

# trailer world

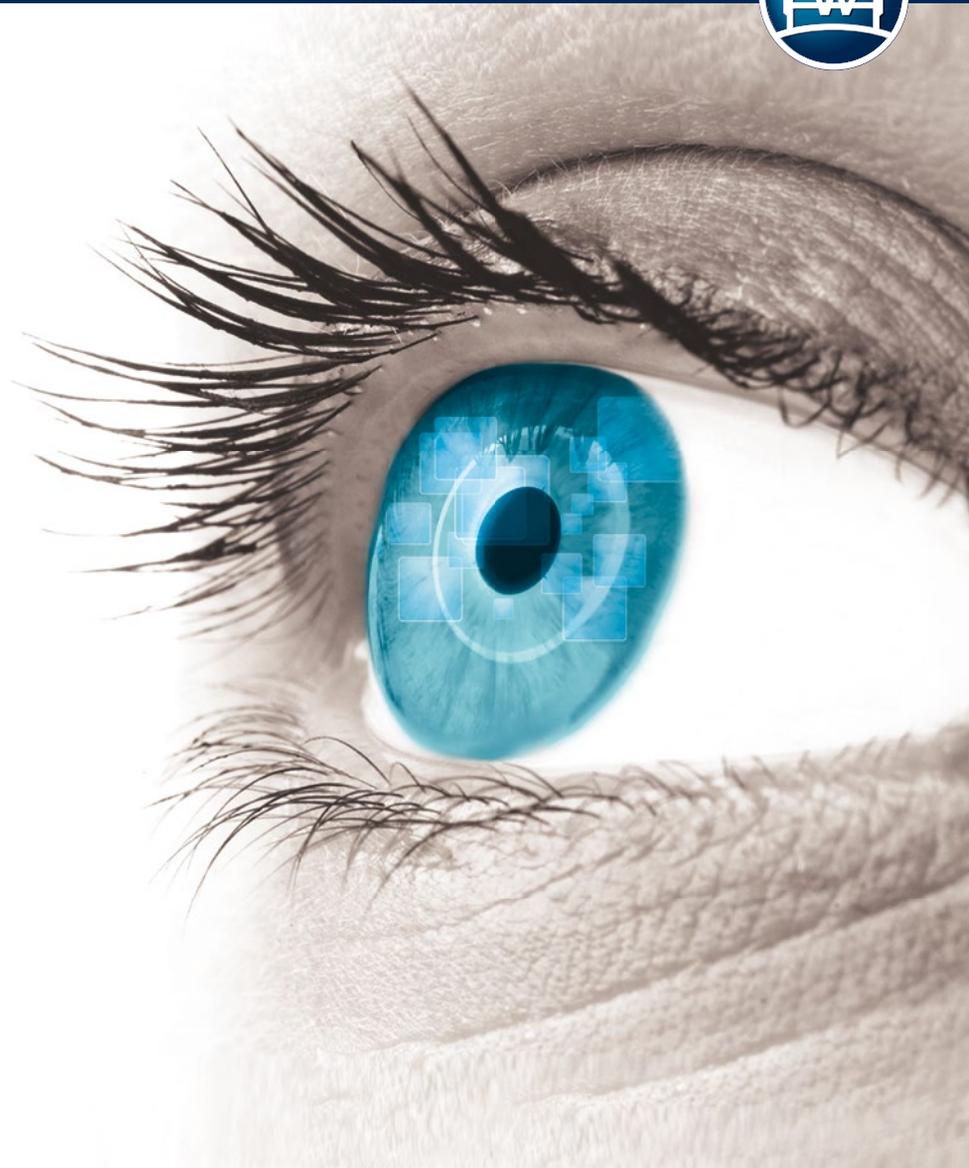
BPW's Customer Magazine

Issue Two 2015



## Digital revolution

Smart new world





»The **digital revolution** opens up new worlds.«



Carlo Lazzarini, Member of the Executive Board email: lazzarinic@bpw.de

Many different innovations have grown into a digital revolution that not only characterises, but also increasingly determines and rapidly changes how we live our lives and how we do business. What sounded like science fiction not too long ago has now become an everyday reality – and will be a thing of the past tomorrow.

This issue of trailer world takes a trip through the smart new world and explores its challenges and opportunities. Whether Logistics 4.0 with efficient management of entire supply chains, the great potential of 3D print in component manufacture, or Smart Factory with digitalised production in seamless interaction of man and machine: the digital revolution opens up new worlds for forward-looking companies and offers them the chance of an optimal market position by creating innovative solutions.

In this environment of constant change, BPW will be your reliable partner combining the visionary look forward with

know-how based on 115 years of experience in the business. We help vehicle manufacturers and operators alike to successfully face the challenges of today and tomorrow. This entails the creation of an even more customer-oriented service with manufacturer-independent maintenance contracts specially designed for haulage companies. Our Partner Service Package offers an all-inclusive service from one source for all who like to have a skilled international mobility partner at their side to ensure safe and trouble-free haulage.

See the following pages for thrilling, inspiring, and thoughtful stories, as well as new ideas. One thing remains: I wish you, as always, an enjoyable read!

Carlo Lazzarini

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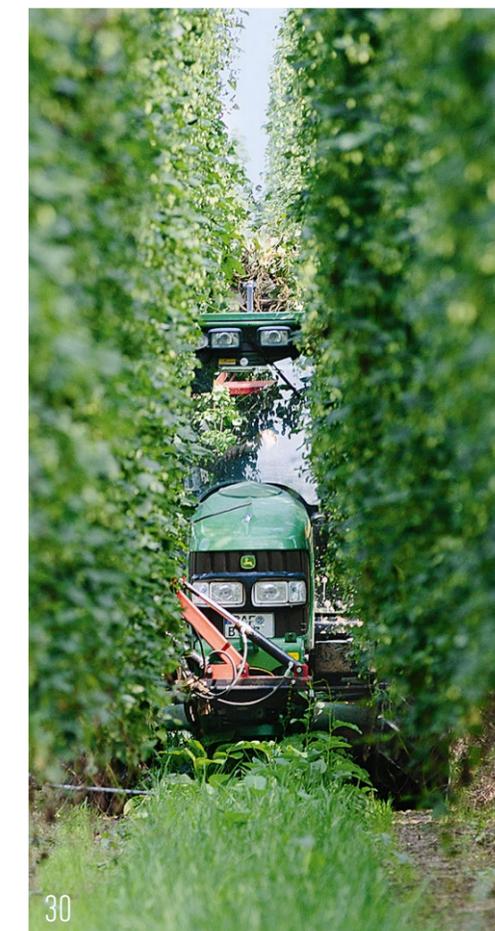
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Video



Link



Photos: Fraunhofer-Institut IML, Rhenus Lub, Magali Stora, Martin Holzner  
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## Perfect link

The robot as the extended human arm: KUKA, based in Augsburg, followed through with this idea when it created its industrial robot LBR iiwa and established a new era of human-robot collaboration. LBR is German for lightweight design robot; iiwa stands for intelligent industrial work assistant. All of LBR iiwa's seven axles have sensitive joint torque sensors equipped, which the robot can turn for precise positioning. Thanks to the technology, the robot can learn from its human colleagues as part of the Smart Factory. It can execute sensitive and complex assembly tasks, for example, in automotive manufacturing, and it is more precise than the human arm – and it doesn't tire out. Connected to the cloud, the LBR iiwa can additionally check, optimise, and document results on its own. The feedback that the robot returns to the data network provides a maximum of accountability within production.



## TOP JOB award for Best Employer

BPW is one of the best employers among Germany's mid-sized companies and has been awarded the well-recognised TOP JOB quality seal. It was the first year that the company participated in the comparison of employers conducted by the Institute for Leadership and Human Resource Management of the University of St Gallen.

Three factors are essential for receiving a seal: staff's satisfaction with the work environment, identification of staff with the company and its products, as well as quality of leadership. BPW employees especially appreciate the company's efforts in culture and communications, career development and outlook, as well as in instilling motivation and providing room for growth and change.

BPW wants to use the results of the employee survey as a basis for further considerations and measures to again increase the attractiveness of BPW as an employer.

The TOB JOB company comparison conducted since 2002 has



Wolfgang Clement, former German Economy Minister, presented the award to Barbara Höfel (left) and Sabine Pflichtenhöfer from BPW.

had 98 mid-sized companies participating in 2015 – 82 of them now have their quality seal. Around half of the winners are family-owned companies and 25 are national market leaders. On average, the applying businesses had 363 staff.

## EU promotes German infrastructure

According to the Commissioner for Transport, Violeta Bulc, the European Union has paved the way for its up to now 'largest investment plan ever': Brussels will provide a total of EUR 13.1 billion by 2020 from funds of the Connecting Europe Facility (CEF). With EUR 1.77 billion, Germany will receive more than 13 per cent of the budget. The first CEF funds allocated by the EU commission underline the country's central location in Europe: six of the nine transport corridors of Europe's core road network go through Germany. But the commission also acknowledges the 'well-prepared German applications' for projects as being of 'high quality and to the added benefit of Europe'. This includes the removal of bottlenecks on corridors, routes crossing national borders, as well as projects for renewable energy supply.



# 73.1%

of the goods delivered across Germany in 2014 were transported on the road by trucks. Whereas trains and ships had to deal with losses, road haulage is growing.

Source: Annual Report 2014 of the Bundesamt für Güterverkehr (BAG)

## BPW again Best Brand in 2015



For the ninth time in a row, BPW has been chosen as the Best Brand in the category Trailer Axles. The award was presented by the ETM publishing house, which each year asks the readers of its industry magazines trans aktuell, Fernfahrer and lastauto omnibus to choose their favourites among commercial vehicles and brands. It puts the spotlight on



BPW sees the award as 'confirmation and motivation alike'. The photo shows Werner Bicker, publisher and lead editor of the ETM publishing house and Anne Bentfeld, Head of Corporate Communications at BPW, during the award ceremony in Stuttgart.

the haulage industry's component manufacturers, accessory producers, and service companies. Overall, 8430 readers selected the best vehicles and brands across 23 categories.

'To ensure that we keep our high commitment to quality and our consequently customer-oriented approach, it is important to us to see regularly how we fare against our best competitors. The Best Brand award is a great means of doing just that,' explains Anne Bentfeld, Head of Corporate Communications at BPW. She accepted the award during the ceremony on 11 June 2015 in Stuttgart on behalf of the entire staff.

Repeatedly being recognised as the Best Brand and keeping the trust of customers are confirmation and motivation alike – and a sign 'that the BPW Group is going in the right direction as an international mobility partner for vehicle operators and as a system partner for vehicle manufacturers. As a partner for all things haulage, BPW's companies will continue to be committed to fulfilling customer wishes for safe and efficient transport and loading by offering innovative products and services.'

## Transparent truck



When car drivers want to pass a truck, the limited view can make this a risky manoeuvre. The solution: the transparent truck by Samsung. Across four screens at the truck's back, drivers can see what happens in front of it. A wireless camera shows the front at all times; even at night, visibility is said to be good.

So far, the so-called Safety Truck has been tested as a prototype only. Now, it is being determined how the system could be incorporated globally – if hauliers are willing to purchase the safety feature.

### DATES

24 – 27 September

**NUFAM**  
D-Karlsruhe

6 – 7 October

**Zukunftskongress Nutzfahrzeuge**  
D-Berlin

8 – 14 November

**Agritechnica**  
D-Hanover

11 – 12 November

**IT-Anwendertage**  
D-Berlin



## BPW restructures sales in Germany



To better serve customers from the transport and logistics industry as an international mobility and as a system partner, BPW has restructured its national sales network. 'Right now, we are even more committed within the BPW Group to fulfilling the requirements of our customers, vehicle operators and vehicle manufacturers,' says Martin Strallhofer, Sales Manager for the German market since April 2015. 'Hence, the new sales structure is one of our important strategic decisions.'

The current contacts and their details can be found under Company on [www.bpw.de/en](http://www.bpw.de/en).





## Benefit from the revolution

In around four decades, the Personal Computer has completely changed our way of life and how we do business. Automation, flexibility, freedom: technological development has led to a digital revolution, which will continue to advance at an even faster pace.

Soon after the beginning of the new century, more data could, for the first time, be stored digitally on hard drives etc than on analogue storage devices, such as magnetic tapes – for many, it was a milestone and the start of the ‘digital age’.

Today, companies are confronted with terms such as Industry 4.0, Smart Factory, Manufacturing 2.0, with cyber-physical systems, or the ‘internet of things’ – and face the big technological challenge to utilise the revolution as best as possible. It is the beginning of a new type of economic production, coined by digitalisation throughout and a sophisticated network within and between companies.

### Only a few tap the potential

Do Germany’s mid-sized companies recognise the opportunities of this development? According to a study by the Commerzbank, which send out a survey to the top managers of 4000 medium-sized companies, it unfortunately doesn’t seem that way: eighty-six per cent do see the growing digitalisation as a great opportunity for their location and 48 per cent expect substantial growth from it over the next years. But only every sixth company has already been tapping the potential of digital technologies – regardless of industry or company size. Sixty-three per cent admit that they do not further their company’s digitalisation or even neglect the topic – in favour of cost reductions and efficiency increases.

‘This priority setting is surely never wrong. But it seems useful to not primarily view digitalisation in terms of cost efficiency,’ says Dr Stefan Groß-Selbeck, who led the study. ‘Companies rooted in traditions can learn from start-ups here by not only employing new technologies to increase productivity, but also try out new approaches and gain new customer groups and sales channels, as well as create a new offering.’ →

## Leaders across all industries

According to the study, only around 17 per cent of the medium-sized companies can call themselves 'digital pioneers'. Commerzbank board member Markus Beumer explains what these companies do right: 'They successfully and greatly place above-average importance on new digitalisation trends, for example, to link value chains or individualise products. The pioneers can be found in all industries; they do not come in one size and their managers are not all in the same age bracket.'

Digital pioneers do not wait and see, but instigate innovations and pilot projects to take the lead in very competitive markets. 'If a company wants to participate and play a significant role in the global market as it is right now, it can only do one thing: get active,' says Nick Sohnemann, Innovations Consultant and Founder of the Futurecandy agency based in Hamburg. In his opinion, the German economy still has a lot to learn: 'We are no digital market players, except in e-commerce. We need to catch up on a lot of things,' the trends expert says. The most important things are to keep an eye on data pri-



»Innovation is not a project: it must be part of every company's business.«

Nick Sohnemann,  
Founder of the Futurecandy agency, Hamburg

vacy and stay up to date with new clever management approaches. 'Our industry is still deeply rooted in mechanical engineering and craftsmanship. But in the future, IT and computing capabilities will largely dominate the markets. Many companies also use the wrong methods. Digital business models require other tools than traditional ones. You will have to respond quicker and be more open to new ideas.' It is no use putting a lot of effort into the right timing: 'Timing is a good and valuable factor – but one that nobody can influence. Hence, you should not even try it, but always be one of the First Movers: at the moment the market starts, you already have to be active.'

### Involve all staff members

This is something that Dr Christian Jacobi, Managing Partner of Agiplan, a consultancy for industry and public institutions, can only confirm. He recommends setting straightforward priorities: 'Mid-sized companies must be more active in implementing Industry 4.0 now, otherwise they'll

lag behind globally. They should consider precisely what is the largest benefit to them and use a targeted approach.' On behalf of the Federal Ministry for Economic Affairs and Energy (BMWi), Agiplan conducted the study Tapping the Application Potential of Industry 4.0 in Mid-Sized Businesses in joint collaboration with the Fraunhofer Institute for Material Flow and Logistics (IML), as well as the Centre for Innovation and Technology in North Rhine-Westphalia (ZENIT). They recommend six measures from six different areas to stakeholders from politics, business, and science. These consist of developing unified norms and standardisation, creating awareness of IT security, explaining the legal framework, expanding infrastructure, and furthering education and training.

The changing role of people in Industry 4.0 plays an important role too: 'Corporations – as well as medium-sized companies – must concern themselves with the development of new work processes and types of work organisation,' says Jacobi. Involving all staff members is immensely important here – not exclusively but especially those in leading positions. Sohnemann also re-



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Dr Christian Jacobi,  
Managing Partner of Agiplan

gularly encounters decision-makers avoiding the digital revolution: 'They believe that the digital transformation is not relevant to their business; they may even see it as a burden. I can understand that from a psychological point of view, but it's what will make them fall behind.' Additionally, it is important not to outsource digitalisation: 'It's core business and the task of every CEO to get involved. Innovation is not a project: it must be part of every company's business.'

### Few plans, many tries

In general, Sohnemann recommends trial-and-error: 'Try out new approaches, adapt and re-adapt them and start from scratch, if necessary. There is not much to plan.' This is, however, something one will have to get used to first: 'After two weeks, everything may have changed entirely.' The pace at which the economy is changing is increasing: 'To make a decision and wait and see – that is unfortunately no longer something you can afford to do.' →

It will also no longer be enough to only create additional digital offers, such as apps or a website, warns Sohnemann: ‘The core business of most companies is going digital.’ This means that established business models are dying out and entire industries are disappearing. Dr Christian Jacobi recalls: ‘Companies always have to ask themselves what their customers need. It is this customer demand that should be in focus, not the product. The customer isn’t interested in the drill: his objective is the hole in the wall.’

His idea of the future is no ‘Terminator’s world’, emphasises Sohnemann. ‘Simply put, there’ll be services increasingly facilitating everyday life. When I come into a store, it may no longer have shelves but virtual mirrors showing me whether a piece of clothing fits me or not. And when I want to buy it, I’ll be able to

decide whether I want to take it home now or whether it should be sent to my address instead.’

### Trial and error with almost no risk of failure

The archetype of this rapid change strategy is Silicon Valley. There, everything is focused on working with data. During presentations, Sohnemann likes to show his customers a poster hanging on a wall at a South-Californian high-tech centre. It reads: ‘Nothing is a mistake. There’s no win and no fail. There’s only make.’ Sohnemann’s most important piece of advice: ‘Try something out, delve into it – because this is precisely what the digital revo-

lution is offering you!’ An option could be the establishment of a so-called Purpose Company, which is only used to test a product or service on the market. The main business will remain with the old brand; with the new company, you can trial-and-error without much risk involved. ‘Create a website, have someone produce a good video, and get in contact with your customers,’ is Sohnemann’s advice. ‘Everyone can use social networks for free – these are the opportunities offered by digitalisation.’ Transporting advert messages through social networks is a must anyway. The important part is to attract new target groups. A typical logical fallacy in companies is to implement only projects promising great revenue. ‘That’s the wrong way to go, because most digital products will not get you any money at first.’ But local companies can also use their strengths here, emphasises Sohnemann: ‘The

German industry should see the digital revolution as a chance and not as a burden. And it should go back to its roots: especially the combination of the persistence and reliability furthered by German companies with new implementation methods has great potential. We could be much more successful with that approach – but have mostly blocked our own path so far.’ Overall, the innovations consultant sees society as advancing towards a knowledge-based one: ‘Computers can replace many things, but not human creativity. Developing one’s own ideas, concepts, products and business models is something machines cannot do and will never be able to.’ (jg)



You will find more information on:  
[www.futurecandy.com](http://www.futurecandy.com) and [www.agiplan.de](http://www.agiplan.de)

## Smart solutions for the industry

Where BPW is in terms of Industry 4.0 explain Ralph Ley, Manager System Components, and Jörg Kuhlmann, Manager Information Technology.

### What importance does Industry 4.0 have for BPW?

**Kuhlmann:** The aspect most interesting to us is Smart Factory. For example, we place great emphasis on a strong link between our factories, allowing us to realise a very specific, customised production with shorter throughput times and in the quality that customers can expect from us.

### Where do you consider the digital technology to be most useful?

**Ley:** For example, when it comes to upkeep. So far, we have primarily worked with methods for preventive maintenance to avoid machine failures. Our future aim is to expand such maintenance. The basis for it are machines and systems equipped with sensors, which will ensure the implementation

of preventive maintenance measures before failures or disruptions in production can occur. Additionally, we are currently investigating the possibility of replacing machine documentation on paper by documentation stored on portable devices on site. We also plan to increasingly use our products as data carriers to supply our customers with targeted information and increase their benefits. Right now, the difficulty is still that the data carriers do not withstand the temperatures of our manufacturing process.

### How do you get new ideas?

**Kuhlmann:** The topic is high priority for us, and on one hand, we look for solutions to current challenges and on the other, we seek solutions regarding future demand. We see great potential in digitalisation and are



Ralph Ley, Manager System Components



Jörg Kuhlmann, Head of IT

in communication with the ‘pioneers’ at the big hard- and software producers.

**Ley:** Our close collaboration and intensive information exchange with our customers, suppliers, and partner companies within the BPW Group makes for a great exchange of ideas on local and cross-border opportunities.

### What do all these changes mean for your staff?

**Kuhlmann:** The growing link between machines and systems will lead to closer collaboration and joint projects on complex topics among staff. Our employees, however, will remain in the focus, even in a more strongly virtualised factory, because it is the employees who have the necessary experience to assess and solve upcoming challenges. The new technologies will change the requirements for employees and their qualifications, but will also offer more options to support staff members.



# Full throttle towards Logistics 4.0

The speed makes the difference - not only on the road, the rails, or in the air. Whoever wants to be a leader in digitalisation has to think fast and advance quickly. Hellmann entirely focuses on Logistics 4.0 - with visible success.

**S**ami Awad-Hartmann especially associates two requirements with going digital: 'Never stop and always be among the fastest.' As Manager of Global Information Systems at logistics company Hellmann Worldwide Logistics based in Osnabrück, he and his team - consisting of 150 employees at headquarters and another 150 worldwide - are responsible for keeping the company on the high-speed lane towards Logistics 4.0. Hellmann already went down this road five years ago and has since revis-

ited almost every traditional process within the company.

## Paperless logistics

'It is our goal to digitalise all our administrative processes. We have come to the conclusion that we can initiate huge efficiency increases and numerous optimisations starting from IT,' says Awad-Hartmann. Hellmann uses apps and other tools

anywhere they accelerate and improve existing processes. To implement changes, the company employs either software tools programmed in-house or bought by suppliers, up to cloud solutions. One vision of Hellmann's management is paperless logistics, because paper naturally delays logistical processes. For legal reasons alone, abstaining from printouts is not possible everywhere, but an increasing number of processes are already paperless today - not only to alleviate environmental concerns.

Photos: Hellmann Worldwide Logistics / Ralph Richter / archenova

The importance of IT within the company has changed too: 'IT and business are closely intertwined at our company, already considering the location. We have a constant information exchange and collaborate on projects - it's not each on his or her own,' explains Awad-Hartmann. Additionally, Hellmann has established an IT Steering Committee at the highest management level. It leads the way, evaluates developments, and determines the potential of new technologies and business models. The committee meets once a month. 'Once each quarter was simply too little,' emphasises Awad-Hartmann. One outcome of the committee's work is the One-Page IT Strategy - a strategy fitting on one piece of paper and describing all high-level objectives of the coming years. One of the most important points on it: digitalising core processes.

## Core processes under review

No core business is left untouched. For example, in Customer Service all employees

who are talking directly to customers are to receive data from a centralised application to achieve the best possible support. Depot processes are to be digitalised and streamlined. For example, one idea is to not check every individual shipment for volume weight, but only take samples - based on algorithms and company experiences.

## App for process flexibility

The customer can also feel and especially see the changes: an internally developed pick-up app for Smartphones speeds up delivery and enables Hellmann's customers to activate an order by the touch of a finger. 'Here, usability is one decisive factor for success, meaning how user-friendly and intuitive the application is,' says Awad-Hartmann. Future solutions are also expected to include the recipient, because for many traditional consolidated freight processes, customers are being notified upfront - mostly by phone. This, however, delays the actual transport, which is why the recipient

should soon have the comfortable option to enter another delivery location or adjust the time frame of the delivery. Hellmann expects a notable increase in efficiency from such 'flexible processes': changing to digital will decrease the number of deliveries, the storage needed for today's quantities, and road traffic in general.

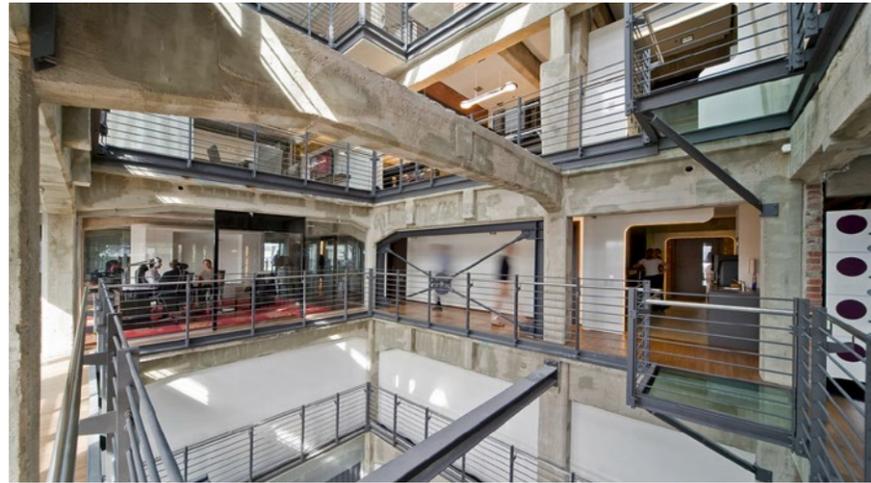
## Open work environment

But the digital process is not only in the machine, but also in the heads of the company's employees. Open structures enable an open mind: this was the motto Hellmann followed when planning and realising the workplace design at Osnabrück headquarter's Storage III, where a lot of effort was put into renovating it. In 2008, the German Wirtschaftswoche presented the company with the Best Office Award for it. The office has neither assigned work spaces, nor standard offices. Employees have a locker and a laptop. Where they sit down with their portable device is their own choice →

»Never stop and always be among the fastest.«

Sami Awad-Hartmann,  
Manager Global Information Systems (GIS) at Hellmann





Buildings with open space enable an open mind: in Storage III, Hellmann consciously abstains from fixed work spaces and standard offices.

each morning – the ideal requirement for department-crossing work on joint projects. The design has been so successful that the logistics provider wants to use it for other company buildings as well.

Each floor of Storage III has its own design, from the Pub on the first floor to the small insular meeting points for which haulage containers were used. Quiet and focused work can be done in separate Silence Zones –

mobile phones are not allowed here. Individually designed office spaces are also available. Anyone who likes to occupy one will have to be one of the early birds to catch the worm among the creatives.

In the end, it's the people who provide creativity – even on the way to digitalisation. Awad-Hartmann has some questions in store: 'From the breakthrough of 3D printing for example, what changes will be

made for logistics and new business models? Will there be something like Uber for logistics?' Whether transport services can actually be 'uberised' on the last mile: only time will tell. For the experts, Logistics 4.0 means an endless variety of ideas outside the box. (os)



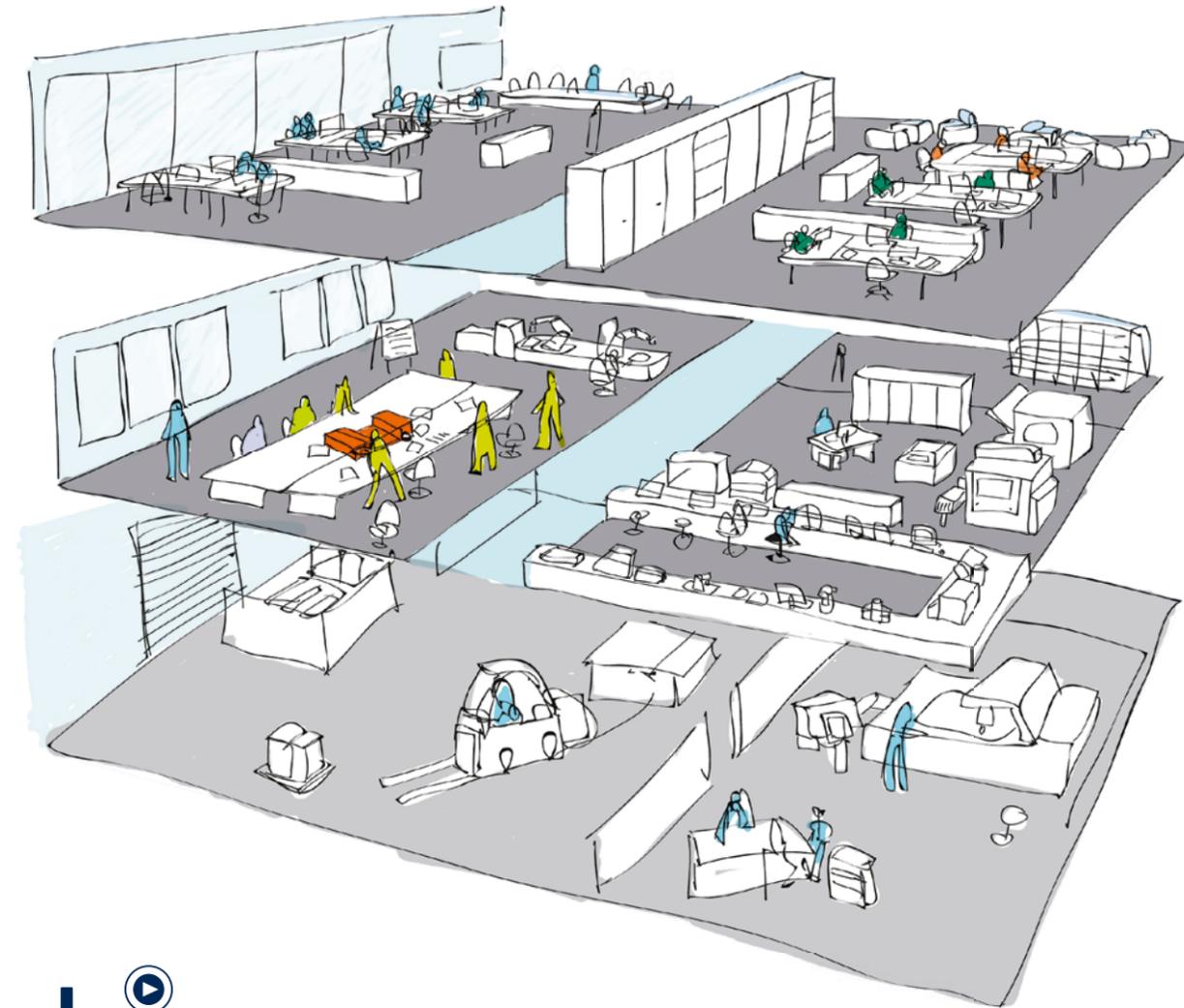
You will find more information on: [www.hellmann.net](http://www.hellmann.net)



### OVER 140 YEARS OF LOGISTICS SKILLS

From the traditional haulier to a globally operating logistics provider: in 1871, Carl Heinrich Hellmann founded the company in Osnabrück. In the 1980s, the company began to rapidly go global – the starting point was Hellmann's office in Hongkong in 1982. Six years later, another milestone followed: the first subsidiary in the US.

Today, Hellmann employs over 12,800 staff globally and generated a turnover of EUR 3 billion in financial year 2014. The company has 244 fully-owned subsidiaries in 56 countries. Sustainability is one of its core values: as far back as 1996, Hellmann was the first logistics company in Germany with certified quality assurance. In 2012, the company became a member of the Global Compact of the United Nations – a self-commitment to adhering to preset standards regarding human rights, labour laws, the environment, and the development of preventive measures against corruption.



## Digital research

Digitalisation has reached Germany's science community: systems communicate amongst each other, man and machine become linked. trailer world has taken a look inside the research labs of the Fraunhofer Institute in Dortmund, where a new logistics cosmos is starting to form.

Despite the project having been completed, Ulrich Franzke still keeps the miniature conveyor system as a souvenir. The scientific assistant likes to take it out to give life to the light barrier, rollers, and paper packages. The tiny rollers deliver the small folded package smoothly to the light barrier. The barrier then signals the next conveyor element, on which the rollers rotate automatically.

A small masterpiece, which illustrates the internet of things and Industry 4.0 in model size. It consists of single components communicating with each other, but usable individually. They lead to a networked logistics that is extremely versatile and modular. The future of logistics has a lot of room at the Fraunhofer Institute for Material Flow and Logistics, IML, in Dortmund. Here, employees design, evaluate, and realise ideas and visionary processes. →

Directly at the entrance is a banner that reads: ‘The ideal logistics room is empty.’ In the wake of digitalisation, it can be filled and refilled with other versatile systems for ever-new challenges.

### Intelligent control systems

In Storage 4.0, cellular transport vehicles run on direct routes between shelves and goods receipt. They steer themselves, a digital order manager offers them haulage orders, similar to a taxi driver web domain. The shuttle systems transmit their accu-

mulator performance and the distance to the delivery location of the container. ‘The vehicle with the best conditions wins,’ says Fraunhofer scientist Thomas Kirks.

The work order to the compact, driverless mini transporters is simple: they take the goods in a container and run with it underneath the high rack, where a lift is used to get them to different levels and the right container bin. Further transport to the correct target location is fully automated. There, you will see an ‘inBin’, as scientists like Kirks imagine it, an intelligent bin. The inBins communicate with both the transport vehicles as well as the people and provide an urgently needed link between man



and the internet of things. It offers the so far missing option to have people communicate directly with a ‘thing’, namely the machine. Communication between man and machine is one of the biggest challenges, which will be put in the spotlight over the coming years – increasingly so considering the growing digitalisation. Here, it will be about not only ensuring communication, but also about designing it as user-friendly and intuitive as possible.

The combination of display and inductive keys is the key to connecting container and picker. Communication continues seamlessly on the shelf. Instead of a shelf label, another display, the so-called iDisplay, records

the position and item data digitally. ‘When connecting the display to the rail, it shows the item’s position,’ says Ulrich Franzke, who works on programming the iDisplay.

The storage data network does not end at goods shipment. IT engineer Kirks explains with the help of a diagram the already fully intertwined production network: Robots request goods on their own from storage and assemble the components in the next automated step. In the digital factory of the future, production islands will replace mass production on conveyor belts. Customer communication could be integrated as well: they will be able to track at any time how far the production

of their new vehicle is. Should a customer meanwhile decide to rather have the car painted white and not beige, it will one day be possible to change specifications during production.

That man will no longer be part of the digital factory is not something the Fraunhofer scientists believe in. ‘Man will play a decisive role in future production as well,’ says Kirks. Equipped with the correct interfaces and intelligent support, employees will then control a highly customised and digitalised warehouse. (dh)

You will find more information on: [www.ima.fraunhofer.de](http://www.ima.fraunhofer.de)

### ARENA2036

#### Active Research Environment for the Next Generation of Automobiles

**Who?** Twelve experts from business and science in the areas of lightweight design, production technology, as well as simulation and work science (a.o. Stuttgart University, Fraunhofer, Kuka, Daimler)

**What?** Developing a sustainable Industry 4.0 and promoting a technology change that enables energy-saving, individual road mobility.

**How?** A digital prototype should showcase the model of a component made of composite fibres: the material allows the construction of a lightweight, economical car. Additionally, there is the design of a fully networked factory, in which sensor-controlled robots and system assistance support employees.

**Where?** Stuttgart University, Stuttgart-Vaihingen [www.arena2036.de](http://www.arena2036.de)

### FAB LAB

#### Fabrication Laboratory Aachen

**Who?** Professor Jan Borchers, Professor for Media Informatics at the RWTH Aachen and Media Computing Group

**What?** An open high-tech laboratory for students, teaching staff, and people from outside the university, who design individual 3D products by using computer-assisted tools.

**How?** Plastic materials are being heated in a 3D printer and applied layer by layer. With supporting materials, the printer even allows designers to manufacture mechanical components, for example, quadcopter parts. Patterns are machined computer-assisted with the help of a laser-cutter; with a circuit board milling machine, one can create electrical circuits.

**Where?** Rhine-Westphalian Technical University Aachen (RWTH) [hci.rwth-aachen.de/fablab](http://hci.rwth-aachen.de/fablab)

### ARAMIS

#### Automotive, Railway and Avionics Multicore Systems

**Who?** 30 universities, companies, and science institutions (a.o. Karlsruhe Institute of Technology, Christian-Albrechts-Universität in Kiel, TU München, Airbus, Audi, BMW, Bosch)

**What?** Creating an efficient board network architecture, as well as highly networked functions for the automotive industry, aeroplanes, and trains to better meet the requirements of continuous optimisations in safety, comfort levels, and energy saving.

**How?** Current computing systems reach their limits, whereas new systems have to make complex calculations simultaneously. The required computing power for assistance systems will soon have to be met by multi-core CPUs: they replace single-core systems that are limited in their capabilities.

**Where?** Karlsruhe Institute of Technology (KIT) [www.projekt-aramis.de](http://www.projekt-aramis.de)

### KVE

#### Kompetenzzentrum Virtual Engineering Rhein-Neckar

**Who?** Mannheim University of Applied Sciences and John Deere

**What?** Cross-discipline department for Virtual Engineering in mechanical engineering, process technology, and architecture: provision of hard- and software, as well as intimate knowledge of simulations, visualisation, and virtual reality for use by local institutes, university departments, and companies.

**How?** A special room, the Multi-Side Cave to enable three-dimensional visuals and realise product adaptations before mass production. Observers experience the items created by the computer as if they were real – for example, the power train of an agricultural tractor unit.

**Where?** Mannheim University of Applied Sciences [www.kve-rn.de](http://www.kve-rn.de)

### it's OWL

#### Intelligente Technische Systeme OstWestfalenLippe

**Who?** 124 companies, 6 universities, 18 science institutions, 30 organisations close to the business sector

**What?** Numerous innovation projects, interdisciplinary projects, and sustainability measures: research on innovations in mechanical engineering, vehicle technology and energy technology. Development of new products, technologies and applications up to market-readiness with regard to Industry 4.0.

**How?** Man-machine interaction through intuitive operating interfaces controlled by hand movement, voice, or the eyes; development of a charger for e-cars, which minimises energy losses on its own and adapts to environmental conditions.

**Where?** Forschungszentrum Zukunftsmühle Paderborn [www.its-owl.de](http://www.its-owl.de)



The fourth industrial revolution creates flexible systems and uses resources more efficiently. An overview of exciting high-tech science projects in Germany.

Illustrations: Fraunhofer-Institut IML, Fotolia - Monika Huiňáková

# Visions to break barriers

When Friedrich Wendt took over the logistics business of his father, nobody suspected he would set new standards with his ideas. Today, TOP Mehrwert-Logistik is among the most innovative companies in the industry – and remains as innovative as ever.



Today's visions are the standard of tomorrow: the shared conviction of Kerstin Wendt-Heinrich and Friedrich Wendt

**H**amburg, at the end of the 1980s: Friedrich Wendt operates a haulier and initiates the first countrywide night express, amongst other things, to deliver replacement parts, such as graphics cards, from IBM to end customers – where an IBM technician shows up and installs it. ‘An inefficient process that costs time and money,’ he thinks to himself and develops the idea to combine the two processes which had run separately: spare part logistics and technical service. Employees with the relevant affinity are being specially trained and the service grows into the first technical courier in Germany.

Examining existing processes and structures is part of the company's DNA:

can we not solve that in a different way – simpler and more economical? ‘We try to put ourselves in our customers' shoes and see where we can improve,’ explains Kerstin Wendt-Heinrich, who now manages the company together with her father.

That is precisely how it was when Friedrich Wendt helped establish the first countrywide night express system in 1987. Others were sceptical: it may be an interesting offer, but it wouldn't be needed since customers would not be available at night-time. Today, the night express has become an essential service for companies in many industries. The success confirmed Wendt in his conviction that in logistics, today's visions are the standard of tomorrow.

## What can we improve?

New solutions are often created in collaboration with the customer. On behalf of IBM, TOP Mehrwert-Logistik set up a three-hour delivery service at its most important locations in the mid-1990s. As an answer to the question what improvements could be made, IBM gave a clear answer: countrywide delivery across Germany within 90 minutes.

To meet this requirement, the company had to choose storage locations wisely. ‘We plastered the entire flat with maps and marked all locations we had to deliver to. For example, we discovered that a storage facility in Mecklenburg-Vorpommern's countryside would have been no useful option, because all cash

counters, which had to be maintained or repaired, were located at the seaside resorts,’ says Kerstin Wendt-Heinrich. ‘IBM later developed an algorithm for picking a location, which confirmed all of our choices.’

## Innovative IT department

What makes a medium-sized company like TOP Mehrwert-Logistik interesting for corporations such as IBM or Philips Medical Systems is their flexibility. ‘We're too small to get a global contract. But we can take over orders the big companies cannot, because they have standardised processes around the globe. During a de-

tailed analysis of the logistical processes, we determine where we can increase efficiency and who can provide better service. This is the basis on which we collaborate and specify the interfaces for our IT systems,’ explains Friedrich Wendt.

‘The customer does not have to use the TOP Mehrwert-Logistik application for that,’ adds Managing Director Kerstin Wendt-Heinrich. ‘We have a very innovative IT department, which will adapt the application to the individual requirements of our customers – that is our advantage as a medium-sized business. If security requirements are high, we sometimes also use the systems of our customers simultaneously – right now, our employees work with 18 different customer systems.’

## Algorithms and common sense

Whereas many mid-sized businesses are still exercising caution regarding Industry 4.0, TOP Mehrwert-Logistik employs digitalised business processes throughout. ‘We only start with a new project if all processes are represented in our IT system,’ says Kerstin Wendt-Heinrich. ‘If a machine signals the need for repair or maintenance, it will show which parts are required, in which warehouse they are located, and who of our more than 600 service employees and 200 technicians has the necessary skills to perform the work.’ The IT system also shows what needs to be done, for example, to create an order and work instructions. Each step can get its own traffic light icon to allow progress tracking. →



Within 90 minutes, a technician is on site at the customer with the relevant spare part from the high availability storage.

### Recognise and use opportunities

TOP Mehrwert-Logistik sees much potential for further growth, as especially the close collaboration with customers grows into new tasks and projects. But this requires that one keeps flexibility, instigates changes, and grows. The opportunities of 3D print were discussed and tested as well, not only together with customers, but also with the Rhine-Westphalian Technical

The application, however, does not make the decisions. It rather shows the available options. 'That is our special advantage,' Kerstin Wendt-Heinrich emphasises, 'that we have so many long-term employees with many years of experience, who can correct-

ly assess given situations and decide according to customer wishes.' Regarding transport, much is taken over by the company itself, but partner companies will be involved too, in order to find the most inexpensive way to the customer.



### TOP MEHRWERT-LOGISTIK

The medium-sized, family-owned business based in Hamburg offers customers individual technical services at different levels: from Same Day Service within 90 minutes up to Next Day Service, from Basic Level, including delivery, to installation and bringing into operation to High-Level, including repairs and complex installations within networks. More than 600 service employees and around 200 technicians operate from 30 locations, in order to replace machines quickly and on a flexible schedule, install rented devices, make repairs or provide services according to manufacturers' warranties. Friedrich Wendt, one of the most innovative company heads of the logistics industry, supports his daughter in managing the company. Kerstin Wendt-Heinrich, who has known the company since she was a child and is leading the enterprise today, is excited that her father still works on his ideas with great enthusiasm.

University (RWTH) Aachen. Today, TOP Mehrwert-Logistik's 30 locations are being served by the company's own network each night, in order to replenish and balance stock – especially of parts specified as highly available. In the future, the loca-

tions should also make available the option to print plastic parts, such as gear-wheels. The technology is ideal for older devices: their spare parts would no longer have to be in stock for so long. 'In our view, 3D printing is the technology of the fu-

ture,' says Friedrich Wendt, and he complains about only thing: 'It's all going too slow for me.' (jws)



You will find more information on:  
[www.top-mehrwert-logistik.de](http://www.top-mehrwert-logistik.de)

# Anything's imaginable

Regarding 3D print, the companies of the BPW Group have been at it from the beginning. Three division heads report what is being researched and where the scientific journey can take us.

Running gear and locking systems not only have to meet different requirements, they also have different sizes. Despite their differences, both BPW and F. Hesterberg & Söhne view 3D printing as one of the most important future technologies. Henrik Eyer, Head of Technical Service at BPW, Stefan Pantel, Manager Industrial Engineering at BPW, and Michael Klatt, Head of Product Development at Hesterberg, agree: this technology will benefit companies

and customers alike. Hence, the BPW Group has been working for years on printers for plastics. 'The printed objects are currently limited in size and height to a maximum of DIN A4 and 200 millimetres, but that is enough to explore possible applications and gain experience,' explains Pantel.

At BPW, it started with display models; in the meantime, functional prototypes are also being printed and tested in the

vehicles – in the case of idem telematics, as a casing for the electronic components. 'The model did not have to offer all the desired functions; the important things were the shape, the basic functionality, and the fact that the printed parts withstand the same mechanical pressures as casted or forged ones,' says Eyer.

Hesterberg also sees the big advantage of 3D printers in the ability to develop new products much faster and cheaper. 'Regarding the locking mechanisms we produce, we have to place many functions on the smallest space available. Creating the corresponding sheet metal samples is a lot of effort and expensive. Thanks to 3D printing, we can reduce costs for the first functional prototype by up to 90 per cent and produce them in a fraction of the time,' explains Klatt.

### The challenge of metal printing

Whereas plastics parts will soon be available for mass production, the method of metal printing will still require a bit more time. Here, experts currently face the challenge to develop the correct metals to achieve the desired material properties and increase printing speed considerably.

Metal printing, however, will enable solutions that cannot be realised with traditional technology. 'Take an example from nature,' says Pantel. 'A chicken bone has a thin hull and inside, a sponge-like structure providing it with stability. This bionic design principle could be taken over for running gear components. When thinking ahead, it means that we may be able to print the entire running gear in 20 years.'

# Grease from the Smart Factory

Grease manufacturer Rhenus Lub has already entered the digital age a long time ago. The company's modernisation of its grease factory meant a quantum leap forward in automation and digitalised production. A factory visit.



In Mönchengladbach, at the family-owned company of Rhenus Lub, everything during production reminds one of cooking an exquisite meal. 'But no beef steak – this is molecular cuisine,' emphasises Meinhard Kiehl, Marketing Director of the grease manufacturer, with a grin on his face. The comparison is apt, as high-tech greases are cooked according to recipe. Certain ingredients must be added at certain times in order to create a successful dish. A gener-

ation ago, it was still called the 'witchwork of grease cooking'. But times have changed: where 'grease cooks' with much taste for the fine arts and even much more experience stood at the vats, a computer now controls production automatically in the age of Industry 4.0. In January 2015, Rhenus Lub introduced the new automated grease production as a considerable leap forward towards Industry 4.0. 'With it, we can now cook exactly according to the recipe – and, especially, repeat the process over and over

again and precisely according to the same parameters,' says engineer Kiehl. This means that customers benefit from high supply security and constant product quality. Nowadays, the grease cooks only monitor the work of their electronic colleagues and support automated processes wherever manual work cannot be replaced. 'The machine used to assist man. Now, it's the other way around,' explains Kiehl.

## Two-million euro investment

'Digital linkage of production chains have had Rhenus Lub make a quantum leap forward in production technology and a pioneer of the digital revolution in the lubrication industry,' says Kiehl. The company invested two million euros into modernising the grease factory. Lubricants ensure that the high pressure put on the bearings in trains and road vehicles, roller mills, and mechanical engineering are working reliably over decades. They are also found in cars or watches, and in artificial knees and electric toothbrushes.

Rhenus Lub produces between 50 and 60 tonnes of grease per day and 3700 lots per year – and this based on 290 different recipes, which are being developed jointly by employees in the research department and the customers. There are, for example, spe-



cial lubricants for big customers like BPW. Twenty per cent of the approximate 230 employees of Rhenus Lub work in this field alone.

When the grease factory was established in 2005, the company equipped the 15 production lines with about 1200 sensors, mixers and actuators, which can almost all be controlled electronically. Since then, they have been constantly transmitting production data to the control station. Thanks to digitalisation, the data flow now also includes information about goods receipt, raw materials planning, production processes, the picking of additives, filling, and logistics and is being stored centralised for comprehensive process planning and control.

## Production at three levels

Production spans over three floors: mixers in the upper one, post-processing systems in the middle one and filling systems on the lowest floor. Over 20 kilometres of tubes with 700 control valves transport the raw materials, intermediate products, and final items from one production step to the next. The plant produces up to 1000 variants using complex chemical processes in lots of 30 to 11000 kilogram. For example, production of a highly specialised poly-urea grease requires over 30 individual process steps.

It is warm in the factory hall. The vats heat up to 200 degrees Celsius, but regarding smell there is nothing out of the ordinary. The hall rather feels like a laboratory, it looks clean and tidy. Only few employees in blue work coats with anti-slip safety shoes move back and forth between the vats, in which a white, viscous mass of oil and soap is being stirred. It is the basic →

material for lubricants of all types. By the way: greases used at food industry plants have their own separate space. There, one finds food safety compliant lubricants next to halal- or kosher-certified ones. ‘A rabbi regularly inspects the plants,’ says Kiehl – something special at the factory each time.

There, one can also experience the pleasant smell of soap. Four hundred fifty different raw materials are found in bags, tanks, and other storage units.

### “Feeding” in blue light

At the stir vats, the picked raw materials are being provided by employees and put into the vats in the relevant quantity. ‘If the light which is mounted on top of the vats, turns blue, the employee knows that the machine wants to be fed,’ explains Kiehl. Each raw material is being scanned via bar code before it ends up in the vat. The verification on the display of the handheld device confirms that the right raw material is being used. Other parameters, such as vat temperature and rotation speed of the mixers are automated. The base grease is then pumped into a bigger cooling vat and the process management system will begin cooling the grease down to a certain temperature. Additives are then added to the

cooled-off grease, such as corrosion protection.

### Last step: airing out the grease

Before the grease can go to filling, it is processed further – aired out, homogenised, and filtered. Afterwards, the bubble-free grease can still be coloured according to customer specifications, which ultimately facilitates identification. Before filling, the empty storage units will be labelled – as of lately, regulation-compliant in 24 different languages. Stacked on pallets and welded in foil, the metal barrels or plastic canisters are being moved to the logistics hall, are being packed there, then stored and delivered. After loading on trucks, the goods are transported to the customer. At BPW the greases are used both in the original equipment and the aftermarket. This ensures that everything runs “like clockwork”. (ag) ◉

↓ You will find more information on: [www.rhenuslub.de](http://www.rhenuslub.de)

### Grease used to be cooked by hand

‘Back in the day, everything was more or less done manually,’ explains Kiehl. Work orders were processed on paper, much manual work was required, and everything had to be documented. It was cumbersome, error-prone, and inefficient work – and much less trackable and replicable than it is today. Nowadays, the system prepares the quantities of base components and manages the temperature and the stirring on its own. Manual work is still required, primarily in picking, where employees weigh all necessary raw materials and additives before the start of the production process and label them with bar codes.



Photos: Rhenus Lub

# A tiger with an appetite for sugar ◉



With its Tiger 5 sugar beet harvester, Lower-Bavarian vehicle manufacturer Ropa delivers a highly specialised harvester to the field. The yellow high-tech agricultural vehicle owes its global success to the know-how and passion of company founder Hermann Paintner. ◉

Quietly, but with powerful movement, the yellow-black tiger seek out its prey. The prey it has in mind, thankfully, does not move – because this tiger has an appetite for sugar beet almost ripe for harvest. The Ropa Tiger also saves the fruit harvest the wildcat drama of a hunt. After shaving the leaves of the beet with a sharp cut, the vehicle uses a cutter to carefully

remove the beet from the soil, in order to transport it over the huge front wheels to the back of the vehicle. There, the beet gets rid of its last clods of earth, in order to travel in the outside lift and into the 43 cubic metres of the beet container. As soon as the Tiger has harvested 30 tonnes of sugar beet, it's time to unload at the side of the field. Within 50 seconds, the load is being dumped and the harvest can continue.

### High-tech push at the field

What sounds so simple is in reality a combination of high-tech components. To make sugar beet harvesting that effective, reduce wear, and save costs, vehicle manufacturer Ropa makes no compromises. The Tiger 5 is around 15 metres long and as wide as three metres. All three axles are steering ones; the combination of these axles with a flexible →



Hermann Paintner, Ropa's Founder and Managing Director

accompanied the development of his beet harvesters from the first prototype in 1972. Even today, the head of the company still knows the inside of his highly complex harvesters inside out.

### In ten days to the yellow giant

Paintner's youngest child, the Tiger 5, has been manufactured in the main factory in Sittelsdorf since November last year. It takes around ten days for a Tiger to move around the newly set-up production hall from one production station to the next. At the end of line, the high-tech vehicle, which costs around half a million euros, rolls on the over a metre wide low-pressure tyres towards its way to delivery with sonorous engine sounds.

During production of the Tiger, its double-axle brother Panther, as well as the beet loading system Mouse, the experts from Lower Bavaria do most of the production in-house. All essential components, from cutter to hydraulics lines to the complex hydraulics control, are manufactured in Sittelsdorf and assembled by mechanics who know the beet harvest. Only required components are bought externally, which means the hydraulic drive gear and the intuitive vehicle and functionality control at the driver seat are produced in-house as well. The small production series of harvesters, of which around 220 leave the newly built factory halls, benefit from DIY: they allow quick decision-making in

communication between assembler and manager to change production details instantly. Why has the entrepreneur been so successful with his sugar beet harvesters? Here the convincing and simple reply by Paintner himself: 'I grew up with agriculture and know the plant that much that I can design the right machine for it!'

### On wide tracks through the potato field

The Boar proves that the same idea works with harvesting potatoes as well. The potato harvester in typical Ropa yellow is around twelve metres long. Power is being provided fully hydraulically by the pulling tractor, and the harvester can store up to eight tonnes of potatoes until it unloads its harvest at the side of the field. In contrast to the bristly animal it got its name from, the Boar is good to the field and runs with an axle manufactured in the Hungarian BPW factory, which can be extended during harvest to become 3.5 metres wide. When used on normal roads, on which the vehicle reaches a top speed of 40 kilometres per hour, the unit can be shortened to three metres to account for smaller lane width. Ropa founder Paintner is happy about the collaboration with BPW: 'It is really nice for us to have an axle manufacturer design an entire axle according to our wishes!' (owi)

 You will find more information on: [www.ropa-maschinenbau.de](http://www.ropa-maschinenbau.de)



### FROM WORKSHOP TO GLOBAL LEADER

Ropa founder Hermann Paintner's career had an early start: at 25, the young farmer used his technical skills and harvesting experience to design the first self-driving sugar beet harvester, which could work on six rows of plants simultaneously. To get all components for the unique red harvest vehicle, Paintner became a regular customer of his local metal and scrap dealer. The big harvest success of his DIY build in 1972 led Paintner to design other harvesters using his know-how of technology and plant life. In 1986, he founded Ropa Fahrzeug- und Maschinenbau GmbH, which is the world leader in sugar beet harvesters today and enjoys an excellent reputation in 40 countries worldwide. Around the globe, the company employs 500 staff, amongst others, in five offices in Ukraine, Russia, Poland, and France, and 330 employees work at the headquarters in Sittelsdorf, which was extended last year to include 27000 square metres of building space and high-tech production technology.



Photos: Ropa, Oliver Willms





## From the hillside into the mug

Water, freshly harvested hop, barley, and yeast: the German Reinheitsgebot stipulated the ingredients for a fresh beer already almost 400 years ago. Beer is still the Germans' favourite drink – consumption is rising especially when temperatures rise too and the local beer gardens get crowded.



Hallertau is bustling with activity. From morning till evening, tractors with well-filled trailers drive from the hills through the countryside. Hallertau is Germany's most important harvest area for hop, around a third of the world's production is being planted here. Harvest starts under normal weather conditions at the end of August and ends in late September. Machines coupled to the tractors cut the plants from the seven-metre high racks on which they climb up to the sky; afterwards the plucking vehicles sweep the umbel out of the vine. Work that used to be done manually is still challenging today and requires special care: the umbels hanging from the vine must not break.

### The beer's soul

Hop is the beer's soul. The plant, whose extract does not only make the beer last, but also gives it its slightly bitter taste and the special aroma, finds ideal conditions at Hallertau. One vine delivers hop for around one hectolitre of beer. 'If the air is humid enough and the temperatures not too high, the vines grow up to 30 centimetres in a single day,' says Joachim Gehde, Managing Director of hop trader Hopsteiner. He is in close contact with his customers: for example, there is always an employee of brewery C. & A. Veltins on site to examine the hop used for the Pils from the German region of Sauerland. The employee only accepts what satisfies the high demands.

Hopsteiner is one of the world's biggest trading companies. At Hallertau, it processes a large chunk of the harvest. During the entire summer, Gehde continually monitors in detail how the plants develop. After harvest, the hop farmers deliver the dried umbels to the processing factory. Because hop umbels are very sensitive in their original form, the 'green gold', as the hop is also called, is, for example, pressed into pellets and packed into airtight bags.

Currently, Veltins is supplied with 17 tonnes of hop per year. The malt that Veltins receives weighs considerably more than the barley grown in summer – the brewery processes 40000 tonnes each year. The difference in quantity can already be seen during harvest: until the late evening, harvesters drive over →



Good raw materials make a good beer: the quality of hop and barley plays a particularly important role for the taste. This is why the ripe hop umbels, which consist of 80 per cent water, are quickly dried after plucking and processed into pellets. The brew malt is gained from summer barley and delivered to the brewery in tractor-trailers. Then, it is stored in silos and find its way from there into the beer.



the fields in July and August, massive trailers take over the wheat and transport it to the malshouses, which make malt out of the barley.

### Fermenting in open tubs

Change of scenery. The Veltins brewery in Grevenstein in Germany's Sauerland region is an idyllic place, surrounded by lush-green meadows, agricultural fields, woods, and mountains. The water from the sources springing up in the surroundings is extremely soft – ideal to brew beer according to Pils brewing. Several times a day, tanker trucks deliver malt grist, which is stored in huge silos. In the brewhouse, the Veltins brewers first mix the grist with water before they add the hop in the whirlpool and let the so-called wort cook for 65

minutes. The wort is led into open tubs for fermentation. 'No other premium brewery uses this traditional method,' says Ulrich Biene, Veltins' spokesperson. It is not quite in line with the original brewing trade. An in-house yeast instigates fermentation in the tubs without any pressure. Hence, the ale is being mixed homogeneously, which positively influences taste. It will stay in the fermentation cellar for one week and afterwards ripens in the storage room for several more weeks. Only then will one get a Pils.

Veltins sold 2.77 million hectolitres of beer in 2014, seven per cent more than in 2013. 'In light of the reduction of our core target group, this is a considerable achievement,' says Biene. The group of 18- to 25-year-olds will shrink by around 30 per cent by the end of this decade. The brewers from Grevenstein have their eye on new target groups with their broad offering of beer: overall, there are 13 different crates that find their way into the supermarket; at the beginning of the 1990s, there were only two.



Photos: Martin Holzner, CLAAS KGaA mbH, DHT-Spedition, Brauerei C. & A. VELTINS, BPW

### Multi-purpose logistics with pallet hanging rack

Veltins trusts in multi-purpose bottles on the way to the customer: the share of multi-purpose is at an unexpectedly high percentage of 97. Drink wholesalers and forwarders bring back the empty bottles and pick up new barrels and crates at the loading bay. 'It's around 200 trucks a day – spread over 24 hours,' says Biene. At the same time, the multi-purpose principle underlines in which quantities beer is flowing at Veltins. Several hundred thousand crates are standing on the company premises as an empties reserve; the four filling systems can fill up to 180,000 bottles per hour. To provide filling to the returned empty bottles again, a 250-metre long pallet hanging rack links bottle sorting to the logistics centre. In total, the company location can sort four million bottles every day. With the

Westdeutschen Getränke Logistik (WGL), Veltins also has its own service provider, which supplies retail chains and the Dursty drinks centres that the company owns. Here, flexibility is the decisive factor for success – for example, when retail thinks about a short-term price offering. 'We always have to be aware of unexpected increases in demand,' says Markus Rütters, spokesperson of the Board of Directors of Veltins Beteiligungen GmbH & Co. KG and also manager of the WGL.

It's a hot summer day in Grevenstein. 'Beer garden weather,' says Veltins spokesperson Biene. A good omen – for the beer gardens and the sales of the brewery. (pb)

You will find more information on: [www.hopsteiner.de](http://www.hopsteiner.de) and [www.veltins.de](http://www.veltins.de)

## Solutions – as individual as the challenges

Whether big or small, for use in narrow rows or on wide fields: BPW offers its customers from the agricultural industry solutions that are individually adapted to their requirements.

The production of beer shows how manifold the tasks in agriculture can be. To keep manoeuvrability in the rows with the vines during harvest, farmers require slender and flexible trailers. Not so at barley harvest on the field: here, multi-axle trailers are used to transport the barley from the field to the silo. Hence, there are different requirements for axle loads and versions: 'We speak of 5 to 50 tonnes,' says Peter Lindner, Head of Agriculture Sales Germany at BPW. But as different as the requirements may be: 'Together with our customers, we first analyse demand. In collaboration, we then develop the best solution.' The times in which the company primarily produced standardised axles for agricultural OEMs are long gone.

BPW's agricultural offering includes a lot of special know-how and, of course, over 115 years of experience in the heavy goods industry. The products are mostly found in harvest and soil machines, tipper trucks, agricultural sprayers, baling presses, or

tank trailers, but BPW also offers a solution for all other applications. The degree of collaboration can be chosen on a case-by-case basis as well: 'Some OEMs only want single axles or assemblies from us and will assemble their desired running gear on their own. Over the past years, however, the trend has increasingly pointed towards requests for a complete unit,' elaborates Lindner. Besides the axles, the offer includes a wide spectrum of hydro-pneumatic, air suspension, double-axle, twist-beam rear suspension, and swing axles, as well as single components, such as support, lighting systems, air tanks, or seals for tipper trucks. On customer request, BPW combines these components into complete running gear systems, for example, including installation of the brake systems or preparation for steering systems. 'These system solutions are our greatest strength,' says Lindner. 'But we also develop special solutions in collaboration with our customers.'



Peter Lindner, Head of Agriculture Sales Germany

Additionally, BPW places its focus on the user. 'We are an international mobility partner for vehicle operators. The vehicles have to run, because only then will they be profitable,' explains the sales manager of agriculture vehicles for the German market. For example, if there is a need for an axle, brake camshaft or leaf spring, there is guarantee for its availability. The supply with spare or wear parts is done within the shortest possible time through BPW's trading partners. 'We not only sell axle systems, but also contribute to vehicle capabilities with BPW products being able to be used economically throughout their entire lifetime,' says Peter Lindner.

At Europe's biggest agricultural trade fair, Agritechnica, from 10 to 14 November, you will find the BPW Agriculture team in hall 17, stand B22.

# Discover the practical benefits

BPW France shows with its reference customer Frappa what telematics can achieve: regarding its fleet of trailer rentals, the manufacturer of chassis for refrigerated vehicles has had very good experiences with BPW running gears and telematics systems by idem telematics.



BPW enjoys an excellent reputation on the French market – and gains an increasing number of customers with it. Vincent Bucaille, Managing Director of the French subsidiary of the BPW Group, says: ‘With 30 million euros in yearly turnover and over 26 per cent market share, we are now the number two on the French market. Before the economic crises, we were number one.’ But trailer manufacturers collaborating closely with BPW France had to fight off the impact of the worldwide crisis, and hence BPW France temporarily dropped to

third position. ‘Since then, we have worked our way up again, and want of course become market leader a second time.’

## Sales and service subsidiary

BPW France is a sales and service subsidiary of the BPW Group with 21 staff and spare parts storage encompassing more than 2000 different parts and supplying 400 service partners across the country. Regarding OEM running gear, BPW France

collaborates with the all important French trailer manufacturers. ‘The running gear is delivered from Germany directly to the manufacturers and assembled on site,’ explains Bucaille. Besides the employees from sales and customer service, there is another team regularly asking transport companies for their foreseeable demand for new vehicles and their specific requirements. ‘At the same time, the employees also inform the customer about the product offering of BPW and help decision-making. Such preparation, which can take years sometimes, pays off whenever part of the vehicle

fleet has to be modernised and the customer needs to decide on a trailer manufacturer and the running gear incorporated into it,’ Bucaille is convinced.

## Technology by idem telematics

The telematics systems by idem telematics have added a new dimension to this work, which has also become a strategic business area for France, says Bucaille. Since the beginning of 2013, François Borel has been responsible for this business area as Business Development Manager. He knows about the great demand for customer awareness regarding the topic: ‘In contrast to our running gear, which is known, telematics is a new field and requires some explaining. Whenever a haulier shows interest in it, we offer the company a real-life test.’ This means that one or two customer vehicles will receive a telematics unit, in which the

data will be stored centrally, and customers will then get their own web platform, on which they can track the values transmitted by the telematics unit through satellite in real-time. ‘Usually, it takes a customer three months to recognise the benefits of the data exchange,’ says Borel.

One primary advantage is that the telematics solutions by BPW and idem telematics are manufacturer-independent and can also be installed in vehicles with running gear and components by other manufacturers. ‘Customers, however, often realise quickly that the optimal solution is one from a single source, especially because the products of the BPW Group are a perfect match,’ adds Borel. ‘Telematics systems in combination with high product quality are added value for the customer, which gives us an edge on the market.’ For example, BPW running gear allows the replacement or repair of individual components, whereas other suppliers require an exchange of bigger assemblies because components have



Director Vincent Bucaille (right) and his telematics expert François Borel

been welded together. And regarding trailer brakes, the brake disc change is possible without disassembling the brake caliper with BPW’s ECO Disc, so that the vehicle will not have to stand still for long.

## Reference customer Frappa

The manufacturer of refrigerated vehicle chassis, Frappa, is the first French customer with which the telematics system has been tested on a larger scale. The company has its own department for the rental of refrigerated trailers; the number of vehicles in the fleet is 350. ‘Every second one has BPW running gear, and 50 vehicles have been equipped with telematics systems by idem telematics,’ explains François Borel. ‘The others are being retrofitted.’

Frappa’s company head, Julien Torre-Frappa, elaborates: ‘Regarding trailer design, we order our chassis from many different manufacturers and the running gear from the brand chosen by the customers. But when it comes to the trailers for our rental office, we only →



In the TControl Box, which is mounted beneath the chassis, all data that needs to be transmitted is fed.

Photos: Magali Stora, Ralf Klingsieck

## REFRIGERATED BODYWORK MANUFACTURER FRAPPA

Frappa has its headquarters in the small town of Davezieux, 70 kilometres south-west of Lyon in the French mountains in the middle of the country. The family-owned business founded in 1845 used to build horse carriages and hearses. Julien Torre-Frappa is the fifth family generation. Around 1930 his grandfather, Leone Frappa, repositioned the company in the market by focusing on truck bodywork and included refrigerated bodies after 1945. His father Francis Torre decided in 1970 to have the company specialise in refrigerated truck bodies, of which Frappa today manufactures 700 units a year with 150 staff and an annual turnover of EUR 33 million.

install BPW running gear and now also telematics systems by idem telematics. They have passed the field test, which is why we can happily recommend them to our customers.' Gérard Chevrier, Director of the Trailer Rental Division at Frappa, can only confirm Torre-Frappa's statement: 'There are many solutions for data transmission in real-time from the tractor-trailer on the road, but none of them meets so many requirements of a fleet manager for refrigerated trailers. We can use geo-localisation to track the movement of our trailers on a map, we can log the mileage, and we can see when breaks were taken and when the doors were opened. But above all, we can constantly monitor – and prove, if necessary – which temperatures the inside of the trailer had.' That is important for inspections or return orders, says Chevrier. 'It also adds a lot of data for our fleet management. For example, you can check tyre pressure, which affects wear and impacts costs. Another very important thing is that we can gather data about the brake behaviour of the drivers, meaning that we

can determine whether they brake preventively or often fully step on the pedal, which triggers the EBS assistance to prevent skidding or an overturn. It puts unnecessary pressure on the brakes and leads to higher wear.'



Many customers have Frappa manufacture new trailers in mass production for their entire fleet.

## Full control by telematics

From afar, one can also evaluate whether the brake linings or brake discs are worn out and have to be replaced. 'Since we know where the trailer currently is, and additionally have all authorised garages in France and the neighbouring countries stored in the computer, we warn the customer whenever immediate action is required. In this case, we ask him to drive to the nearest garage with which we have already agreed on a time frame. This allows us to keep downtime to a minimum,' explains Chevrier. In a similar way, Frappa organises maintenance, technical inspections of trailers or cooling units. 'Our preventive care of our 350 trailers is paying off, because we hardly have any real downtime.' (rkl) ○

↓ You will find more information on: [www.frappa.com](http://www.frappa.com)

## A customised service package

Hartmut Kraus, Manager BPW customer service and owner of a haulier, explains the BPW maintenance contract.



Hartmut Kraus (left) and Udo Dabringhausen, Customer Service at BPW

## Mr Kraus, what are the most important requirements for a good maintenance contract?

As a haulier, I consider one thing essential above all else: I want to keep my vehicle on the road. Each minute of downtime costs money. That is why I expect from a maintenance contract that it includes optimal care besides the best-possible maintenance and that preventive measures are taken in time. Being the head of customer service at BPW, I know that our customers need a reliable partner who has their back. Someone who has an overview of the vehicles and, for example, knows when which check-ups are needed. Handling must require as little effort as possible. In case of damages, this partner must be available immediately and be able to get the vehicle back on the road as fast as possible.

## What does BPW offer in this regard?

Since autumn 2014, we offer our customers the Partner Service Package, a customised bundle of services. Its most important feature is that it covers the entire trailer, regardless of who the manufacturer of the individual components was. BPW maintenance contracts

entail everything, from axles to electrical parts to the entire bodywork. And whether dry goods container, refrigerated bodywork, or curtainsider – as soon as it has running gear by BPW installed, customers can conclude their maintenance contracts with us and get the full service.

»As a haulier, the most important thing is that the truck is on the road.«

Hartmut Kraus, Manager Customer Service at BPW

## Do you only insure new trailers?

The Partner Service Package is primarily intended for new trailers, but we also cover used ones no older than one year.

## How is the package implemented?

The maintenance contract is concluded between the vehicle operator and us. Our network of service stations encompasses 260 garages across all of Germany. Europe-wide breakdown assistance is part of the package

too. Customers get their vehicle to one of the garages, where everything will be done for them, whether it's the legally required inspection, which we like to remind customers of, maintenance, or the repair of wear damage – of course, by using genuine spare parts. The garage will let their experts complete the work and send the invoice directly to us. We also process warranty claims and are the contact for our customers – in short, their real international mobility partner.

## Does that mean that you also take administrative burdens off the customers' shoulders?

Yes it does, and small forwarders and companies with big fleets alike appreciate the service.

Organising all garage visits for a few hundred trailers would mean a lot of effort – with the Partner Service Package, there is only one invoice a month, and our customers can rely on the price over the long term. Such planning security avoids surprises and prevents unexpected fluctuations in costs. (jg) ○

↓ You will find more information on: [www.bpw.de/en/support/partner-service-package](http://www.bpw.de/en/support/partner-service-package)

# Better understanding for greater road safety

The association The Transport Ambassadors touts for more tolerance among all road users across Germany and shows how important trucks are on the roads.

At the wheel of a truck, one experiences a lot of road users who show a certain aversion to the 'big wheeler' – simply because it's there. This is how Jochen Dieckmann describes one of the evergreens on German roads: the conflict between commercial vehicles and other road users. 'People want the goods that the truck brings, but they don't want the truck,' Dieckmann knows from his own experiences. He used to work as a truck driver for many years, wrote a book about his experiences, and has had many situations on the road in which car and truck driver did not cooperate well: 'Although everyone has the same goal: reaching their destination quickly and safely.'



Children learn from the transport ambassadors what the blind spot is.

## Events that create awareness

It was the reason for Dieckmann to become a member of the non-profit organisation Die Transportbotschafter (The Transport Ambassadors), which calls for more tolerance and safety on the road: the eight-man team manages an entire list of events, which raise awareness across Germany and are intended to provide a better mutual understanding. The association is supported by the TimoCom Soft- und Hardware GmbH, which counts the freight and loading space exchange TC Truck&Cargo among its projects. Transport Ambassadors was established in 2012 through an initiative by the company's management, which wanted to give something back to the road haulage industry and fulfil its responsibilities on safety matters.

## An American truck generates attention

One of the most important tools of the transport ambassadors is the TimoTruck, a customised American 2005 Freightliner Classic XL. The special customisation provides a tractor unit of 8.80 meters and 1094 integrated LEDs. Everywhere it goes, it generates attention, for example, at schools, where Dieckmann explains the risks of the blind spot to the youngest among road users: after he places a tarpaulin next to the vehicle, the children are allowed to climb into the driver's cabin – and see that they cannot see who or what stands or runs where the tarpaulin is. 'In this situation, I explain to them that pedestrians and cyclists have to help truck drivers by determining whether they are visible to the driver,' says Dieckmann. The TimoTruck also drives into the shopping streets of inner cities, where passers-by are offered to 'scold' the vehicle. 'And then I like explaining why we truck drivers are in the way in a bend during a driving manoeuvre from time to time or why overtaking another vehicle on the autobahn is sometimes important even on steep uphill roads.'

With the event Hand in Hand through the Land, the transport ambassadors and web portal Truckerfreunde.de tout the benefits of more partnership qualities on the road and more mutual understanding, especially between car and truck drivers. In personal conversations and by means of flyers, they list recommendations on how all road users can become more considerate of each other's situation. 'There are boos among truck drivers as there ones



The TimoTruck generates attention for a good cause.

among car drivers. But when we can work with each other and take care of each other, everyone will get to his destination quicker and safer. Putting the blame on each other certainly does no good.'

Often, it helps to explain to a car driver that the so-called elephant races on long uphill parts of the autobahn are usually caused by the different loads of each truck and because the drivers are under time pressure. 'When drivers of tractor-trailers want to drive around a narrow bend, they will first have to steer in the opposite direction. That is the moment in which no car driver should be impatient and try to overtake the truck since the driver cannot see him.' Whoever is aware of such situations is often prone to more considerate driving.



Jochen Dieckmann was a truck driver himself for many years.



## Trucks are essential

The transport ambassadors also seek young talents for the logistics industry. And they show how essential trucks really are, for example, A life with a truck shows an empty fridge. There would be nothing to go into it if food wasn't delivered to the supermarket. With special events, flyers, and presentations at other events, they show how life would be without trucks. Dieckmann sums it up as follows: 'With trucks, it may be a bit slower on the road sometimes, but without trucks, nothing would work.' (jg)

You will find more information on: [www.transportbotschafter.de](http://www.transportbotschafter.de)

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