which is currently capable of MAG welding, resistance spot welding, projection welding, drawn arc welding, clinching, e-coating, assembly, and foaming. These two new innovative processes provide a perfect basis in order to fulfill the future requirements of the leading car manufacturers for structural parts in is required design. A further advantage of large-capacity remote laser welding and aluminum MIG welding is their low welding downtime.

We are thus close to reaching our full production capacity.

In order to use the new technologies efficiently, our employees have been trained by experienced colleagues at KIRCHHOFF Van-Rob plants in Tecumseh/USA and Manchester/USA and this way could familiarize themselves with the new process. In those plants, they are familiar with laser welding and aluminum MIG welding since 2012. The first laser-welded prototype from Gliwice was successfully finished at the beginning of this year.

Our expertise in the implementation of innovative and high-performance processes helps us to satisfy the demand of our customers for flexible solutions, today and in the future.

Rafał Lechowski



Top/below: The new laser welding facility in Gliwice.



Use and advantages of laser welding

Laser welding is used when quick processing of long welding seams with minimum heat distortion light-weight design. Advantages are reduced weight, higher dimensional quality, less welding distortion, and lower welding costs. As less welding fixtures are needed due to faster welding, the capital costs are reduced. In addition to an easier operation, the mobility of the products is increased overall. Laser welding has significant potential in the area of hybrid welding, using MIG/MAG in combination with laser.

We are family—including an increasing number of aluminum products

Due to ever stricter regulations for CO₂ emissions in China, aluminum and aluminum alloys are increasingly the materials of choice for lightweight construction. KIRCHHOFF Automotive employs its cutting-edge technologies to attract new customers in China for chassis parts and body-in-white components.



Front bumper of Geely GC9

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In 2013, KIRCHHOFF Automotive was awarded its first order for aluminum products in China from Chinese automobile manufacturer Geely for the front and rear bumpers of the GC9. Production started at the end of 2014. The front and rear bumper is a KIRCHHOFF Automotive in-house development, which was designed at the Suzhou plant in China for the premium vehicle division of Geely. High speed crash, low speed pendulum impact and tensile strength have been considered during the design process. The crash behavior was tested on the entire vehicle at the Geely site. The bumper system normally includes the main beam and crash boxes which will absorb the energy during crash. Base plates and crash boxes are integrated because of limited space. A fitting for the attachment of a tow hook is planned for the bumper. Electronic components can be mounted on two brackets. In addition, several areas have been prepared by drilling.



Front bumper of Geely GC9

Technologies:

Aluminum extrusion, bending, machining, MIG welding

Production plant:

Suzhou/China

Capacity/year:

44,000

Customer/model:

Geely GC9

The Geely order was followed by requests for a further five aluminum components for the Range Rover Evoque and Discovery Sport from Chery Jaguar Land Rover (CJLR). To reinforce the bonnet lock of the Range Rover Evoque, KIRCHHOFF Automotive pressed the aluminum section and developed a support for the riveting. The main function of this assembly is to strengthen the bonnet lock area. Thanks to its advanced technology for the manufacture of aluminum products, KIRCHHOFF

Automotive won an order from Jaguar in 2014 for a total of 28 aluminum hybrid structure parts. The prospects for further orders for aluminum body parts are promising.

Additional technologies such as extrusion, punching, MIG welding, and riveting are employed. Self-piece rivet is used as a joining technology for hybrid structures (e.g. combine steel with aluminum).

KIRCHHOFF Automotive in China is well prepared for further aluminum product orders.

William Zhang



Bonnet lock reinforcement for Range Rover Evoque



Bonnet lock reinforcement for Range Rover Evoque

Technologies:

Aluminum extrusion, E-coating of steel parts, hybrid riveting

Production plant:

Suzhou/China

Capacity/year:

38,000

Customer/model:

Range Rover Evoque

Award for successful modular system

— A structured modular system and variant management is a success factor in the automotive industry as a growing number of customers demands more individual products as well as increasing dynamism in technological innovation. KIRCHHOFF Automotive was one of five companies to receive an award for this capability from the Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University.



Dr Thorsten Gaitzsch (2nd f.l.) and Christoph Wagener (2nd f.r.) receive the award from Prof. Dr. Günther Schuh (Director Laboratory for Machine Tools of RWTH Aachen) and Dr Michael Schiffer (Complexity Management AG, r.).

A total of 133 companies throughout the world participated in a cross-sector benchmarking, which was carried out by an industrial consortium together with the Laboratory for Machine Tools and Production Engineering of RWTH Aachen University and the Complexity Management Academy.

One focus during the company visit of the industrial consortium was on the analysis of the organisational anchoring of customer-specific solutions. At KIRCHHOFF Automotive, the entire product creation

process is managed by a responsible product manager based on a defined gate model and supported comprehensively by the product lifecycle management system "CIM-Data-base". KIRCHHOFF Automotive has also established a globally standardised and modularly structured production. Thanks to this uniform plant layout, it was possible to significantly reduce planning and start-up times.

The "Modular and variant management 2014" award ceremony took place on

18 December 2014. Dr Thorsten Gaitzsch (CTO) and Christoph Wagener (Director Research & Product Development) received the award.

Christoph Wagener



Topics relating to self-reflection, communication, and project management are discussed in small groups.

We develop talent

— The KATE (KIRCHHOFF Automotive Talent Education) talent management programme, which was implemented in 2013, is used for the target-oriented competence analysis and competence development of talents. This programme is gradually bearing fruit with regard to the acquisition of skills.

Using a competence-based approach, KIRCHHOFF Automotive has been able to recognise the expertise and skills of our employees in the context of global employee development interviews and programmes as well as promote “high potentials” in a targeted manner through a tailored development programme.

Modules in self-reflection, communication, project management, or innovation ensure learning, exchange, networking, and knowledge transfer; the accompanying project assignments and “Top Talks” offer regular opportunities for application and help to make the connection to the Company. Furthermore, the learning experiences arising from this dynamism are of particular importance;

implicit behaviour patterns must be recognised, equipping us for the unexpected and making us reactive in a fast-moving sector. It is precisely these skills, which are not trainable, that are good indicators of potential.

This year marked the halfway stage: at the mid-point in the programme for the first group, the focus is on change management, before we bring together our groups at a global level in 2016 and plan the next career steps with the participants. In addition to the local support from Human Resources and Human Resources Development, we are continually optimising the programme elements at a global level. In doing so, we want to communicate a strong com-



mon message across borders and create structures that support our corporate strategy, as well as meet the requirements of individual locations and the specific needs of our participants.

Tatjana Schutte

First cross car beam for Nissan North America

— Nissan North America (NNA) has redesigned the 2016 Maxima and presented the vehicle for the first time in April at the New York Motor Show. KIRCHHOFF Van-Rob in Manchester, Tennessee/USA will produce the cross car beam.



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This is the first order assigned to KIRCHHOFF Van-Rob in Manchester for the production of cross car beams for Nissan North America and Calsonic Kansei, which will supply the cross car beam to NNA. The team in Manchester played a key role in the successful launch of the new Maxima.

The plant will manufacture two cross car beam variations: one variant for the Maxima with a power steering system and the other for vehicles with a manual

steering system. Both will be shipped to the Nissan North America plant in Smyrna, Tennessee. The production of both variations at the Manchester plant started on 1 March 2015 and is scheduled to run for five years.

The Nissan North America plant, where the Maxima will be manufactured, is a one-hour drive away from the KIRCHHOFF Van-Rob location in Manchester. The Maxima is one of several models manufactured at the Smyrna plant. The plant

also manufactures the Nissan vehicle with the highest sales volume, the Altima. The Altima makes use of 19 stamped parts that are also employed for the Maxima cross car beam. The successful launch of the Maxima cross car beam marks the beginning of a promising business relationship with Calsonic Kansei North America and Nissan North America.

Chris Davis, Ernie Dunkley

A new plant in Michigan/USA for the Chevrolet Camaro

— In 2015, KIRCHHOFF Van-Rob will put a new facility in Lansing, Michigan/USA, into operation. During a press conference at the beginning of December, it became clear how this plant will contribute to the continued economic growth in the Lansing region by adding 140 jobs in between 2015 and 2016.



Plant in Lansing

Our guest list at the press event included various government officials, representatives from General Motors, and personnel from property development and HR staffing companies.

Peter van Schaik, Chairman KIRCHHOFF Van-Rob, introduced the press conference with a short review of the company's origins and history. In doing so, he

especially emphasised the high importance of culture and values in this family-owned company.

The President and COO of KIRCHHOFF Van-Rob, Tony Parente, highlighted what the plant is going to achieve in the future: "We are here today because of our strong business partnership with General Motors and our commitment

to them to manufacture over 75 parts for the 2016 6th Generation Chevrolet Camaro. With a drive distance of only six miles from our customer's Lansing Grand River Assembly plant, our logistical advantage provides cost-effective JIT deliveries to General Motors. Start of production is scheduled for October 2015 on parts supplied for the Chevrolet Camaro Coupé. Several different



Camaro 1st and 5th generation

welding processes will be utilised, including MIG welding in both aluminum and steel, drawn arc welding and spot welding of the rear wheelhouse assemblies and the dash panel assembly, which is manufactured with acoustic laminate steel. High-speed CNC bending equipment will be utilised in the manufacture of the rocker panels. Production will range from the simplest of stamp and ship parts to a complex aluminum cross car beam with aluminum stampings and extrusions. Work in process parts will be coordinated from several KIRCHHOFF Van-Rob facilities.”

were the State of Michigan, the Watertown Township, Capital Area Michigan Works!, Jones Lang Lasalle, and RiverCADDIS Development Group, as well as representatives from General Motors.

Denise Mayrand

A special thank you was extended by the KIRCHHOFF Van-Rob management to the members of LEAP (Lansing Economic Area Partnership) and their role in facilitating the project from start to finish. Government agencies and organisations also included in this recognition

Tony Parente, President and COO (left) and Peter van Schaik, Chairman, in the more than 135,500 square feet large production hall.



Speakers during the press conference (f.l.t.r.): Peter van Schaik, Chairman KIRCHHOFF Van-Rob | Tony Parente, President and COO KIRCHHOFF Van-Rob | Bob Trezise, President and CEO of LEAP (Lansing Economic Area Partnership), and Governor Bob Snyder Elect Douglas Smith, Senior Vice President of Strategic Partnerships and Governmental Affairs at the Michigan Economic Development Corporation (MEDC)

A nighttime photograph of the Shanghai skyline, featuring the Oriental Pearl Tower as the central focus. The tower is illuminated with white and blue lights, and its reflection is visible in the water below. Other skyscrapers in the background are also lit up, creating a vibrant cityscape against a dark blue sky.

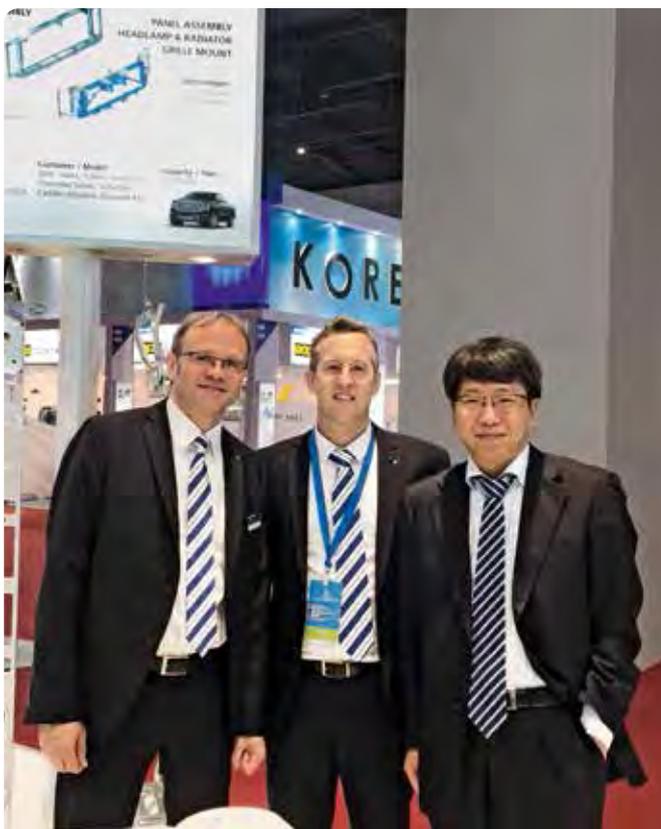
Superlatives at Auto Shanghai

From 20 to 29 April, Auto Shanghai welcomed approximately one million car enthusiasts. An absolute record. The trade fair is the largest and most important automotive show—even for German automotive suppliers—on the Asian continent. KIRCHHOFF Automotive participated for the fourth time.





Top: KIRCHHOFF Automotive trade fair stand. **Bottom left:** Acting Purchasing Manager Guan Yu from Geely with Marketing Director Andreas Heine from KIRCHHOFF Automotive in Germany and Managing Director Simon Stephan from KIRCHHOFF Automotive in China. **Bottom right:** VDA President Matthias Wissmann (right) with CTO Dr. Thorsten Gaitzsch from KIRCHHOFF Automotive. **Right side:** Always available for customers and interested visitors—our committed trade fair team.





This year's Auto Shanghai clearly showed that the Chinese automotive market is experiencing drastic growth. In a fully redesigned trade fair centre in the Hongqiao region of Shanghai, the major automobile manufacturers and their suppliers presented their products in 16 exhibition halls over a total area of 300,000 sqm.

Of course, KIRCHHOFF Automotive could not miss out on such an event. For the first time, we were part of the German pavilion with our bright, open stand covering 97 square metres. We showcased 12 exhibits manufactured in series as well as three innovative prototypes mounted on rotating pillars to our interested customers. The product portfolio was also supplemented by a touch panel on which the trade fair team could display digital versions of the individual parts. Whereas many colleagues from Germany provided local support to our Chinese trade fair team in past years, this time the organisation and on-site management was entirely in the hands of the KIRCHHOFF Automotive team in China. The local team

was merely assisted in the first few days by CTO Dr Thorsten Gaitzsch and Marketing Director Andreas Heine, who had come to China to primarily attend to the executives of our international customers.

Feedback from our customers on the quality of the stand and products was outstanding. Even our delicious catering facility was greatly appreciated. The success of our trade fair presence was underlined by the visits of a large number of executives from our customers, such as the Purchasing and Development leadership team from GM, the S-GM Purchasing Manager, the Geely VOLVO Purchasing Director and R&D Vice President, the Changan FORD Purchasing Director, the CJLR Senior Manager Purchasing, executives from Greatwall, Changan and JMC, BMW, Daimler Foton, Mazda, Toyota, Nissan, as well as many more.

Our trade fair team was highly motivated at all times to present and provide visitors with technical explanations about our products.

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Numerous discussions ensued with interesting outcomes. For example, arrangements were made with three customers to hold smaller information events in their offices or plants in the future. Our customers were particularly impressed by our expertise in product development and our new aluminum processing competence.

In the second week, we enjoyed the visits of four student groups from various universities in Shanghai and Suzhou. We were very pleased to organise these events because they afforded us the opportunity to pass on some of our technical expertise to future generations. Over the nine days of the trade fair, we attended to approximately 350

visitors. In summary, it can be said that the participation in the trade fair was a very valuable and successful event for KIRCHHOFF Automotive, as it provided a sustainable contribution to our work here in China.

Simon Stephan



We welcomed numerous customers and interested visitors to our stand. 1. Chang’an Ford Purchasing Director William Zhou (right). **2.** Dongfeng Senior General Manager Dr Jiang (left). **3.** CJLR Senior Manager James Gilhooly examines the bonnet lock reinforcement formed in aluminum for the Range Rover Evoque. **4.** Randy Pappal, Executive Director Global Purchasing General Motors (left). **5.** SAIC QA Supervisor Ruan Aijun (left). **6.** BAIC MOTOR Vice Director Wang Jinlong and Vice President Chen Bao. **7.** Tongji University student visit.



Information

When one trade fair finishes, another starts: **the most important international automotive trade fair, the 66th International Motor Show (IAA) Cars, takes place in Frankfurt/Germany between 17 and 27 September 2015.** KIRCHHOFF Automotive will again be represented at the world’s largest exhibition for vehicle manufacturers and their suppliers with a stand covering a surface area of nearly 400 sqm metres. This year’s IAA is largely about “networked and automated driving” as well as improvements in vehicle efficiency, according to Matthias Wissmann, President of the German Association of the Automotive Industry (VDA).



Experience the IAA and find out more about the latest developments in lightweight construction, materials, and joining technologies **at our trade fair stand in hall 5.1, stand B08.**

An international success story in China



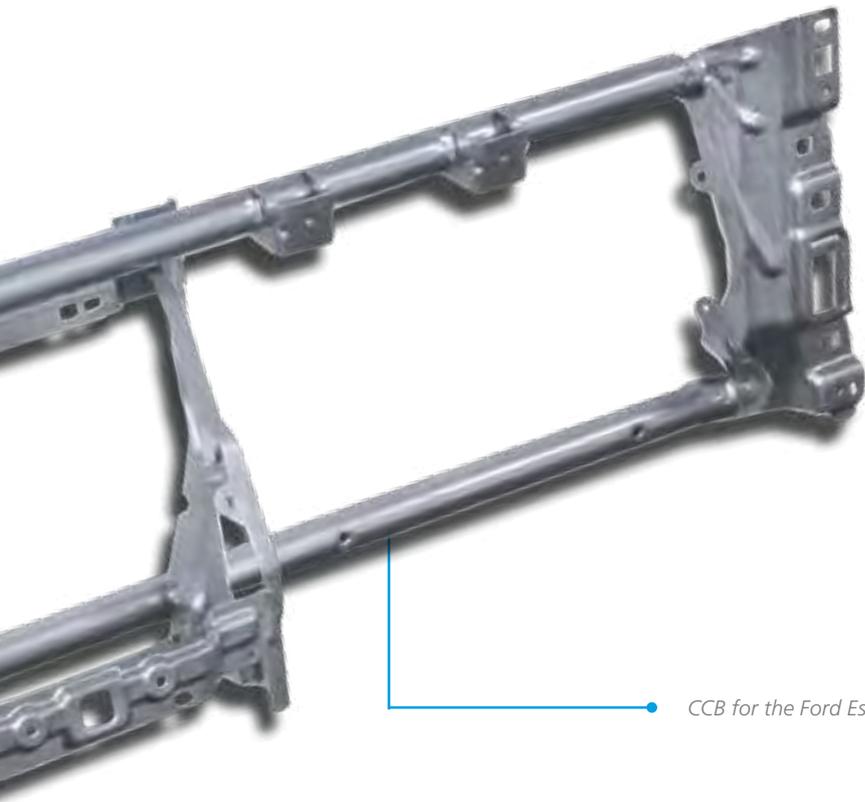
34

Specialists from various KIRCHHOFF Automotive locations have worked together to support the production start-up for the cross car beam of the new Ford Escort for the Chinese market.

The cross car beam was designed jointly by Ford and KIRCHHOFF Automotive for a new A-Class model for the Chinese market. Our aim was to provide the customer with optimal service as early as the development and prototype phase. To this end, we put together an international team of engineers and specialists from our locations in Attendorn/Germany, Suzhou/China, and Chongqing/China.

The project commenced in April 2012. During the development phase of more than two years, we supplied prototypes made with experimental tools and devices. The first off-tool cross car beams were produced at the Chongqing location in September 2013. Focusing on national requirements, we have developed a cross car beam that is optimised in terms of function and cost. Moreover, the production process, which is

based on a standardised modular system consisting of interlinked standard machines and robot cells, was streamlined in parallel to the development of the component. The standard modules are supplemented by special machinery such as CNC tube processing and projection welding machines. Integrated digital cameras monitor the production process. When series production commenced in October 2014, a reliable and



CCB for the Ford Escort

stable process was therefore already established at our production plant in Chongqing.

The project was led by an international team from KIRCHHOFF Automotive, which maintained communication between the customer and suppliers and thus made a key contribution to the success of this project. An up-to-date project plan was available to all project partners at all times. In view of the complex structure of the cross car beam, the coordination of process start-ups and the use of suitable technologies required particular care as well as the involvement of all team members during the project phase. However, it is precisely for this reason that the start-up has been especially successful.

With a forward-looking approach, the KIRCHHOFF Automotive team works on the products and processes of the future.

Dongfeng Li



Classic Ford Escort

Ford Escort

Right in the middle, not merely on the sidelines

Within the scope of a one-day technology event at Honda R&D Americas Center in Raymond, Ohio/USA, KIRCHHOFF Automotive presented its core competences. We showcased our latest products and innovations in Honda's Model Display Room to over 300 Honda personnel.

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The Honda R&D Americas Center in Ohio plays an important role in the development of cars and powersports products that are exclusively produced in North and South America for the domestic and foreign markets. The work in this very modern facility focuses on product development, development of prototypes, and product testing. In the spotlight is also the search for matching innovative suppliers and development partners.

In mid-February 2015, the KIRCHHOFF Van-Rob team had the opportunity to present their product portfolio to Honda personnel in their 310 sqm display room. They presented the latest KIRCHHOFF Van-Rob technologies and processes, as well as innovations that are still in the development phase. Under the topic "Cost-efficient light-weight construction for reduced CO₂ emissions", the KIRCHHOFF Van-Rob team introduced the following developments:

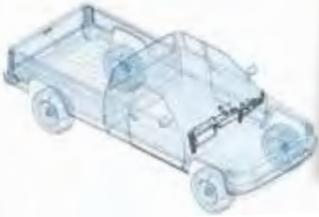
- CNC wing bending applications on UHSS body in white structures. This technology offers a high dimensional stability as well as reductions in weight, material usage, and tooling costs.
- Laser welding used especially the design of front-end components in order to reduce part weight and also to save costs.
- Design and manufacturing of light-weight crash management systems.
- An innovative aluminum and steel hybrid joining technology for steering hanger beam assembly.

The exhibition was a great opportunity for direct exchanges with Honda Purchasing, Engineering, and key decision-makers. "We were able to explain our latest technologies in detail and at

the same time gain a deeper understanding of Honda's requirements. I am glad that we could exchange our experiences at eye level with Honda. The interest was high and lasting", reported Chris Davis, Director of Sales at KIRCHHOFF Van-Rob.

Denise Mayrand

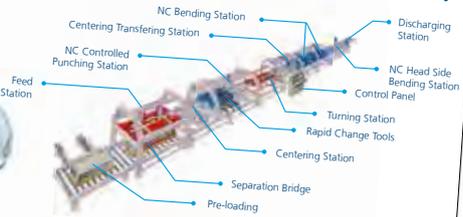
Laser Welded Steel Cross Car Beam



Key Features

- 25 stampings – progressive and mechanical transfer
- 2,161 mm of laser weld
- 1.25 kg weight reduction over previous model design
- 33% assembly tooling cost reduction over equivalent MIG welded design
- Elimination of downstream projection weld operations

CNC Bent Rocker Panel MS1500 MPa Material

Key Features

- High dimensional stability - 0.5 mm surface to surface tolerance over entire length of part
- Integrated system for spring back correction on AHSS/UHSS up to 1,500 MPa
- Flexible for both channel and closed box profiles
- Weight reduction and material usage reduction
- 20% tooling cost reduction

Process Advantages

- Modular tooling allows for similar products with various part lengths sharing the same tool, thus reducing tooling expenditures
- In-line blanking/punching/forming/welding
- Improved GD&T with less rework/scrap
- Perfect for 0.7 – 2.0 mm gage
- Tailor welded or tailor rolled blank can be used

Process Advantages

- Programmable Focus Optic (PFO) welding head (3D) mounted to a 6-Axis robot arm
- One laser source with beam splitter to service multiple cells
- Suitable materials: Cold/Hot Rolled, High Strength Steels, Galvanized, Galvalume
- Improved dimensional stability through minimal heat transfer to assembly
- Reduced scrap / re-work compared to MIG welding
- 100% quality inspection station using 3 robots equipped with laser heads for verification of fastener presence



The KIRCHHOFF Van-Rob Team responsible for Japanese OEMs (f.l.t.r.): Nikola Lazovic, Account Manager; Kevin Culp, Engineering Manager; and Chris Davis, Director of Sales.



Visit to Iserlohn (f.l.t.r.): Marek Padiasek, Purchasing Manager Stampings GME | Katarzyna Kandzia, Buyer GME Structures | Silvia Rauterkus, Key Account Manager Team GM KIRCHHOFF Automotive | Katherine Worthen, Vice President, Purchasing and Supply Chain, Opel Group GmbH | Arndt G. Kirchhoff, CEO KIRCHHOFF Holding | Andreas Müllender, Executive Director Product Purchasing GME and Dr Thomas Steinhaus, Director Sales Cars KIRCHHOFF Automotive.

High-ranking visit in Iserlohn and Gliwice

— Since the start of September 2014, Katherine Worthen has been responsible for the Purchasing and Logistics departments in Europe and a member of the Executive Board of Opel Group GmbH. In March, she visited our plants in Iserlohn/Germany and Gliwice/Poland in her new capacity as Vice President Opel/Vauxhall Purchasing and Supply Chain.

In her new role, Katherine Worthen has visited many strategic suppliers, including KIRCHHOFF Automotive. We have already known her for many years in her former capacity as Executive Director Chassis Systems Global Purchasing and Supply Chain.

CEO Arndt G. Kirchhoff welcomed Katherine Worthen as well as Andreas Müllender, Marek Padiasek, and Katarzyna Kandzia in Iserlohn and started off by presenting the latest corporate development to the high-ranking visitor group

from General Motors. The agenda of the plant visit included, in particular, the two hot-forming lines, as well as the GM-Opel parts produced in Iserlohn.

At the end of March, Janusz Soboń, Managing Director Poland and Chief Strategy Officer, greeted Katherine Worthen, together with a team consisting of Tomasz Zwyrtek, Marek Padiasek, Marek Zroski, and Katarzyna Kandzia, at the KIRCHHOFF Automotive plant in Gliwice. Janusz Soboń reflected on the shared beginnings of GM and KIRCHHOFF Automotive in

Poland and gave an overview of the forthcoming Astra products. In the subsequent plant visit, the guests were impressed by the state-of-the-art equipment and technologies.

Silvia Rauterkus, Janusz Soboń



Assessing the measurement studies for the engine mount of the new Opel Astra, f.l.t.r.: Marek Padiasek, Commodity Manager Structures General Motors Europe | Piotr Tomaszewski, Head of Engineering KIRCHHOFF Automotive in Gliwice | Tomasz Zwyrtek, Global Purchasing and Supply Chain Director Body Exterior General Motors | Janusz Soboń, CSO and Managing Director KIRCHHOFF Automotive in Poland | Silvia Rauterkus, Key Account Manager GM at KIRCHHOFF Automotive | Katarzyna Kandzia, Buyer General Motors | Marek Zroski, General Motors | Krzysztof Sypek, Head of HR, Grzegorz Stojanowski, Production Manager KIRCHHOFF Automotive in Gliwice, and Katherine Worthen, Vice President, Purchasing and Supply Chain, Opel Group GmbH.



Investments in German locations

— 900 sqm for VW and Ford in Attendorn/Germany, 2,600 sqm for Daimler and VW in the Sümern district of Iserlohn/Germany—investments in German locations are increasing and improving both warehouse space and production area.

2,600 sqm of production space for Daimler and VW

In the last six months, a new building with a production area of approximately 2,600 sqm has been constructed at KIRCHHOFF Witte in the Sümern district of Iserlohn/Germany. The workshop bridges the gap between the new tool storage/Steyr production hall and

the old tool storage. It also houses a production area with laser equipment, staging areas for the components that are to be lasered, and dispatch storage areas for the lasered parts. An expansion of the plant was absolutely necessary because a new production and logistics area was required for the lasering of components for the Daimler E- and GLK-Class start-ups as well as for the

VW Touran/Tiguan projects. Production of these components started in May.



Left: The new hall in Iserlohn provides 2,600 sqm for laser equipment, as well as space for the preparation and storage of parts. **Right:** Canopy over the transport route between the production plant and warehouse space in Attendorn.

Logistics with a future

In Attendorn, 900 sqm of new dispatch space was created for VW and Ford products. The newly gained space can already be used for the Ford Mondeo cross car beam and, in the future, will be optimally utilised for additional products for our customer VW. To ensure that the items are dry and safe when

they arrive at the recently acquired logistics area and can be shipped from there in the future, two canopies protect the transport routes between the main plant and the new dispatch space. During the plant restructuring, the logistics processes at the Attendorn location were further optimised by means of various building projects. The floor of the hall was replaced and covered

with concrete, and the hall itself was fitted with modern LED technology. The very rapid implementation of the plan from cost approval through to realisation made a key contribution to the improvement in logistics performance at the Attendorn location.

Arno Weber, Frank Buchholzki



Global commodity management

As part of the purchasing realignment, a global commodity management system was launched at the end of last year. This is because global procurement markets, such as those seen for steel, connecting elements, and forming tools, require globally positioned purchasing organisations and material field strategies for effective management.



Key objectives of the organisation:

- To consolidate our constantly growing purchase volume, utilise it optimally in the increasingly international procurement markets, and generate cost advantages in the process.
- To create and benefit from sustainable supplier relationships, in order to react in the best possible way to existing and future challenges with regard to deadlines, costs, quality, and innovation, as well as to achieve a competitive edge.

Global procurement markets require globally positioned purchasing organisations and material field strategies. Depending on the material field classification, the commodity management in purchasing is organised according to global, regional, and national product

groups. In order to make optimal use of synergies and economies of scale in the procurement market, we will use the following material fields on a global basis from now on:

1. Raw materials, steel
2. Purchased parts (bent wire parts, tubes, connecting elements, and bushings)
3. Forming tools and investment goods (equipment and presses)
4. Indirect materials: information technology (software and hardware), welding wire and gas, as well as CDP lacquer and chemicals, transport, and logistics

In line with the introduction of the global structure, the responsibility within these material fields for KIRCHHOFF Automotive was consolidated and reor-

ganised at a regional level. Lead buyers are responsible for the strategic orientation of the material field and the associated supplier relationships on a regional and global level, and plant procurement managers handle national product groups.

The organisation is made up of internationally experienced strategic purchasers and product group specialists. It integrates the purchasing structures from KIRCHHOFF Automotive and KIRCHHOFF Van-Rob into a globally positioned, powerful unit. The material field and supplier strategies as well as the derived objectives are chosen and adopted in committees known as Sourcing Boards. The Sourcing Boards are composed in different ways depending on the material field, with the aim of jointly choosing the purchasing strategy and pursuing it. They ensure that functional as well as strategic business interests are taken into account.

Following the introduction of the organisational structure at the end of last year, the Global Commodity Management Organisation is now slowly taking shape. We are following a new path with this team that is linked to changes within purchasing and the corresponding interfaces. This reorganisation will help us in achieving our demanding and ambitious objectives.

Michael Rank



Product example

For the passenger car market, we produce front-end frames, bumper systems, cross car beams, side and cross members, and floor assemblies.

Products

Products

The whole is often greater than the sum of its parts. This is why we supply our customers not only with individual parts but with complex components as well.

For the passenger car market, we produce front-end frames, bumper systems, cross car beams, side and cross members, and floor assemblies.



For the commercial vehicle market, our product portfolio includes axle housings, cross members, front underside protection, and tank brackets.

Our products are predominantly made of steel in thicknesses of up to 12 mm, with strengths of up to 2,000 MPa, as well as aluminium. In addition to this, we join various materials using hybrid designs for lightweight automobile construction. Our customers include almost all international automobile manufacturers.



www.kirchhoff-automotive.com

Clearer, more concise, and globally uniform—the new website of KIRCHHOFF Automotive.

Even at first glance, it is evident that the new KIRCHHOFF Automotive website contains everything expected from the modern Internet presence of an international company: information about the company, its competencies, products, visions and values, and of course a media and career section.

But our new site has even more to offer. It is also the joint website for our global subsidiaries—translated into all languages and featuring information about all plants and teams.

Each location is represented by its own site

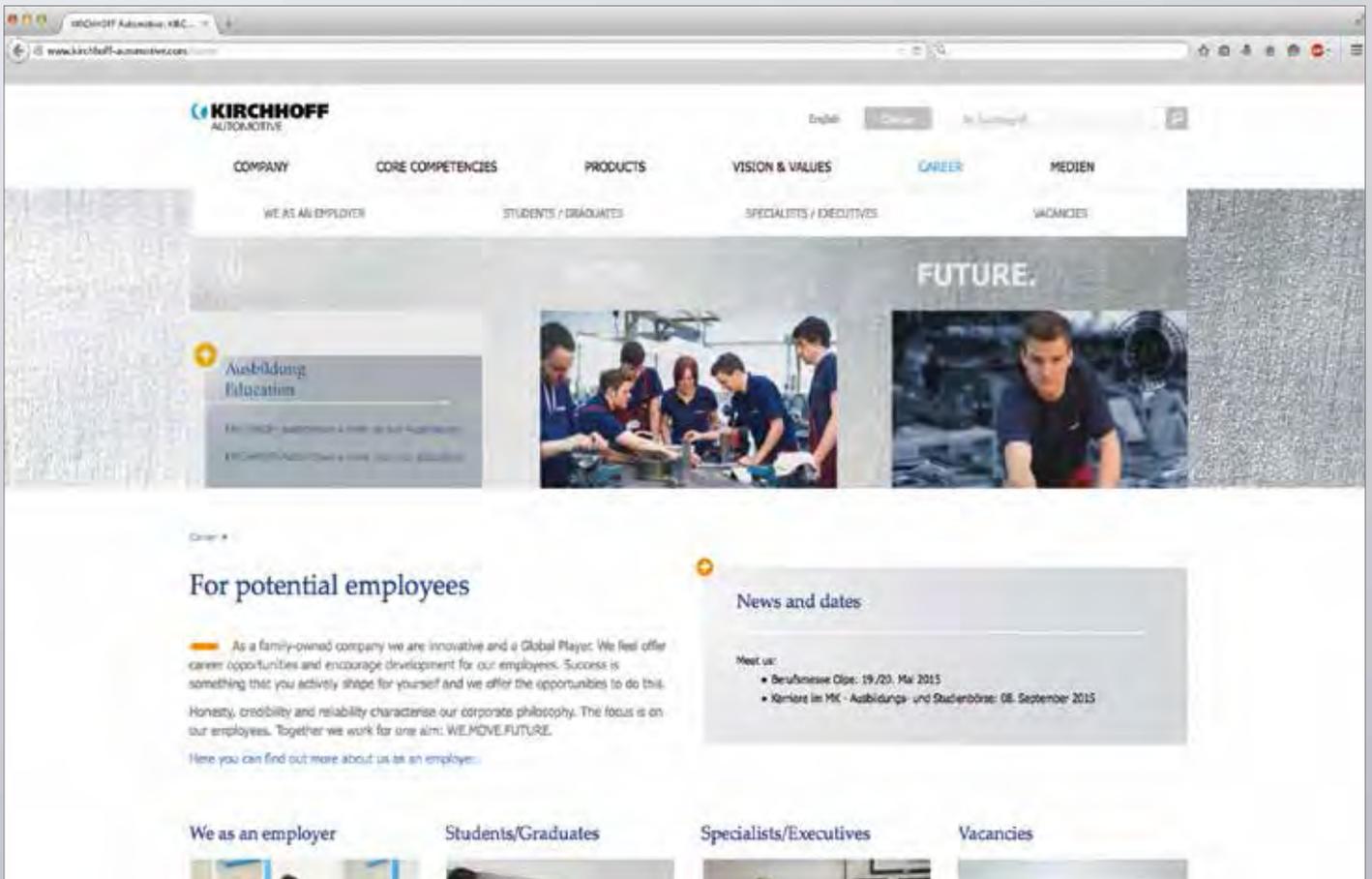
KIRCHHOFF Automotive has around 30 production locations. Each location has been given its own site, which can be accessed by means of an interactive world map. Aside from hard facts and information about the competencies, local employees have collated texts and images to show what makes “living and working in the region” special for them and why they are pleased to be part of this global team.

Eleven countries—eight languages

To create a truly joint website for all plants and subsidiaries of KIRCHHOFF Automotive, the content was translated into all languages of our locations. Our new homepage therefore opens automatically in the language of the country and can additionally be changed to English.



Top: Product portfolio, plant details, and reports on the region—clearly structured and accessible with a click. **Bottom:** Photo shoots took place at around 30 locations. Major effort, but necessary for good image material.



The homepage of the career section tailored to target groups.

Almost 100 product photos

How do we explain our wide variety of products and describe their function in a way that is easily understandable? The numerous real images of parts and components as well as their location in a virtual frame model of a vehicle certainly help to meet this challenge! For this type of photography, we now use our own portable photographic studio, which allows us to present our products in the proper light.

After all, visitors to our website—whether customers, suppliers, potential applicants, our own employees, or media representatives—should discover interesting details on these pages and understand why KIRCHHOFF Automotive is always the right choice.

Job market 2.0

Here anyone can find all relevant information about opportunities at KIRCHHOFF

Automotive. This applies to pupils, students, specialists, or managers. Your path to our Company is laid out comprehensively and in detail. Testimonials from our employees throughout the world provide an authentic insight into the working environment at KIRCHHOFF Automotive. When we were looking for the ideal solution for the online job market, it quickly became apparent that a customised program was necessary. Tailor-made software was created in cooperation with an agency based in Iserlohn/Germany. It not only enables vacancies to be posted online by our HR department, but a perfect printable version of the job advertisement is automatically prepared in the background for use on bulletin boards. The software is also linked to our intranet and various job portals.

One click with a major impact

The new website not only has an eye-catching design, but most notably

is also user-friendly. It is based on the same system as our intranet. By means of only a few clicks, a wide variety of content can be generated, updated, and even adapted to specific media in several places simultaneously—a real synergy effect that saves time and always ensures that all users receive only the latest information.

Visit our updated website at www.kirchhoff-automotive.com and have a first-hand look at the new design and features.

Stefanie Schauerte

We know: human resources are the key to success



There is no question that the competitive advantage that KIRCHHOFF Automotive has in our industry are the skills and dedication of our employees. That is why we have dedicated so much time and effort in developing what we believe are the three pillars of success in Human Resources: Recruiting, Retention, and Development.

We have been working on global HR projects that will set consistent processes and procedures to help ensure the quality of HR services our employees deserve.

The recruitment consists of Global Recruitment (Phase I) and Global HR Marketing (Phase I). For the retention, we take Global Employee Recognition (Phase II), Global Internal Communication (Phase II), and Global Organisational Values (Phase II) into consideration.

Global Employee Development (Phase I) and Global Succession Planning (Phase I) are integral parts of the employee development at KIRCHHOFF Automotive. Projects in Phase I have finished the development stage and are currently being rolled out around the globe. Projects of Phase II begin now and will be rolled out before the end of 2015.

One of the most successful key factors of both the Phase I and II projects has been the truly global make-up of the

project teams. We have both HR and non-HR team members from a variety of countries participating. This international interaction will bring benefits far beyond the scope of these projects and confirms that we truly are a global organisation.

Paul Dilworth



CUSTOM-MADE CARS



KIRCHHOFF
MOBILITY



Custom-made cars

48-55





Custom-made cars at the Geneva Motor Show

— The first joint stand of KIRCHHOFF Mobility and KIRCHHOFF Automotive welcomed many international visitors.



Arndt G. Kirchhoff, CEO of KIRCHHOFF Holding (I.), uses the touch screen to show Andreas Müllender, Executive Director Product Purchasing GME, the range of services of KIRCHHOFF Mobility.

The Geneva Motor Show is one of the most important automotive trade fairs worldwide. It is renowned for its exclusivity as well as its studies and new model presentations. However, it is also one of the trade fairs that is easiest to access using public transport. Whether arriving by plane or train, the airport and railway station are located right next to the exhibition centre, which can be reached on foot within just a few

minutes. This might have contributed to why so many international guests visited the first joint stand of KIRCHHOFF Mobility and KIRCHHOFF Automotive in Geneva.

In line with its growth strategy, KIRCHHOFF Mobility acquired Fritz Haueter AG in the past year, which has taken part in the motor show for 12 years already. Thanks to this acqui-

sition, KIRCHHOFF Mobility was now able to participate jointly with Fritz Haueter AG under the new logo for the first time in this exclusive trade fair. In Switzerland, the new subsidiary of KIRCHHOFF Mobility operates workshops for vehicle conversions in Stäfa and Romanel-sur-Morges (Lausanne). Not only the trade fair itself, but also the location of our stand was truly exclusive. Whereas suppliers are usually



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housed in a different hall from vehicle manufacturers, as a vehicle converter we were able to exhibit in the most prominent hall 6, where Mercedes, BMW, and Rolls Royce, among others, showcased their vehicles. Arndt G. Kirchhoff, CEO of KIRCHHOFF Holding, was also pleased: "We are very much at home here and are glad to have a stand at the renowned Geneva Motor Show. In contrast to the IAA in Frankfurt, the atmosphere here in this large hall is more like that of a lounge."

With KIRCHHOFF Mobility's new trade fair presence inspired by the KIRCHHOFF Automotive corporate design, we were pursuing two objectives. The Geneva Motor Show is renowned for its presentations of concept cars and vehicle studies, and it is where automobile manufacturers share their visions of future mobility.

On the one hand, we wanted to demonstrate the options for people with limited mobility and how they can regain some of their freedom through individual vehicle modifications. At our stand, visitors were able to see and experience examples from the range of our in-house vehicle conversions made

by KIRCHHOFF Mobility, demonstrated in a VW T5 and a Ford (Grand) Tourneo Connect. From driving, operating, loading, and access aids to seating, steering, and braking systems as well as self-lowering and rear-entry vehicles—the international visitors showed great interest. One lady from Argentina was particularly enthusiastic about our solutions. She recorded a video of our product presentation for her sister at home in Argentina, where such conversions are completely unknown.

On the other hand, we also wanted to give our KIRCHHOFF Automotive customers, mainly large international automobile manufacturers, an understanding of the potential of KIRCHHOFF Mobility. With our 30 plants across the world, KIRCHHOFF Automotive is always in close proximity to the production plants of the automobile manufacturers. Why shouldn't it be possible in future to implement individual modifications with our expertise for people with limited mobility where the vehicles are being manufactured? Conversions are always based on a series vehicle. Consequently, a close cooperation has already developed with various automobile manufacturers. We

are an exclusive partner to some of the major vehicle manufacturers, who also recommend us in their brochures (e.g. BMW, Mercedes, and VW). J. Wolfgang Kirchhoff, COO of KIRCHHOFF Holding and responsible for the Mobility sector, made a positive summary of the trade fair: "We received a great deal of attention, among others from decision-makers of our KIRCHHOFF Automotive customers, some of whom were unaware that we are also partners of automobile manufacturers in this segment. This alone can already be viewed as a positive step, as we are now regarded a little more highly in terms of our activities for the automotive industry as a whole."

Andreas Heine



1. The first joint stand in Geneva of KIRCHHOFF Mobility and KIRCHHOFF Automotive welcomed numerous international visitors, many of whom were in wheelchairs. **2.** J. Wolfgang Kirchhoff, COO of KIRCHHOFF Holding (r.), presents the competences of KIRCHHOFF Mobility to Marc Brunner, Manager Commercial Vehicles at Ford Motor Company Switzerland. **3.** Our team showcase our offering of vehicle conversions for people with reduced mobility across 99 sqm, f.l.t.r.: Arturo Martinez, Catherine Junker, and Pascal Fossa Fritz Haueter AG, as well as J. Wolfgang Kirchhoff (COO KIRCHHOFF Holding), Dr Axel Panne (Managing Director KIRCHHOFF Mobility), and Arndt G. Kirchhoff (CEO KIRCHHOFF Holding). **4.** Loading ramp suitable for wheelchairs at the Ford (Grand) Tourneo Connect.

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Information

REHACARE, the world's largest trade fair for rehabilitation, takes place from 14 to 17 October 2015. Over 800 exhibitors from 34 countries present a combination of product demonstrations and complex systems solutions. KIRCHHOFF Mobility is also represented at the trade fair to showcase its latest mobility aids—all under the motto "Living independently". Find out more at www.rehacare.com and visit our trade fair stand.



Fachmesse und Kongress
www.rehacare.de

Düsseldorf,
14. – 17. Oktober 2015

How wonderful to be mobile again!



Handicapped yet mobile: Andreas Heine, Head of Corporate Communication & Marketing KIRCHHOFF Automotive.

It is surprisingly easy to get used to. I am very excited. Pushing the handle down accelerates the car. Sliding it back decelerates, and by shifting it a bit further I activate the brakes. I sit in my own car, where everything is familiar to me.



Conversion for improved mobility:
Easyspeed manual control in a BMW

Today, everything is different—but okay. Instead of accelerating and braking with my right foot, I now use Easyspeed from KIRCHHOFF Mobility. And this conversion lives up to its name. It is truly easy—which is great. Due to an operation, I cannot use my right leg to drive a car. However, thanks to the Easyspeed conversion, I am still able to drive even though I cannot put any pressure on my right foot at this time. During the journey, the leg can rest in a completely relaxed position to the left of the brake pedal.

Only two weeks ago, I was presenting Easyspeed in our exhibition vehicle to interested visitors at the trade fair in Geneva. I never knew how quickly one of the KIRCHHOFF Mobility products could make life so much easier, how much freedom it meant to be mobile again—simply to drive to work or to go shopping. All of which is taken for granted when you are able to use both legs to drive a car. If this is no longer possible, the world can look quite different in a hurry. “Thanks” to an unfortunate accident, I now know the ropes

and can put Easyspeed to a thorough test myself.

The first impression: it looks as if it was part of the original design of the car. Easyspeed blends in perfectly with the look of the cabin. Its workmanship is of high quality. The white stitching on the black imitation leather gives it a nice optical and qualitative touch. Owing to its extremely slim design, the device requires very little space and offers increased legroom. The hand knob for accelerating and braking fits nicely in the hand. The optimal lever action means that only minimal effort is needed to operate the device when accelerating and braking. The use of the additional knob for the indicator and windscreen wiper is intuitive.

On the road: anyone who has ever hired a car in England will know that operating the pedals and levers in a car is like second nature. But not to worry: it was actually harder for me to become accustomed to a right-hand drive vehicle than to Easyspeed. Perhaps this was also due to my motorcycling

experience. My right hand is used to braking and accelerating. It is only the appropriate braking action that requires some getting used to. Once you learn how much pressure is required for the desired braking power, nothing stands in the way of your driving enjoyment. And the best of all: this conversion does not limit the operation of the vehicle to hand controls. Easyspeed controls the brake and acceleration pedals in a purely mechanical manner. The system is so slim that the two pedals can still be operated by foot as normal.

In conclusion: at the next KIRCHHOFF Mobility trade fair, I will be able to report—based on my own experience—on how well our products work and the relief they have to offer!

Andreas Heine



When function and effect are in line.

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Successful trade fair appearance at the Matco Tool Expo

— The Matco Tool Expo 2015 was held at the Gaylord Opryland Hotel in sunny Orlando, Florida/USA. It is not only home to the Walt Disney Magic Kingdom and Universal Studios—it is also where the tool industry showcased its latest innovations at the Matco Tool Expo.

WITTE Werkzeuge is a long-standing, recognised screwdriver supplier of Matco Tools and, as such, once again benefited from a particularly good trade fair stand location this year. Around 1,100 Matco dealers attended the event, some of whom even came with their families as part of a short holiday in Orlando.

At the trade fair, each Matco dealer has a travelling sales shop. These mobile

shops pass by the large automobile and truck repair stations, where dealers are able to present and sell their tools to end customers, i.e. professional tradesmen or auto mechanics. In North America, for example, it is common practice for professional tradesmen to buy their own tools, instead of having them provided automatically by their employers. The objective of the Matco Tool Expo is to present the latest products to the dealers and give them an opportunity to

acquire these tools at special trade fair terms. In addition, Matco offered special prices to its dealers for large orders of screwdriver sets.

This year, WITTE Werkzeuge was represented by Alfons Bolling, International Sales Manager, and Alan Sipe, North American Vice President of Sales, both of whom participated in the trade fair. Visitors were particularly impressed with a new digital torque meter from



WITTE Werkzeuge. This test device allows customers to see for themselves how much torque can be generated with a non-stick, ergonomic MaxPro handle, even with oily or sweaty hands.

Alan Sipe



Top: The digital torque meter demonstrates the high torque of the MaxPro handle, which can even be achieved if workers have oily or sweaty hands. **Bottom:** The sales stand with our premium screwdrivers at the Matco Tool Expo.



Moscow City

Joint stand attracts many visitors to Moscow

At the end of last year, WITTE Werkzeuge showcased its high-quality hand tools at the MITEX trade fair in Moscow/Russia and, despite an unfavourable economic situation in Russia, was met with lively customer interest.

The specialist trade fair for tools, technology, and equipment, which has taken place annually since 2008, opened its doors at the Crocus Expo IEC this time instead of in the centre of Moscow. The venue is located to the north-west of Moscow and is one of the largest exhibition centres in Russia.

The joint stand organised by our Russia representative Michael Grenz was very popular throughout the trade fair. In addition to WITTE Werkzeuge, other renowned German manufacturers such as Keil Bohrer, NWS Zangen, Wilpu Sägeblätter, Stabila Messwerkzeuge, and Dronco Schleifmittel were part of the joint stand.

As early as the second half of 2014, Russia was experiencing an economic crisis, which was significantly impacted by the economic embargo, the falling oil price, and the resulting decline of the rouble, among other things. For 2015, economic experts forecast an even greater slump than in 2014. Despite these negative prospects, the 560 exhibitors welcomed almost 12,000 trade visitors from a total of 22 countries. Ten percent of the exhibitors were from Germany.

Michael Grenz



MITEX trade fair for tools, technology, and equipment.



For professionals: the new COMBITBOX-6

— This autumn, WITTE Werkzeuge will launch a bit box on the market that is designed for “longer bits”. These are bits that have been manufactured with drive E6.3 for direct use in machines. Machine bits do not require a bit holder.

With the COMBITBOX-6, the product range of WITTE Werkzeuge is extended with a box that also provides added value to the professional user. All versions of the COMBITBOX-6 range offer the same advantages as the COMBITBOX-11. These include the

usual easy handling, the safe positioning at the workplace, and of course the one-handed removal of bits. This makes work easier for the user. The bits are safely protected from loss in the closed box. The COMBITBOX-6 is even more compact, which makes it easily

fit in a shirt pocket. The new box was developed using the WITTE Werkzeuge module strategy. Various versions can be manufactured using only one “set-up”. The individual modules are assembled in such a way that the box can hold six 38-mm impact machine bits or



Three variants of the new COMBITBOX-6 (25-mm standard bits with quick-change holder, 38-mm impact machine bits, 50-mm standard machine bits) shown closed and open.

six 50-mm standard machine bits. The variants are supplemented by modules that can hold six 25-mm standard bits and one quick-change holder.

With the new COMBITBOX-6 module range, WITTE Werkzeuge not only en-

hances its product portfolio, but thanks to the individual configuration also offers the professional user a new storage system. The box was designed in such a way that it can be easily adapted to the colours, logos, and equipment of wholesalers. In the DIY sector, the suc-

cessful COMBITBOX-11 range has been supplemented by the COMBITBOX-6 including the quick-change holder.

Frank Rohlf





KIRCHHOFF
ECOTEC

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Reflecting and looking to the future

Since the end of last year, the financial sector of KIRCHHOFF Ecotec has been led by Tanja Tamara Dreilich, as CFO and Managing Director. Alongside Dr Johannes F. Kirchhoff, Patrick Hermanspann and Thomas Schmitz, she heads up the teams at FAUN and ZOELLER. Claudia Schae, Marketing Manager FAUN Group, interviewed the 46 year-old on behalf of K>MOBIL.

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Claudia Schae: Hello Mrs Dreilich, welcome to the KIRCHHOFF Ecotec team! You have now been CFO of Ecotec for seven months. How are you finding it in the refuse disposal vehicle and road sweeper industry? What has been your initial impression?

Tanja Dreilich: My professional roots were at Adam Opel AG and General Motors, where I worked as the Director of Finance in various roles in Europe and the USA. I cut my teeth at the International Technical Development Centre, where I developed a real affinity for technology and innovation. Whether the products are cars, light commercial vehicles, refuse collection vehicles or vehicle components doesn't make a big difference to me. It simply needs to be interesting in a technical sense—that's all. The automotive industry and I go hand in hand. As the CFO of KIRCHHOFF Ecotec I've found

an internationally established and well-run company, and feel very much at home here, as if I'm part of a big family, so to speak.

Just as in every competitive field, however, a successful company such as KIRCHHOFF Ecotec—with its companies and brands FAUN and ZOELLER—has to continue to critically assess itself. How, and in which areas do we want to develop further? Do we have the right strategy in a specific, relevant market? Is our productivity competitive? Is our wide variety of products associated with reasonable costs? Do our increasing costs have a healthy relationship with the development of results? Is profitability sustainable? Are we providing our customers with a good, all-round service? How high is customer satisfaction?

To maintain a successful company and to take it to new heights involves a continual process of improvement, and the willingness of all of the staff to drive it forward every day. We are no exception to this, and can't sit back, thinking about past achievements or the achievements of individual companies within our group. The market won't wait for us!

Claudia Schae: Are you enjoying it, and do you find there are differences to your previous industries?

Tanja Dreilich: The KIRCHHOFF Group and consequently KIRCHHOFF Ecotec as well, are characterised by a strong value culture, where the staff are a central source of innovation and productivity at the heart of entrepreneurial activity. I haven't come across such a positive attitude towards others and strong social responsibility in other industries and



Tanja Tamara Dreilich—CFO of KIRCHHOFF Ecotec

companies. The partners do a great deal for their team and their company. "We are a team" and "yes we can!" are not just platitudes. And yes, it's a lot of fun.

Claudia Schae: What do you have on the agenda, and what are you planning?

Tanja Dreilich: As the CFO, I'm always interested in increasing the transparency of the group, and standardising processes. So raising the transparency and efficiency of the company are my focus, so that the effectiveness of decisions can be guaranteed. At the beginning of the coming year we will be introducing a piece of software that combines finance and planning at KIRCHHOFF Ecotec, and then in a second stage, a unified ERP system. The optimisation of financing is also a topical subject, as are efficiency audits. We also have upside potential.

Claudia Schae: A glimpse into the future. How do you see Ecotec in 2020? At the KIRCHHOFF Ecotec strategic meeting in December 2014 we set ambitious goal posts for our company for 2020. This powerful vision can only come to fruition if we work together with the same objective, and if we all implement the individual projects with great drive. We will discuss further details of the company's vision in June 2015.

Tanja Dreilich: I hope that KIRCHHOFF Ecotec will play a leading role as a global provider of environmental vehicle technology. And for me as the CFO, sustainable profitability is increasingly becoming more important than absolute growth in revenues.

Claudia Schae: Thank you very much, Mrs Dreilich, for the open discussion.



Environmental protection and the use of sustainable technologies are topics close to their hearts: Crown Prince Frederik of Denmark (right) and Dr Johannes F. Kirchhoff (2.f.l.).

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Green Denmark

— Dr Johannes F. Kirchhoff meets the Danish Crown Prince and Princess, and is able to enthuse Frederik about the ECOPOWER products DUALPOWER and E-POWER.



The ROTOPRESS from our Danish customer Meldgaard uses E-POWER drive for waste disposal.

In May, Crown Prince Frederik and Crown Princess Mary of Denmark accompanied a top level Danish business delegation to Hamburg and Munich. Alongside Trade Minister Mogens Jensen, 75 companies also took part to develop deepening German-Danish trade relations under the umbrella term "Danish Living". Amongst other subjects, an exchange of ideas on the theme of "sustainable cities" was on the agenda for the two-day trip, with a focus on sustainable architecture, urban planning, medical technology and renewable energies. On the last point, Dr Johannes F. Kirchhoff had the opportunity to share his thoughts with our Danish partner Rasmus Banke (Banke Accessory Drives) and the Crown Prince. The conversation followed a presentation from Rasmus Banke about alternative drives and

the potential for air pollution control and fuel economy with the E-POWER and DUALPOWER. With E-POWER, the body and lifter have electric drive systems; and DUALPOWER is a fully electric-powered refuse collection vehicle that converts the braking energy of starting and stopping processes into a source of energy for the electric drive of the vehicle, body and lifter. The subsequent conversation concerned the use of this environmentally-friendly technology in refuse disposal logistics. In Denmark the use of electrically powered refuse collection vehicles is prescribed in the district authorities' tender. Frederik of Denmark welcomes this trend; he is co-founder of the PPP company "State of Green" and supports this movement very closely. "State of Green" is involved in the promotion and implementation of sus-

tainable technologies to improve the quality of the environment. The Crown Prince was therefore also very interested in KIRCHHOFF Ecotec "green" products, and Dr Johannes F. Kirchhoff took the opportunity to invite him to visit the IFAT in Munich next year. There, it would be possible to continue this exchange of ideas, and perhaps for sustainable drive concepts following the positive example of Denmark to spread to other cities.

Claudia Schae

The challenge of heterogeneity and dynamism

FAUN gained with Matthias Kohlmann an experienced Controller as head of the finance Division. Ina Westermann, Assistant to CFO, interviewed the new CFO on behalf of K>MOBIL.



Matthias Kohlmann—new CFO of the FAUN Group.

Ina Westermann: Congratulations Mr Kohlmann! Since 1st February, you have not only been the Head of the Controlling Group, but also CFO of the FAUN group. How does it feel?

Matthias Kohlmann: Thank you. For me, CFO is first and foremost a job title. I always approach my tasks in a pertinent way, often with a tendency towards rationalisation. Of course I'm also pleased about the confidence shown in me with the new position and the responsibilities that come with it.

Ina Westermann: Which particular challenges do you envisage in your new role?

Matthias Kohlmann: After 15 years of working in Controlling, the opportunity to now help to shape the future is very exciting for me. I see the greatest, most positive challenge in being able to contribute to the group's strategic focus at management level; no longer being simply a sparring partner. In doing this, it is always important to consider the material and socio-cultural characteristics of the country. This can also be very exciting! Structures have to be reviewed or reconfigured, and at the same time, a degree of freedom has to be allowed. An organisation should be designed to be as simple as possible

and as complex as necessary. The trick is to utilise our advantages as a group and at the same time not to be "over-organized".

Ina Westermann: Are there any large projects in the pipeline for this year in your sector?

Matthias Kohlmann: Yes, the first thing that springs to mind is the SAP FI/CO project within the framework of KIRCHHOFF Ecotec. The Financing and Controlling system should be introduced across the group next year. In this way, we will be able to all have the same valuable standards in common. In addition, we want to establish the collaboration between FAUN and ZOELLER more effectively with a joint "collaboration platform". We will continue to drive forward the personnel development process within the HR department. Targets will be agreed upon with staff, systematic personnel development meetings will be held, and a range of seminars offered. It is important to build and experience a culture of feedback amongst staff and managers within this process.

Ina Westermann: You talk about the subsidiaries FAUN and ZOELLER within the KIRCHHOFF Ecotec Group. What do you think are the advantag-

es and effects of the synergy in this combination?

Matthias Kohlmann: The greatest advantage has to be the exchanging of information. FAUN and ZOELLER have quite different working methods within the commercial sector. You can synchronise these approaches, and learn from one another. For example new standards can be created in reporting, or common system infrastructures can be established. In this way, our processes become increasingly effective.

Ina Westermann: The focus of your activities up until now has been on Controlling. Which features stand out in terms of Controlling at FAUN?

Matthias Kohlmann: Our complex business model. The task is to express the heterogeneity and dynamics of this model in figures. In this context I'm particularly proud of the fact that FAUN's Controlling concept is often requested and published by specialist publishers. I have also held diverse seminars, and worked for five years as a lecturer at the Bremen University of Applied Sciences, where I was also able to talk about our concept.

Ina Westermann: Is there anything that you are particularly hoping for in

the commercial sector of the FAUN Group for 2015 and the forthcoming years?

Matthias Kohlmann: My foremost hope would be for optimised results. Our performance should improve at an appropriate rate; moving in the right direction. I also hope that we foster increased interaction between our investments, so that we manage our tasks even better. But in doing this, the autonomy of all investments should also be retained.

Ina Westermann: Thank you for the interview, Mr Kohlmann. We wish you every success in the new position!

From the summer, the new design will roll out



— Proven principle with a new look. The ROTOPRESS is coming to our streets this summer, bearing a new design.

The new design of the classic was presented for the first time at the IFAT 2014. This summer, the new ROTOPRESS is coming to our streets. FAUN Services is accommodating four of these rotary drum vehicles in its rental fleet, so that customers can experience the new ROTOPRESS themselves.

After its trade fair debut last year, the vehicle's new, easy-care designer outfit underwent various stability tests and optimising processes and is now all set for collection rounds. The principles behind it, which have been proven for 88 years, have not changed. Minimum operating costs, a high payload and per-

fect axle load distribution in every load condition have ensured this classic has had its loyal fans for decades now, not only for organic and domestic waste, but also for paper and light cardboard. The ROTOPRESS is equipped with the FAUN Control System (FCS) just like all FAUN vehicles, and it can be fitted



with options such as fraction-optimised compaction (FOC). The driver can use this for fine adjustment of the compaction performance to the type of waste to be removed at the touch of a button and so set it for optimum payload and the required conservation of recyclable materials for treatment.

For more information on the new ROTOPRESS:
Telephone: +49 4795 955-133

Claudia Schae

Refuse disposal journeys get better and better

— The popular VARIOPRESS and the larger version POWERPRESS have always been among the top sellers at FAUN. With the new containers for these rear loaders, the success story continues.



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The new VARIOPRESS is very popular with customers.

The bread and butter product has grown even further in popularity at the refuse disposal company with the introduction of the new body container. With the elegant, lighter container, the rear loaders offer an even larger payload, a better performance overall and more satisfied users as well, thanks to the many clever options.

The GEG Grabau opted for 24 new VARIOPRESS and POWERPRESS models. The company GEG Grabau from Geesthacht in Northern Germany, is a privately owned family business that has many years of experience in the field of collecting and transporting non-hazardous municipal refuse. GEG Grabau disposes of residual and bio-waste on behalf of AWSH (Abfallwirtschaft

Südholstein) in the districts of Stormarn and Lauenburg, Schleswig Holstein.

Grabau drives FAUN vehicles, and has ordered:

- 23 of the VARIOPRESS 524 with ZOELLER Delta inclusive of Ident System (3 of these are vehicles with a lifter with scales)
- 1 POWERPRESS 525 with the ZOELLER 356 emptying lifter for industrial removal.
- All 24 vehicles are mounted on the IVECO Stralis Euro 6.

"We chose the company FAUN due to its excellent, long-standing experience with this technology, as well as the price-performance ratio and the high quality of the vehicle bodies." Jürgen Grabau, CEO of GEG Grabau Entsorgung GmbH."

Due to our very good experiences with this vehicle combination, this year two more of the older vehicles will be replaced by a new VARIOPRESS 524 with a ZOELLER Delta lifter and a POWERPRESS with ZOELLER Lifter 356. We wish everyone happy refuse disposal trips.

Claudia Schaeue



Part of the GEG Grabau vehicle fleet.



The advantages of the new body in short:

Light

- Reduction in weight with simultaneous volume optimisation
- Smooth interior tank surfaces; maximised cross-section for optimal waste compacting

Durable

- High quality materials and perfect workmanship
- Ejection plate with rubber seal between it and the body walls (series)
- Control buttons for opening and closing rear section directly integrated into the container without additional attachment
- Reduced corrosion due to rounded edges and predominantly closed profiles

- Maintenance flap with galvanised connecting frame to prevent corrosion
- Use of extremely precise rollforming profile in the four corners of the container, as well as for the guide rails
- Side walls and floor 4 mm (series)

Clean

- Easy to keep clean as dirt traps avoided
- Dirty water does not run down side walls from roof, due to controlled water channelling

Elegant

- Clear-cut, modern design
- Optimally suited for displaying advertising



Taking care of safety for take-off and landing: the TERRAJET.

At home at airports across the globe

— In recent years, the runway sweeping machine, the TERRAJET, has become a popular product at airports all over the world. High sweeping performance, versatility, reliability and low service costs are the most important benefits for technical airport services.



The cleaning of take-off and landing runways at airports is not just a matter of preference, and not an unnecessary luxury. Bits of tyres, various small metal pieces or similar objects that could fall onto the landing path when a plane touches down could get sucked into the jet engines of planes that are starting up, and therefore cause considerable damage. In order to avoid such hazardous damage, both civilian and military airports' technical services are equipped with runway sweeper machines. Unlike in the case of road sweepers, these special sweeper machines often only have a very brief time window between planes taking off and landing in which to eliminate any rubble and dirt. The large surfaces must therefore be cleaned at a sweeping speed of up to 40 km/h.

The FAUN runway sweeper machine is known under the name TERRAJET, and is manufactured in two different sizes by FAUN Viatic in Grimma. The smaller TERRAJET 7 has a dirt container with a system volume of 7.0 m³ and two freshwater tanks with a total volume of 1,200 litres. The TERRAJET 7 is primarily used at smaller local and national airports as well as at military airports. Its big sister, the TERRAJET 9 was designed for the use at major international airports and provides a system volume of 9.0 m³ and can hold a volume of 2,000 litres of freshwater. Both machines have turned into real hits in terms of export, and with their

reliability, versatility and considerably lower service costs, score higher than comparable products by competitors. In particular for the removal of deicing fluids or for "stand cleaning"—cleaning the spaces where the aircraft stand, the TERRAJET 9 is combined with the AQUATHERM system, whereby the standard sweeping system has been slightly modified for the uptake of this fluid. Time is precious at airports, therefore the transformation of the TERRAJET into a fluid vacuum takes place via the touch of a button, and requires no additional conversion of the machine.

Every airport service fleet should have a TERRAJET, as the use of a TERRAJET increases flight safety, can prevent accidents in aircraft traffic, and helps airlines to save time and money on unscheduled maintenance on their engines.

Mario Ringl

Our drive leads to your success

— The new, re-designed hydrostatic drive HS 1010 in the types VIAJET 5, 6 & 7 provides more efficiency and performance.



With the new hydrostatic travel drive HS 1010, the VIAJET 6 is even more powerful in terms of performance.

The HS 1000 has done its duty in FAUN sweeper machines in the VIAJET 5, 6 and 7 series for many years. A hydrostatic drive for the mid-range, with vehicles up to 300 hp. Usually a pleasant and easy-going comrade, the HS 1000 did occasionally treat itself to an extra gulp or two of fuel, and wasn't an especially great hill-climber. The HS 1000 has been replaced by the HS 1010.

With the knowledge of the little vulnerabilities of the HS 1000, the engineers from Grimma set to work developing a new generation of hydrostatic drives, in collaboration with leading component manufacturers. In a year and half, a new, higher performance hydrostatic drive was designed, manufactured, tested and is now available to customers under the model name HS 1010. The fully automatic, adjustable hydraulic

pump and the hydraulic motor correspond perfectly to their working conditions. If a lot of power is required, because a fully loaded sweeper has to tackle a 20% incline, the pump and the motor are optimally driven, so that the maximum torque is available. If the machine is comfortably sweeping level ground or drives at up to 30 km/h, the drive is automatically reduced, therefore saving a large amount of fuel.

Through the new "high current" control of hydraulic components, the safety of the control system is increased and it becomes completely impossible for foreign radio or microwaves to influence the control. In addition to increased efficiency and safety, good after-sales service was also important to the Grimma engineers. So for the control of the new HS 1010, the same control

units are used as those employed in the "H" model, as well as in the HS 2000 and HS 3000. Therefore in terms of servicing, no new testing software is required, and the training for technicians is very brief and easy. A standard auxiliary drive on the HS 1010 enables the direct flange-mounting of additional hydraulic pumps, via which the sweeper as well as various high-pressure water pumps can be driven. Because of this, no additional auxiliary drives are usually required on the chassis.

Mario Ringl



Providing a comprehensive service, together with the Customer Centre teams.

Service is key

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Restructuring the After Sales department under the leadership of Burkard Oppmann.

Follow-up care is also preventative care. In short, this is how you could sum up the After Sales department. After-sales topics such as supplying replacement parts, customer service and training are becoming increasingly important. For an after-sales service that is coordinated and demand-oriented not only meets customer requirements, but also demonstrates an understanding of your customers. FAUN has always placed a very high significance on these concepts, and this department is therefore continually being optimised. In 2015, two new customer centres will be opened in Germany. In Berlin, and from the autumn, also in Stuttgart, the FAUN and ZOELLER service providers will be at the disposal of customers. In addition to this, in the summer the team will recruit for the new service packages, and there have also been other personnel changes.

From July 2015, **Alexander Breyer** will therefore take on the management of the customer centre in Germany and its operative daily business. Breyer will take over from Christian Bremer here, who after nine years will be leaving the Group. Alexander Breyer has been working for FAUN since 2008 and gained his know-how in Sales and at FAUN Services.

Contact:
AlexanderBreyer@FAUN.com

Peter Knüfermann will be taking on management of Technical Dealer Support, After Sales Support and the Training department with immediate effect. Peter Knüfermann is no stranger to the industry, and has 20 years of experience under his belt in the complex field of After Sales Service.

Contact:
PeterKnuefermann@FAUN.com

Jan Tapking will be the new Head of the Spare Service. The 26 year-old began his training at FAUN in 2007, and has been working in this department for the last 3 years. He is set to finish his degree in "Business Administration" next year.

Contact:
JanTapking@FAUN.com

Claudia Schaeue

The magnificent 13

Thirteen sales representatives look after the interests of our customers in Germany.



Active for FAUN, the Germany Sales Team
(Markus Engbert is unfortunately absent)

Hybridtechnology, telematics applications or the latest hydrostat technology. With the growing demand for refuse collection vehicles and sweeper machines the number of tasks facing our sales representatives is also increasing. In order to give our customers the best possible service, the staff must be able to answer all of the questions in

the field. Due to the need for specialisations, and also the fact that a number of colleagues have gone into retirement, Burkard Oppmann, the Sales Manager for Germany, has recruited a newly formed team.

Claudia Schae



Our German Sales team now comprises thirteen sales representatives; these are our men at the front:

North Germany

Michael Steenken

(Refuse collection vehicles & sweepers machines)
Mobile: +49 162 1047235

North and east Germany

Uwe Bußmann

(Refuse collection vehicles & sweepers machines)
Mobile: +49 173 5957385

Mid and east Germany

Julian Neuhaus

(Refuse collection vehicles & sweepers machines)
Mobile: +49 172 7122430

Mid Germany and north Bavaria

Daniel Vick

(Refuse collection vehicles)
Mobile: +49 152 22658404

Jörg Tengler

(Sweepers machines)
Mobile: +49 172 8111318

Bavaria

Markus Engbert

(Refuse collection vehicles & sweepers machines)
Mobile: +49 172 8111314

North Rhine-Westphalia

Bernd Wenzel

(Refuse collection vehicles)
Mobile: +49 172 8111323

Thomas Maser

(Refuse collection vehicles and Key Accounts)
Mobile: +49 172 4141891

Stephan Wolters

(Sweepers machines)
Mobile: +49 172 8111319

Rhineland-Palatinate and the Saarland

Alfred Schießler

(Refuse collection vehicles & sweepers machines)
Mobile: +49 172 8111322

Baden Württemberg

Edgar Baumgartner

(Refuse collection vehicles & sweepers machines)
Mobile: +49 172 4568736

Project Management One-man Systems

Lutz Tesmer

Mobile: +49 152 22570192

Key Accounts

Alexander Breyer

Mobile: +49 162 4231696



The SIDEPRESS

In good hands

— The rental fleet at FAUN Services GmbH now consists of 200 vehicles and will be welcoming four ROTOPRESS vehicles with the new design into the fold from the summer.



"Due to the fact that contractual periods in the industry are becoming increasingly shorter, rental vehicles are becoming ever more interesting to our customers." For Burkard Oppmann, Managing Director of FAUN Services GmbH, this is just one possible reason for the success of this sector of the company. The 5-strong team is now managing 200 rental vehicles, of which 10% are sweeper machines.

Another plus for the business model is that FAUN Services always offers the latest vehicle technology. For example in 2012, the rental fleet was upgraded with the new V19-body on the VARIOPRESS and POWERPRESS. 90% of the rear loaders now have the new body, and this has been very well received by customers. The latest highlight is that from the summer four new ROTOPRESS vehicles with the new trendy design will also belong to the rental fleet, and await your orders. In the twelve years since this branch of the business was established, it has grown steadily and now operates increasingly across Europe.

Claudia Schae

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The staff at FAUN Services—you're in good hands with this team: Juliane Orgel, Dennis Brandt, Burkard Oppmann, Ronald Sonnenburg and Ronny Kleie (l to r)



FAUN Services GmbH is your point of call for:

- the purchase and sale of used vehicles worldwide
- vehicle financing and leasing on fair terms
- the short-term and long-term rental of readily-available refuse disposal vehicles.

Further information can be found at www.FAUN.com or by calling +49 4795 955-133.

FAUN TRACKWAY USA take MGMS-BD LITE to Pennsylvania

Team TRACKWAY USA has showcased its Medium Ground Mobility System—Beam Dispenser LITE (MGMS-BD LITE), to oil and gas executives.



Medium Ground Mobility System-Beam Dispenser LITE in action

The demonstration of the unit was conducted in late 2014 at the Pennsylvania College of Technology's Operations Training Site, in Montgomery, in front of a selection of leading oil and gas firms. Some of North America's most prominent companies were in attendance, such as Anadarko and Glenn O. Hawbaker—one of the leading service providers of equipment and drilling to the US shale extraction industry.

The MGMS-BD LITE has been manufactured to facilitate the rapid deployment and recovery of TRACKWAY-aluminium

panels which are capable withstanding loads of up to 30 tonnes, to help vehicles traverse difficult terrain. It was first developed in 2012 following extensive consultations with the Danish armed forces, and produced specifically to its requirements.

The system can be fitted to a wide range of front-end loader vehicles to facilitate the rapid deployment and collection of MLC 30 TRACKWAY. Minimal manpower is needed—only two trained individuals are required to deploy and recover the TRACKWAY.

As we are conscious of how our products affect the physical environment in which they operate, our TRACKWAY protects surrounding areas from damage by moving vehicles.

America's oil and gas procurement decision-makers were impressed with the MGMS BD-LITE technology. Thus we were invited back to participate in a second demo. Make sure to visit faun-trackway.com for a full report from the event.

Rachel Roberts

Milestones

— The TRACKWAY team have handed over the last unit of a sixteen unit order to the Danish Armed Forces and completed an important milestone.



L—R: Major Lars Andressen, Major Lars Schmidt, Chris Kendall, Colonel Christian Arildsen

The FAUN TRACKWAY team have successfully completed and delivered the final units of a sixteen unit order to the Danish Armed Forces in less than twelve months. The process started in November 2012, with product demonstrations at Skive Barracks, before the tender became available in June 2013. We received the order in February 2014 and, under a year, all sixteen units have been delivered.

Four MGMS-BD LITEs were developed specifically for the Danish Army Engineers. They required an adaptable product that would be compatible with the class 30 TRACKWAY the force already held in its inventory. Our MGMS-BD LITE is designed to assist vehicles traversing difficult terrain, and

is particularly suitable for beach landings, or for operations in remote areas. As part of the order, the Danish Defence Acquisition and Logistics Organisation (DALO) also ordered the HGMS, comprising of nine TRACKRACKs and three SPOOLRACKs. This meant our Anglesey site was commissioned to manufacture our TRACKRACK for the 100th time and SPOOLRACK for the 50th, marking very important milestones in our 60 year history.

Royal Engineers from the British Armed Forces were deployed to Denmark for four weeks to train 30 members of the Danish Army on the systems. The training operator and maintainer courses featured computer-based training at the start of the course, followed by

practical lessons and assessments. Chris Kendall, Managing Director at FAUN TRACKWAY said: "The timeline of the delivery is something that I am personally proud of—the quick turnaround is a huge achievement for the FAUN team to be able to boast. "In addition, the landmark 100th and 50th productions of our units showcase how invaluable the resource is to armed forces in Denmark and around the world in ensuring the efficient and safe access to a variety of environments. Reaching such a symbolic milestone in production is fantastic and a stepping stone to the delivery of many more."

Rachel Roberts



FAUN apprentices Michel Klimmek and Colin Vajen (3. and 4. from the left) have welcomed the visitors.

Today's apprentices are tomorrow's mechanics

FAUN ZOELLER UK invests in apprentices programs and supports APSE since seven years.

Over the last seven years, FAUN ZOELLER has been the proud sponsor of an APSE (Association of Public Service & Excellence) Apprentice Award. "We rely heavily on the next generation", said Simon Hyde (Managing Director of FAUN ZOELLER UK), "these awards demonstrate our commitment to the HGV and specialist mechanics of tomorrow, currently in the UK we have over 1,500 vehicles on the road and by 2020 we expect that figure to have outnumbered by 2,100."

The awards are open to all local authorities throughout the UK and FAUN ZOELLER sponsor the category for Transport & Vehicle Maintenance. Clearly an integral part of our business is the repair and maintenance of the vehicles. Once an application is made the Apprentice

must submit a portfolio of their qualifications and achievements, which are then scored on their merits, along with a face to face interview with the APSE judging panel.

As further reward for their success the finalists, along with an APSE Representative, were invited by Simon Hyde, CEO of FAUN ZOELLER, to visit the main production facility in Osterholz-Scharmbeck, Germany earlier this year. This was an opportunity not only for the winner and finalists to see the wide variety of products manufactured at the facility but also to understand the advanced production processes employed which FAUN ZOELLER that have enabled them to retain their position as Europe's number one refuse specialist equipment manufacturer.

Hence, on a cold day in Manchester earlier this year, Simon Hyde and his wife Laura, Ben Lord (UK Sales representative), Leon Unczar (APSE representative) and the 4 APSE apprentices; Ben Conman, Kayleigh Fisher, Adam Gibbons and Scott McMaster set off for Bremen.

Arriving in Bremen with snow and freezing temperatures, that made Manchester feel tropical, the group spent the first afternoon acclimatising to the weather and relaxing at the hotel. Later that evening the group were to be found warming up in a typical German restaurant enjoying the food, drink and atmosphere.

The second day started with a guided tour of Bremen. Bremen's history



The first day in Bremen—A warm welcome by the team but the weather was cold.

stretches back 1,200 years. You can still see traces of yester year around the city today, most notably with the UNESCO World Heritage town hall and Roland statue. Legacies of the city's trading past inand around the market square include the Hanseatic Cross and the Schütting, the seat of the chamber of commerce.

After lunch the group were transferred to the FAUN production facility at Osterholz-Scharmbeck, the visit started with a full company and product presentation given by 2 of the 30 Group FAUN Apprentices based in Germany, followed by a tour of the vast facility and finally the apprentices were encouraged to ask questions and discuss the information provided in order to gain a thorough understanding of the group's processes and group products as a whole.

The final day was spent at the local go karting track and that was where Simons competitive spirit got the better of him, racing round the track, in the style of the great Michael Schumacher, he managed to beat all of the apprentices ... or did they let him win?!!

"It was an amazing experience" said Scott McMaster, who works for Glasgow City Council and is based at Polmadie in Scotland, "I can't thank Simon, Laura and Ben enough for the kindness they showed to us all during the trip, it was a great few days in Germany and I have also learned a great deal."

Commenting on the trip Ben Lord said "It's always great to have the opportunity to demonstrate the scale of our business and the quality manufacturing processes we employ at our factories to produce best sellers like the ROTOPRESS & VARIOPRESS which are just two of the products that have become the main stay of our UK Business and Operations. It is especially good to demonstrate this to a group of up and coming enthusiastic young professionals and I am confident they will all gain a great deal of knowledge which will further add to their development to the next stage in their careers."

We are also very pleased to say that FAUN ZOELLER UK are also investing in young talent at our service contracts across the UK. I am delighted to welcome Jamie Stokes (Ashford depot), John Garland (Bath depot), Jamie Wren

(Swale) and Matthew Cooper (Culham) to the company. One of our existing apprentices, Alex Harmer (Swale) has also joined the new apprentice scheme although he will be a year ahead of the new recruits.

The apprentices will be working at the various locations with the existing team and in conjunction with Stephenson College in Leicestershire. A detailed, tailored scheme and training course has been created jointly with the college and our management team to ensure that the disciplines studied are specifically suited to the types of equipment that we manufacture and maintain in the environmental sector. The apprentices will also receive training at our manufacturing facilities across Europe and will see our entire range of products during the design and manufacturing process which I am sure that you will agree will be a great opportunity for them and also a benefit to our company as today's apprentices will be tomorrow's FAUN ZOELLER mechanics.

Simon Hyde

The first half of the year at FAUN in pictures



1. In March, 74 employees from FAUN and ZOELLER took part in the 16th ski trip, to the Gasteiner Valley. In addition to the magic of the slopes and apres-ski, meeting people and having fun were top priorities **2.** The winners of the 7th Ski Olympiad this year were the German-German-Swiss team led by Dr Johannes F. Kirchhoff, Claudia Schaeue and Christof Huber. With 69 points they prevailed against 74 competitors; amongst others, against the Kirchhoff brothers Wolfgang Kirchhoff (left) and Arndt G. Kirchhoff (4th from l.). **3.** In April, Mr. Hu Pengfei (2nd from r.) from Haipeng Special Purpose Vehicles paid us a visit. He was met by Dr Johannes F. Kirchhoff (centre) and FAUN CEO Patrick Hermanspann (3rd from r.). The trip also took the guests to KIRCHHOFF Mobility in Bad Zwischenahn and Hilden. **4.** This year's Annual General Meeting of the VAK (Verband der Arbeitsgeräte und Kommunalfahrzeug-Industrie e.V.) took participants to Bremen and into the FAUN plant in Lower Saxony. **5.** Drum roll please! FAUN dealer Ove Kock presents a ROTOPRESS 518 with ONESTOP washing device and ZOELLER Delta lifter 2301, as well as WIGA lifter-scales device, to the Danish customer HCS. We wish everyone happy refuse disposal trips. **6.** The entire management team of FAUN Environmental Technology met for a specially developed business game, and experienced the production process of refuse collection vehicles from different positions to those they are used to. Heads of Department found themselves in Assembly, Painting and Steel Construction and had to cope with timing, missing parts or inadequate production plans. Communicative approaches, understanding and thought processes should be transferred from the game into everyday processes. **7.** At this year's "future day", 24 children gained an insight into their parents' working lives at FAUN.





Goodbye paper economy

— Lübeck refuge disposal operator adopts new ZOELLER paper collector

When investing in an additional paper collecting system, the Lübeck refuge disposal operator utilised their varied experiences in the configuration of the new vehicle. The desired range of application of the paper collector comprises the outskirts of the Hanseatic city, which extends over an area of 214 km² in total. The Medium XL, from the supplier ZOELLER, in Mainz, is equipped with a low-entry cab, so that the driver can get in and out of the vehicle safe-

ly and swiftly on the right hand side during the collection tour. Due to the positively steered trailing axle, the vehicle remains manoeuvrable.

Thanks to radio control, the driver can always position himself where he has the best view of what is happening when a depot container is being emptied. A 4-fold outrigger ensures that a safe position is provided while the vehicle is in operation. Since most depot

containers can be positioned up to 8 meters away from the vehicle, the appropriate crane capacity is provided. Additional working lights provide increased safety at work during the dark winter months.

The inspection window on the reception hopper allows the user to monitor the loading process and assists in the early detection of stoppages, due to wet materials being clumped or stuck



Above: Without any modification, the loading crane can also pick up and empty old depot containers, using a two-ring system. **Below left:** The slider for manual insertion is driven pneumatically. **Below right:** Inspection window on the reception hopper enables the user to monitor the correct loading process, and assists the early recognition of stoppages.

together for example. A pneumatically controlled slider on the reception hopper enables the convenient manual insertion of collected materials where necessary.

until the end of their life cycle. This is important because the Lübeck refuse disposal operator still has plenty of these in operation.

Sven Walter

The loading crane on the paper collector is designed to empty both old depot containers using the 2-ring system and new containers that use the flip system. This is more cost-effective, because the old containers can continue to be used



Undisturbed holiday tranquillity

— First plug-in hybrid for Austria from STUMMER Ges.m.b.H., Bischofshofen—quiet and environmentally-friendly operation in the holiday regions of Pongau and Pinzgau.



Left: The 43 kW/h battery, which enables significantly quieter refuse collection, is hidden behind the driver's cab. **Right:** Salzburg's Regional Councillor for Transport, Hans Mayr (r.), is convinced of the benefits of hybrid technology after a working visit to STUMMER. This is music to the ears of "hybrid pioneers" Anna (2nd from r.) and Georg Hettegger (l.), as well as the Streif husband-and-wife team.

The Hettegger transport company from Schwarzach/St. Veit has begun to use the first plug-in hybrid refuse condenser structure in Austria, by STUMMER, and with this has reached a new milestone in the history of the traditional firm, which was founded in 1946. Company founder Sepp Hettegger was a pioneer in terms of waste collection and forged new paths early on. Now the third generation is taking up the reins in the form of Anna and Georg Hettegger, who again are playing a pioneering role: With the new refuses vehicle, the CO₂ emissions are decreased by 25%, and

noise emissions by an impressive 75% in comparison to conventional vehicles, according to the STUMMER Managing Director Johann Streif. The Li/Fe battery pack (43 kW/h capacity), which is situated behind the driver's cab, is able to power an 8-hour collection tour, or two complete loads.

And the acquisition costs, which are 25% higher? "As a waste management company we have an obligation and responsibility to protect our resources and to use them sparingly," says Anna Hettegger putting this into perspective.

The Salzburg Regional Councillor for Transport, Hans Mayr, was impressed by the pioneering technology (see picture). ORF (an Austrian TV station) even carried out their own sound measurements in a televised report, with the result that the "battery-refuse collectors" generate 60 decibels instead of the usual 80 decibels. Holiday makers at Pongau and Pinzgau will be grateful for this in the future ...

Johann Streif

Equipped for the future

— New horizontal milling centre for the ZOELLER Systems plant in Říčany, Czech Republic.



Ing. Lubomir Javurek (r.), Head of Production at ZOELLER Systems, at the official presentation by David Jakubik (l.), Sales Manager TOS, and Dipl.-Ing. Pavel Pirozek, Head of Services TOS.

From now on at ZOELLER Systems, a processing centre will be provided, where the particular stamping plants required for refuse collection vehicles and their components can be optimally mechanically processed. These processing stages contribute significantly to the quality of these vital components. It is not only precision, but also handling

and processing speeds that now generate decisive advantages in this product segment. Components for lifters, especially in the field of large U5 containers, can also now be processed much more quickly and efficiently using multiple set-ups. "We are now equipped for the future," these were engineer and Head of Production at ZOELLER Systems,

Lubomir Javurek's opening words at the official presentation by the manufacturing company TOS Varnsdorf. "The cost centre bottleneck Horizontka, which has been apparent for months, has absolutely been compensated for here," continued Javurek. Here, he is referring to the drilling machine of the same manufacturer, which has been in operation at ZOELLER Systems for more than 20 years. Mainly used in a 3-shift operation, this machine has impressed with its stability and amount of uptime. The service from TOS Varnsdorf, which is ever-present, has also been instrumental in realising the much needed new investment with this manufacturer.

Essential factors in the decision to opt for this product and manufacturer were not only their decades of excellent experience, but also the opportunity to configure a machine that is tailored to the technical production requirements of ZOELLER Systems. All of the milling and drilling operations required at ZOELLER Systems can be performed.

The product name TOStec Optima represents a highly flexible machine tool with five fully controlled axes and a 2-axe, and a milling head that is automatically adjustable to two levels, with



A look inside the new horizontal milling centre.

positioning increments of 2.5 degrees in both divisional planes. This can process both horizontal and vertical milling and drilling operations, even where there are demanding contours in complex components.

Due to the diverse applications of the machine and the broad spectrum of components to be produced, it was necessary to agree upon a three-month introductory/trial operation with the manufacturer. During this time, the aim was to train staff in a 2-shift operation to use the machines, and for them to learn the special programming required under the conditions of series production. This meant that the optimum processes could be defined and implemented for all important components. The projected time frames for this were all realised; the knowledge transfer is complete, and the staff are well trained. This means that the foundations are in place for successful operation.

Karl-Heinz Wider



Technical basic data horizontal milling centre

Spindle headstock adjustment (Y)
1,600 mm
Horizontal adjustment of rotary table (X)
4,000 mm
Rotary table range of operation (B)
360°/3,000 mm
Longitudinal adjustment of stands (Z)
2,000 mm

Automatic pallet changeover system:
2 pallets 1,600x2,000

Automatic tool changeover system:
120 tool storage spaces

System control:
Heidenhain

Motor:
Siemens

We wish you a great
summer season!

