

trailer world

The customer magazine of BPW

Issue Two 2008



A well-rounded package

When the pros accelerate with brakes. **Page 6**





Dear Reader

This is where speed is redefined: The transmission of a Formula One racing car can disengage and engage a new gear within 0.0004 seconds. A wink of the eye takes fifty times longer. In this issue we take a look over the shoulders of the specialists in the F1 pits.

Incidentally: Motor sport is going green. Brake energy regeneration – recuperation – is the word of the moment, this is intended to give the engines added boost power for overtaking. Given the world economy's hunger for raw materials, the use of alternative energy sources looks urgently advised as well.

At present there's no predicting the heights to which the prices of energy and raw materials are going to rise. Alone the price of steel has risen by almost 70 percent within the space of one year, and even existing supply agreements are already subject to drastic mark-ups by the steel industry. The automobile manufacturers have sought dialogue with the steel producers, the result of which remains to be seen.

Our motto "The Quality Factor" represents an obligation to which we are bound each and every day. An excellent result of our product development and a whole series of practical trials is our ECO Disc trailer disc brake system, uncompromisingly oriented to trailer-related requirements and scheduled to be brought to market as of autumn 2009. We have built our own production centre for this new quality product near our headquarters in Wiehl.

We plan to give you a live presentation of the BPW ECO Disc at the IAA Commercial Vehicles show in Hanover. This show has already registered new record figures, with over 2000 exhibitors on a floor area of more than 275,000 m². You will find our stand at its customary location in Hall 26, and we look forward to seeing you there.

And now enjoy reading this new issue of the trailer world.

Dr. Bert Brauers
Member of the Management Board / Sales

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Hall: 26
Stand: C31



Photos: BMW Motorsport, Stretz, Flieger Gruppe Cover: BMW Motorsport



Grand Entrance at the IAA

■ For the past months, truck and trailer manufacturers and their suppliers have been preparing for just one particular event: The IAA Commercial Vehicle show from 25 September to 2 October in Hanover. Some have already intrigued the media with their exhibition novelties; others will wait until the actual event to unveil their innovations. One trend can clearly be detected: the objective to produce more economical vehicles. The big leap – which would be, for example, a marketable hybrid truck as a mass-production vehicle – has not been dared by anyone as of yet. For the time being, truck manufacturers are only presenting diesel engines with greater fuel efficiency, fully automatic transmissions and natural gas propulsion

systems – especially in the transporters category. Trailer manufacturers have been more ambitious in advancing their products. Here the focus lies mainly on aerodynamics, loading capacity and loading space. Nearly all producers have invested in lighter materials, cleverly tailored solutions for container, steel or volume transportation and a more streamlined design. The international focus of the IAA lies on the Middle East and South Asia. This accent is honoured by the trade fair with the India Day on 29 September, followed by the Turkey Day on 1 October. Already on 26 September, the commercial vehicle industry's attention is directed towards Russia. On that same day, the „Trailer Innovation 2009“ prize will be awarded at the IAA.

Transport Innovations



■ The return of cargo sailors has already been covered in the trailer world article on “Skysails”. Now, the Kiel-based Lindenau-Werft has been commissioned by the wind turbine manufacturer Enercon to develop what apparently is

“the world’s most modern sailor”. What is so innovative about the “E-ship”, anticipated to leave port for its first trip by the end of the year, are four metal cylinders, 25m high and 4m in diameter, which, by functioning as sailing rotors, are expected to attain fuel savings of 30 to 50 percent. Originally, the technology was developed by the engineer Anton Flettner, who had equipped the cargo ship “Buckau” with two 15.6-m-high rotors and sent it on a trip across the Atlantic as early as 1926. The aircraft corporation Boeing intends to revitalize an entirely dif-

ferent kind of “airship”. Together with the Canadian company SkyHook International, it is planning a cargo airship capable of transporting up to 40-ton loads for up to 320 kilometres. The meanwhile insolvent German company Cargolifter had formerly intended to transport 160 tons – four times more than Boeing’s planned “Jess Heavy Lifter 40” (JHL-40).

questioning of readers of the specialist magazines “lastauto omnibus”, “trans aktuell” and “FERNFAHRER”, published by the ETM Verlag in Stuttgart. Chosen by 8,500 readers, the “Best Brands 2008” were awarded on 24 July 2008 in the Spiegelzelt (mirror tent) of Pomp Duck & Circumstance in Stuttgart. During the awarding ceremony, Sabine Habersatter, Head of Corporate Communication at BPW, enjoyed the company of the BPW client Krone Fahrzeuge, who received the same honours in the trailer category. She was thus able to share her enthusiasm over the trophy with the Krone managing director Bernard Krone.

30,000

jobs are in danger. Due to the current fuel price increase and the toll fee increase as of 2009, the Federal Trucking and Logistics Association (BGL) estimates that this number of jobs will be lost through lay-offs and bankruptcies within the coming months.

BPW Best Brand



Sabine Habersatter and Bernard Krone are happy about the award.

■ BPW is the best trailer axle brand of 2008. This results from a

Truck Market India

■ MAN, together with its Indian partner Force Motors, has been building sophisticated trucks for the Indian, African

Events of transport industry

- 24.09.-02.10.
IAA Commercial Vehicles
D – Hanover
- 04.-19.10.
Mondial de l'Automobile
F – Paris
- 06.-08.10. **European Transport Conference 2008**
NL – Leiden
- 09.-11.10. **TransUzbekistan**
UZ – Taschkent
- 17.-19.10. **Annual Meeting "Bundesfachgruppe Schwertransporte und Kranarbeiten" (BSK)**
D – Berlin
- 22.-24.10.
25th German Logistics Congress
D – Berlin
- 23.-24.10. **Annual Meeting Federal Association of road haulage, logistics and disposal (BGL)**
D – Bad Lauterberg
- 31.10 - 09.11.
International Motor Show
ZA – Johannesburg
- 01.-03.11. **SITL Dubai VAE**
UAE – Dubai
- 25.-26.11.
4th Trans Middle East 2008
UAE – Dubai
- 06.-14.12. **International Automobile Exhibition**
ES – Bolonga

BPW Fair Calender

- 23.-25.09. **Henty Machinery**
AUS – Henty, NSW
- 24.09.-02.10.
IAA Commercial Vehicles
D – Hanover
- 07.-09.10.
Elmore & District Field Days
AUS – Elmore, VIC
- 12.-16.10.
Golden Autumn/Argotech
RUS – Moscow
- 22.-25.10.
Elmia Lantbruk (Agricultural Fair)
S – Jönköping

BOOK RECOMMENDATION: SUPER PANORAMAS BY GURSKY



■ It is the extreme panorama format, the special interplay of attention to detail and abstraction, and the mass of people that make Andreas Gursky's photos so impressive. The illustrated book of the current work period (including fascinat-

ing Formel-1 images) thus is simply named "Andreas Gursky".

Published by the Hatje Cantz Verlag, € 39.80, ISBN 978-3-7757-2019-9, available online at www.hatjecantz.de

and Asian market since 2006. After a total of 500 trucks in the year 2007, MAN Force Trucks stepped up production to attain nearly 7,000 vehicles in 2008. Daimler is now also taking-off in India. In a joint venture with the Indian The Hero Group, Daimler is currently building a truck plant in Chennai (southern India). Plans are to produce, from the year 2010 on, up to 70,000 trucks under a new brand for India and later also for other emerging market countries.

Sustainability awards in the transport industry

■ The Chair of Logistics Management at the University of St. Gallen (LOG-HSG) and DKV Euro Service will be granting the "Eco Performance Award 08" at the DVZ Climate Summit on 12 March in Hamburg. Logistics companies in the field of commercial goods transport with a particularly sustainable performance both in economi-

cal and ecological terms can apply (in the categories 10 to 50, and 50 and more vehicles) until 30 November of this year.

www.logistik.unisg.ch/eco_performance_award

Until 15 October, participants can apply for the "Hanse Globe" award offered by the Logistics Initiative Hamburg for sustainable projects in the overall context of logistics. www.hanseglobe.de



BPW Youth Runs for Donation

■ "We asked ourselves what we could possibly do with so much young potential," BPW trainee Theresa Hoell describes the origin of the idea for the sponsored running event. Together with two colleagues she motivated her supervisors and nearly 70 co-trainees to run more than 50 laps per person in the Wiehl stadium. The sponsors paid up to 200 euro per accomplished lap. Thus the BPW juniors were able to donate 13,550 euro to the Wiehl-based charitable organisation „Malteser- und Johanniter-Hospizgruppe". The director of the hospice, Gerlinde Tuzan, complimented the commitment of these young people who, quite contrary to the cliché, were not only thinking of themselves.



The pit battle

While the fans follow the battle between the racing cars on the circuit, the final verdict is often decided in the pit lane. This is where reliable technology, forward-looking strategy and an experienced team are required.

Victory in a Formula 1 Grand Prix naturally requires not only superior speed. Constant reliability is at least just as crucial. This point is the Achilles' heel of many race teams.

In addition to excellent technology as the basic requirement, a practised race team is also essential for success. Formula 1 Champion Michael Schumacher once said that in addition to driving skills and technical understanding, he owed his victories above all to the fact that he had been able to motivate his race mechanics and inspire them to produce outstanding performances. It was typical for the record World Cup champion to eat his pasta in the company of his mechanics.

In the struggle for hundredths of seconds, the man is still the measure of all things, he decides the outcome of the race for the pole position and the place on the victor's rostrum. But is it just the man? The main show-place during the race itself is the course, but victory or defeat is almost always decided by the right pit-stop strategy, the striving for perfection of the race mechanics and technicians, and not least the question of whether the material will hold out. Team spirit is what is required here.

A few hours of racing comes as the climax of weeks of testing, which shows up how well the technical development, the team management and the drivers have been able to work together. Everything and everyone is put to the test, because the reality of racing knows no favourites – design errors and quality faults in the technology, less-than-perfect co-ordination and human weaknesses are immediately brought to light. →

Photo: BMW AG

Race driver Andy Priaulx impressively presents his vehicle in the reconstructed pit lane of the "BMW Sauber F1 Team Pit Lane Park".

At every Grand Prix, a computer network is established. While the vehicles pass the pits at full speed, the telemetry data is registered by over 150 sensors, and relayed back to the pit team in fractions of a second. A whole team of engineers examines all the curves and diagrams on their laptops. Around 40 kilometres of cable are laid for the power supply and the IT network by a team of 13 technicians. The detailed monitoring of the vehicle on the circuit is also essential to protect the driver against unpleasant surprises and underpin subjective impressions with hard technical data. The times are however long gone when a driver could dispute every possible mistake. Driving and operating errors are more apparent than ever in the age of high-technology. The head of the whole organisation and chief coordinator in the BMW pit is Willy Rampf, Technical Director of the BMW Sauber F1 Team. For the perfect suspension adjustment, engine and gearbox setting, technicians and drivers analyse every curve, every straight and every undulation in the surface of the course. Revolutions, temperature and other measurement data from the engine, gearbox and other assemblies, suspension movements, inclination angles and many other measurable characteristics are meticulously evaluated. The biometric figures of the driver also play a decisive role in this respect. For example, the average temperature in the driving position is approx. 50 °C, the driver loses around two kilos of body weight, and his pulse rate is higher than that of a marathon runner.

Pit boss Rampf expresses his confidence shortly before the half-way race of the current season at the British Grand Prix at Silverstone: "We have learned some interesting lessons at the test in Silverstone. Anyone who wants to turn in a fast lap here needs a car with very good aerodynamic balance. The course is characterised by the many medium-fast and fast curves, through which the drivers must maintain as much speed as possible. The course surface is quite rough, which places correspondingly heavy stress

on the tyres. For this reason, the hardest compounds are used here." Rampf himself is also under enormous stress every moment of the qualifying and the race. Under enormous time pressure, decisions are demanded of him which can result in success or total failure.

Not only does he coordinate the pit team, he is also responsible for the stocks of spare parts and technical equipment, which are different for every race, depending on the local conditions. For fine tuning of the individual gears to the relevant circuit, the choice can be made from more than 50 different transmission ratios.

»The carbon brake discs reach a temperature of over 1,000 °C during braking. During the race, the red-hot brakes have to be cooled down with liquid nitrogen before they can be replaced.«

Willy Rampf, Technical Director of the BPW Sauber F1 Team

The team has to put in at least eight hours of work after a race in order to dismantle the vehicle, check or replace individual components and put the vehicle back together, while the assembly of the BMW P86/8 engine alone requires around 120 working hours. The engine consists of around 1,100 different individual parts, and counting components this comes to a total of around 5,000 parts, most of which must be continually available ex-stock. When the vehicle returns to the pit during training or qualifying, oil samples are taken and subjected to spectrometer examination in the pits. The metallic traces in the oil provide important information on the condition of the engine. The racing gearbox

also undergoes tremendous stresses, and is manufactured and maintained with maximum precision. The installation of a new gearbox takes around 40 working hours. No wonder, because with the associated hydraulics it consists of approx. 1,500 parts. For test-stand trials and test and race use, about 20 gearboxes are manufactured, which are subsequently overhauled several times. The oil temperature within the gearbox reaches up to 150 °C. During the gear-change process a gear can be disengaged and a new gear engaged within 0.0004 seconds. A wink of the eye takes fifty times longer. Innovative bearings with ceramic race linings guide the shafts in the gearbox with the minimum of oil.

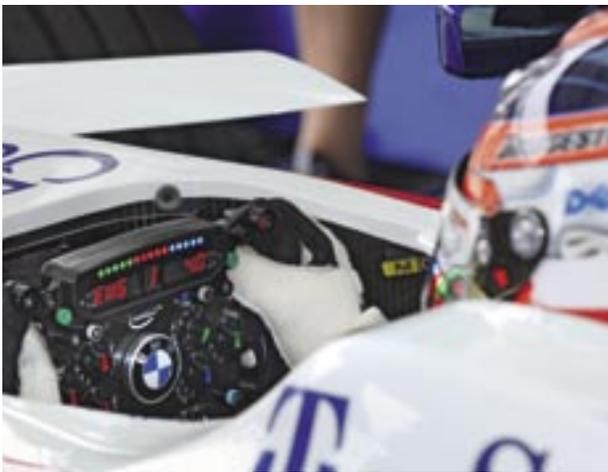
Numerous technical developments, such as the use of high-heat-resistant ceramics enable the Formula 1 teams to improve the performance of their vehicles, to the extent that the vehicles these days cannot even be started without the aid of a notebook computer. A highly sophisticated IT infrastructure offers the teams the basis for the continual development of their vehicles, and guarantees prompt and accurate information and data, which are decisive for the overall team performance.

With an acceleration of 0 to 100 km/h in approx. 2.6 seconds, and to 200 km/h in 5.2 seconds, the deceleration from 200 to 0 km/h in 2 seconds or 55 m is truly breathtaking. During such extreme braking manoeuvres, drivers are subjected to forces similar to those experienced during the launch of a space-shuttle. The carbon brake discs and linings are quite happy at 550-650 °C, and during braking reach temperatures of over 1,000 °C. A great problem if a brake caliper or lining has to be changed during the race: the red-hot brakes first have to be cooled down to a manageable temperature using liquid nitrogen, before the mechanics can change them.

The team management has to work out its pit strategy for the race depending on the circuit, the championship situation and the weather conditions. The more →



Over 1,000 °C deceleration heat: red-hot carbon brake discs.



Photos: BMW AG

Nothing works any more without telemetry.



Analysis after the test drive.

Hectic in the pit lane

Races are repeatedly decided by the pit stop. The result then rests no longer on the driver, but on the team, which must work together in perfect co-ordination.

The pit lane is located at the edge of the circuit. During the gear-change process a gear can be disengaged and a new gear engaged within 0.0004 seconds. A wink of the eye takes fifty times longer. Depending on the course, maximum speeds apply here of between 60 and 100 km/h. The speed-limiter should actually be used here, which is actuated at the touch of a button on the steering wheel. This limits the speed to the permitted maximum speed for the pit lane and with correct programming pressing the button at the correct time prevents any acceleration above this limit. But in the excitement of the moment, this is sometimes forgotten by drivers. There are hardly any drivers who have not received a stop-and-go penalty, or a fine in training, for contravening this rule.

Despite carefully worked-out strategies, terrible mistakes repeatedly occur during the pit stops – either the mechanics take too long for refuelling or tyre-changing, or the drivers make major driving errors. In this way, a bad pit stop cost Lewis Hamilton of the McLaren/Mercedes Team valuable seconds at the Grand Prix in Magny Cours, and in the panic, he overlooked the fact that the lights were on red, meaning that he was not allowed to leave the lane, as a result of which he crashed into the properly waiting Ferrari of Kimi Räikkönen, thereby throwing away any chance of victory.

Seconds that decide everything The pit stop by Robert Kubica at the double victory of the BMW Sauber Team at the Canadian Grand Prix took 7.5 seconds. He only stopped in the pits for refuelling, since he was following a 2-stop strategy. It took 12.4 seconds for Nick Heidfeld, who refuelled and had his tyres changed. The team management had ordered him to make two stops, but as a result of a safety-car phase, it was calculated that he could make do with one stop. This was

a calculated risk, since it was not at all certain whether the soft tyres would hold out for more than 40 laps. Nick brought the tyres over the distance, but after the stop could only stop shortly before Kubica. His problem: his tank was full to the brim, while Robert Kubica was on the move very quickly, since his tank was almost empty, and he was therefore able to brake much later. On lap 49 came the planned second

pit stop by Kubica. In the meantime, he had built up so much of a lead that despite his pit stop, he was able to maintain pole position until the finishing line.



The record for tyre-changing for the BMW Team is 2.8 seconds. The leader in Formula 1!

Controlled emotions in the pit lane Irrespective of the decision for one or more pit stops, the priority is always to keep the stay in the pits as short as possible. Even a routine stop for refuelling or tyre-changing demands the maximum concentration of the driver and mechanics. Look out for what the Lollipop Man is doing – as the mechanic is nicknamed who during a pit stop holds out on a long pole the sign “Brakes on” as long as the vehicle is still jacked up, and then gives the signal “1st gear”. Don’t take off too early, before the refuelling hose

has been removed or the last wheel firmly tightened.

The emotional component ultimately decides between victory or defeat: How does the pit crew support their driver, how good is the communication between the driver and his team? At the latest when the Lollipop Man lowers his pole and the brakes are released, the displayed time shows accurately to the hundredth of a second how good was the co-operation between the pit crew and the driver, who must also have a great understanding for the technical conditions, in order not to cause unnecessary wear to the materials. This often results in the paradox that the fastest driver with the best lap times is not always the winner. ○



»Formula 1 technology is also important for economically and ecologically efficient road vehicles.« Mario Theissen, BMW Racing Director

standardised the basic technical conditions, man and material have become in motor racing, the more depends on the correct pit strategy. Race strategy: changes in the weather or a safety-car phase demand lightning-fast reactions at the command centre. Here the changed circumstances are assessed at lightning speed: can enough fuel be saved in order to avoid a pit-stop, will the tyres hold out, can a lap or several places be gained by

staying out of the pits? It therefore comes as no surprise if the performance of the cars can be completely different between the qualifying round and the race itself.

Hot technology and emotions

Six trucks with semi-trailers are needed in order to have the complete technical equipment available on site at all of the 18

Grand Prix races. For races overseas, 32 tonnes of air freight are assembled. This load includes four racing cars, six to eight engines, three to five complete sets of spare parts, 160 wheels, 100 radio transmitters with headsets, IT equipment and the complete pit equipment including tools. Everything is loaded onto special 10-foot palettes and air freight igloos.

The 80-man pit team itself is made up of the team staff, technicians, mechanics, logisticians, marketing and press personnel and the catering specialists.

A warehouse on a world tour

In terms of cost, the catering plays a role in Formula 1 which cannot be underestimated. VIPs want to be looked after properly. Seven trucks are required for the so-called Hospitality Unit alone. Visitors to the BMW pit catering can follow the race on a total of 37 plasma screens. At every race weekend, and in addition to other delicacies, guests and staff consume 1,000 eggs, 1,800 rolls, 120 kg of steak, 90 kg of fish and 100 kg of pasta, all of which is washed down with 2,300 litres of San Pellegrino and other soft drinks. More detailed information on the consumption of champagne and wine is not available. (hs) ○

→ Info For further information of the Formel 1 team of BMW Sauber please go to the Internet site www.bmw-motorsport.com.



Photos: BMW AG

For the team and guest hospitality alone, seven trucks make their way from race to race.



Black rubber

Having the right tyres is like having the right logistics: the perfect mix makes all the difference. At the Greven Logistics Centre of Fiege, this consists of precision, modern processes and a good three decades of experience.

At first glance, one sees nothing but black – 450,000 times. But on closer inspection, this apparently endless mass of rubber reveals itself to be an extremely carefully arranged affair. The Fiege Mega-Center in Hamburg keeps the European logistics of Bridgestone turning over. Up to 20,000 tyres roll daily into the interior of the vast hall, and as many again leave the building. This is high-speed logistics without any detours.

The Mega-Center in Hamburg-Moorfleet, whose largely glazed, brick construction, visible for miles, is located direct on the A1 motorway, is only one component in the European sales network of Bridgestone. “From here, we can serve the complete German market and Denmark within 24 hours”, explains Fiege Northern Regional Manager Marcel Vogler. While the Hamburg centre ensures the supply of the north European regions, southern Germany and Alsace are fully supplied from the warehouse and distribution centre in Lahr. With the Mega-Center in Bor in the Czech Republic, the Fiege Group – in line with the pan-European strategy of Bridgestone – has extended its distribution network for tyre logistics even further.

Of the total of over 20 million units which the Greven logistics company handles every year for Bridgestone and other well-known customers like Continental, Pirelli, Toyo and Yokohama, around three million pass through the doors of the Hamburg centre. The incoming goods go direct onto so-called “corlettes”. These special racks developed by Fiege look a little like oversized bicycle stands, and can be stacked in two layers. “Bridgestone delivers its products only as far as the loading ramps”, explains Marcel Vogler, “everything else is then in our hands, right through to delivery to the individual dealers.” This is precision logistics work, and demands great confidence. Bridgestone has now placed such confidence in the Fiege Group since 1979. Over

the course of the years, the two companies have become extremely well-practiced partners. Today the family company from Greven is responsible for the complete European tyre logistics of the Japanese concern. From Hamburg alone, Fiege services 35 so-called header stations throughout Germany. This is complemented by a continually growing range of products.

“Bridgestone has a good 6,000 different types and sizes of tyres on the German market”, as the Tyre Logistics Department Manager, Dirk Brümmer, is well aware. He has been working in tyre logistics for years, and is very familiar with the material he sends out to his customers every day: “The current trend for example is for →



Special racks ensure proper storage several metres high.



From car tyres to the “Earthmover”: All tyre types and sizes are stocked by the Fiege Mega-Center.

run-flat tyres (RFT), which also remain stable following complete loss of pressure and are not thrown off the wheel. This is made possible by special strengthening of the side wall, a reinforced bead core and extremely heat-resistant rubber compounds.”

Tyres in over 6,000 variants

These and other compounds lie heavy on the air as one enters the enormous warehouse and handling hall. A good 30,000 of the total of 80,000 m² are here at the disposal of Bridgestone. The “corlettes” are stacked with tyres of different diameters, thicknesses and profiles for private cars, four-wheel drive vehicles, light transporters, heavy trucks and coach-

es. Five “corlettes” at a time fit one above the other, towering up to a total height of around eight metres. “Only our high-reach forklifts can get to the very top”, explains Brümmer, “for larger sizes such as agricultural tyres, we operate grab forklifts, which can hold the tyres firmly in their claws.”

But next to the earthmover tyres, which are stored in a special area of the hall, even a tractor tyre looks relatively small. These black monsters for the huge earthmoving machines are up to three metres high, and can weigh up to 300 kg. These heavyweights are handled by special forklifts, equipped with lances, which are inserted into the centre of the tyre. Mega-trailers also have to be used for the onward transport of the very

largest types. “The complete tyre range for earthmovers alone covers around 50 different profiles, including both radial and diagonal tyres”, says Brümmer.

Catalogued down to the last detail

In order to be able to keep track of such an enormous range, every article is catalogued down to the last groove of the tread. And like the “corlettes”, the modern IT solution has also been developed by Fiege itself. All procedures from goods receipt to delivery out to the customer are controlled by the warehouse and transport management system. Over data interfaces come the orders from the Bridgestone systems in Brussels,

Photos: Fiege-Gruppe



»We no longer use commissioning lists printed on paper here. The drivers receive their orders direct on a screen in the vehicle, which informs them of the exact warehouse location and quantity.« Marcel Vogler, Northern Regional Manager

which are then quickly passed on to the forklift drivers via the material flow control system (MFCS). “We no longer use commissioning lists printed on paper here”, says Branch Manager Vogler, “all the forklifts are controlled by radio frequency (RF).” The drivers receive their orders direct on a screen in the vehicle, which informs them of the exact warehouse location and quantity. Sometimes the batches are provided with labels by an integrated printer. In addition to this value-added service, the fitting of tyres is also one of the extended range of services to do with tyres. “On the Scandinavian market, spikes are in particular demand because of the severe weather conditions in winter”, adds Vogler. “The corresponding fitting of the tyres is also one of our tasks.”

»We have again been able to extend our tyre map.«

At the end of last year, the Fiege Group was once again able to extend its “tyre map” with the new customer Hankook. The Korean company is the seventh-largest in the world, and the fastest-growing tyre manufacturer, and docks its container at the ramps of the Fiege Budapest Logistics Centre in the Harbour Park. “This gives us a very tight-knit logistics network covering Spain, Switzerland, Scandinavia, the Czech Republic, Poland, Hungary and Germany”, reveals Dr. Rembert Horstmann, Company Development, Marketing and Communications Director of the Fiege Group. “On this basis, and despite the enormous throughput, we can ensure the maximum degree of flexibility, coupled with the continual availability of all tyre products, even during demand fluctuations due to the weather.”

The guarantee for smoothly running logistics, as achieved by Fiege for Bridgestone and other well-known tyre manufacturers, is the Fiege Mega-Center concept. From 30,000 m² of area, logistics if “mega” at Fiege. The central idea behind such huge building layouts is to bring together economic and ecological interests: the wide range of logistics services brought together under one roof ensures short handling routes and fast reaction times. All the steps of the value-creation process take place under one roof. Here product lines are bundled, parts fitted and the goods stored, prepared for sale and then dispatched. This dispenses with unnecessary transport, and allows quantities to be combined. The good connections to rail and inland waterway transport also enable environmentally friendly dispatch. This is also appreciated at Fiege by the tyre manufacturers. (rp) ○

→ Info For further information, please go the Internet site www.fiege.com and select the menu item “Industries” and than “Tyres”.

The Fiege Group

■ The Fiege Group is based in Greven in Westphalia, and is one of the leading logistics providers in Europe. Its competence lies in particular in the development and implementation of integrated, complete logistics systems. Tyre logistics is one of the main areas of activity of Fiege, which has been active in this sector for almost 30 years.

The Fiege Group employs around 21,000 people worldwide. Over 222 locations and co-operative efforts in 18 countries form a tight-knit logistics network. The Group turnover in 2006 was 1.75 billion Euro. 2.85 million m² of warehousing and logistics area speak volumes for the performance capability of the company.

Ready for the future



What makes the new ECO Disc so good is something that BPW sales staff from throughout Europe found out about at special training sessions. In this respect too, BPW goes for nothing less than thoroughness and quality: What advantages does the new disc brake offer, and what technical refinements are to be found in it? It is this information that the salespersons

aim to communicate to BPW's customers, and to this end they need comprehensive knowledge of this new product. Training staff member Peter Lindner used a model to explain all of the product's capabilities: "Our sales colleagues are very interested in technical aspects, so I put the focus on precisely those topics and acquainted them with the individual features of the new

brake system." In addition, all of the participants were given a comprehensive presentation, with the result that they are now optimally prepared for sales discussions with BPW customers. The training sessions were marked by excitement and curiosity about the product. Three participants from Germany, Sweden and Denmark report on their impressions. (jg) ○

Photos: Stretz

We held the first sales talks with customers in early August. Together with a BPW colleague from Germany we drove to visit the major fleets here in Sweden. Given that 60 percent of the brake systems we sell here are of the disc type, the ECO Disc is going to be a leading topic. Sweden's technical inspectorate lays down strict requirements in terms of balanced braking forces. Disc brakes have a pronounced advantage in this respect. Apart from this, the Swedes always want the very latest in technology. Everyone at the training session in Wiehl was curious about the new product, me too. All we knew beforehand was what the brake looked like from the outside. We were then shown the unit's inner structure in its entirety, which I found very helpful. Trucks are my life, and my interest in motor vehicles doesn't start until past the 26 metric tons mark.



»The Swedes always want the very latest in technology.«

“My father was a truck driver, as were his brothers too. In my private life I have a 16-metre Scania, built in 1964, and I drive it around myself from time to time. Here in Sweden, but also in Norway and Finland as well, the roads are very poor, so it is very important to our customers that the brakes are well sealed so that no dirt can get in. And that's precisely what we can offer with this new disc brake. BPW has a very large market share in Sweden, and the ECO Disc gives us the opportunity to expand it even further and consolidate our position at the head of the field. We as market leaders can't ever afford to sleep where technical innovation is concerned. With our new disc brake we are showing everyone that we are wide awake.“

Stefan Bengtsson, sales manager
with Swedish BPW subsidiary
Fordonsmateriel AB

That the development of BPW's new ECO Disc trailer disc brake is in full swing is something we of course already knew beforehand, but it wasn't until the training session here at headquarters in Wiehl that we got to learn precisely what BPW has come up with in terms of this innovation.

The exhibited ECO Disc aroused a lot of interest among all those taking part in the training session. This was our first opportunity to have a closer look at the new brake, and, having previously only seen it from the outside, get to know and understand the inner structure and workings.



»The most important event for us this year is the IAA in Hanover.«

The ECO Disc offers a wealth of advantages: for example its impressive saving in terms of weight. And the product is, of course, '100 per cent BPW' where quality and ease of servicing is important as well. The training session on the ECO Disc was professionally conducted, and it was very interesting to exchange views and experiences with our colleagues, especially those from other countries.

I now feel fully prepared for what is our most important event this year – the IAA show in Hanover – and I'm already looking forward to conducting the first talks on the BPW ECO Disc and introducing our stand visitors to the latest BPW innovations.”

Nina Hannes, member of the sales department at BPW headquarters in Wiehl

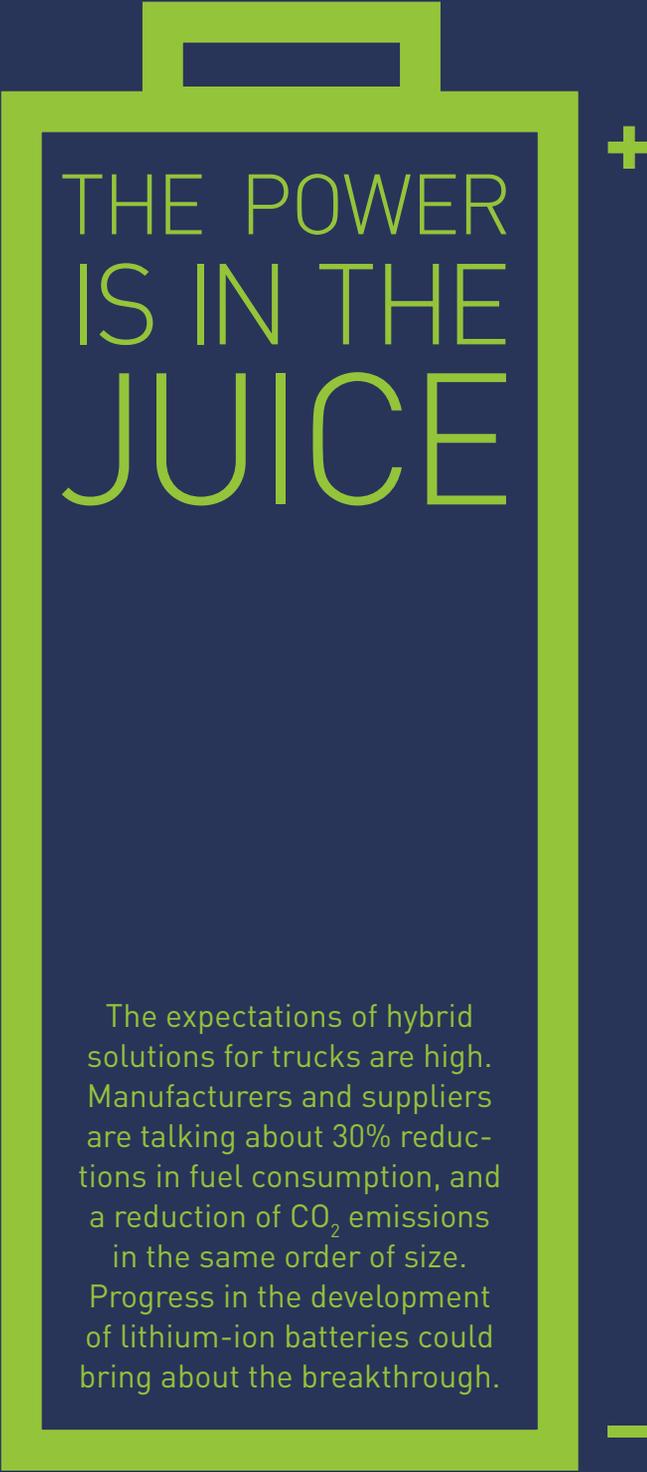
At the training session in Wiehl you could literally feel the enthusiasm that has spread throughout the company during these past few months. BPW's production of its own disc brake is a big step forward and great for our customers! We had little information before the training, and we couldn't wait to find out what makes this product so special. Of importance from the customers' point of view is that it's service-friendly and requires as little maintenance as possible, and we certainly won't be disappointing them in this respect. There are a couple of special factors to be taken account of in Denmark. Our climate is different to that of Spain or Greece: our winter is very cold, and the salt spread on the roads during this period is not exactly the best “lubricant” for a brake.



»Our climate is different to that of Spain or Greece«

Apart from that, Denmark is a land where leasing predominates. The majority of trailers are obtained from large leasing companies, and need versatile axles and brakes to enable various different truck-trailer combinations. Drum brakes have been the system of choice until now. Danish customers are always a bit hesitant at first where new technologies are concerned, and this calls for a lot of persuasive effort on our part. And we're well equipped to do just that, because we're well informed right from the start. Our service workshops too are being given sound training – after all, they are often the first point of contact. There is a lot of interest among the customers. And a lot of trust and confidence in BPW. They know that each and every new product brought to market by this company has a wealth of experience and development work behind it.”

Erik Graversen, managing director
of Danish BPW subsidiary Transport-
Teknik A/S



THE POWER IS IN THE JUICE

The expectations of hybrid solutions for trucks are high. Manufacturers and suppliers are talking about 30% reductions in fuel consumption, and a reduction of CO₂ emissions in the same order of size. Progress in the development of lithium-ion batteries could bring about the breakthrough.

Only pressure creates innovation. This is not a rule of physics, but a rule of life. The current pressure for action on the industry caused by rocketing energy prices is increasing the speed of innovation in hybrid technology.

The best example is the hybrid Canter. Mitsubishi Fuso has already had its 7.5 tonne Canter truck on the market in Japan for two years. According to the group parent company Daimler, over 200 units have been sold so far. This is not many, although nevertheless still a beginning. A market success without the prefix “major trial”: Private users were still buying the vehicles for the purposes of inner-city distribution traffic. The Japanese had no other choice: in certain districts of Tokyo and other major cities, the **ZERO-EMISSION** rule applies.

And this is only feasible with an electric drive. The extra price for the hybrid Canter, around €10,000 according to Daimler, would be largely subsidised by the state in Japan. Such “incentives” were still lacking at the time with us, complain the Daimler sales strategists. And not completely without justification – as demonstrated by the advance Euro-5 sales of heavy trucks: whoever switched quickly to the latest exhaust gas technology would be rewarded with reduced toll charges. The additional costs for the Euro-5 technology were completely recouped by these hauliers in less than two years.

Despite drastically increasing diesel prices, the transport sector is still very cautious about alternative drives. Operators of commercial vehicles have nevertheless understood that a hybrid concept can only be used economically for its energy recovery, and therefore only in city traffic, with its frequent acceleration and braking procedures. The forecast consumption savings in diesel fuel amongst developing

manufacturers are in the region of 30%, presupposing predominantly stop-and-go traffic.

Everyone is also agreed that only one parallel hybrid can be successful in the scenarios of European distribution traffic. The **PARALLEL HYBRID** refers to the joint or alternating drive of a truck by an **ELECTRIC MOTOR** and/or a **DIESEL ENGINE**. The diesel engine and electric motor are in this case arranged for example so that acceleration is handled exclusively by the electric motor. The high-torque electric motor can however also be switched in parallel with the diesel engine (“boost”), in order to handle acceleration, overtaking or gradients more quickly. Shorter inner-city delivery routes should be able to be serviced with the hybrid truck exclusively by electric motor. This use with “full hybrid” status cannot however always be achieved – or only in a very limited radius of action of a few kilometres.

A further characteristic of the parallel hybrid is its capability of **RECUPERATION**. This refers to the conversion of braking energy into electrical energy, which in turn recharges the vehicle batteries. A requirement for this is that the electric motor acts as a generator in propulsion operation. All hybrid concepts for trucks fulfil this requirement, so that in propulsion operation the electric motor can also be used as a generator and almost as a retarder, which simultaneously spares the service brakes and significantly reduces brake wear.

How one can design such a drive train elegantly, i.e. in a continuous driveline, has been demonstrated by ZF as a system developer and supplier of complete assemblies. The ZF hybrid comes in three configuration stages: stage one concerns only the electric motor (54 kW) with its actuators and clutch. Mercedes for example installs this →



basic element in its hybrid Sprinter, where it is installed compactly in a line in the drive train between the engine and gearbox.

A significantly more complete configuration stage was the prototype of a Nissan Cabstar light truck, which ZF retrofitted with a hybrid drive train: a motor/generator unit, an automatic gearbox (“iTronic”) with automatic clutch and the corresponding control electronics were combined with the diesel power plant of the Nissan.

The third configuration stage was produced by ZF in co-operation with MAN. This is a hybrid drive train fitted into a MAN TGL 12-tonner, again equipped with the standardised components from ZF. Except with the difference that this concept is equipped with an **ELECTRODYNAMIC ACCELERATION ELEMENT** (EDA), instead of a clutch.

In technical terms, the hybrid concept with EDA is based on the fact that in this case, the electric motor is not installed directly between the combustion engine and gearbox, but is connected by means of a single-stage planetary gear. It still gets by however with taking up very little space. Three drive solutions can therefore be accommodated in the identical installation space of a vehicle: a conventional drive train with manual gearbox, with automatic AS-Tronic gearbox plus acceleration clutch of a hybrid system with EDA.

The highlight of replacing the clutch with the electric motor is both very elegant technically, and nothing more than consistent: hardly any other power plant is better suited for getting a heavy truck on the move than an electric motor. Its enormous torque is available practically 100% with the switch-on pulse. The electric motor – with correspondingly intelligent controls – can therefore be used like an extremely sensitive clutch, with all the characteristics of a torque converter. Applications which require extremely slow driving speeds, such as communal use or waste disposal can

therefore be realised with very low wear and above all quietly on the environment.

Volvo is pursuing a very independent path towards the hybrid truck. The Swedes have the heaviest hybrid distribution truck so far in trial service. The twin-axle Solo truck from the medium-heavy FM series is also equipped with a parallel hybrid and gets by with a smaller diesel engine than usual. This **DOWNSIZING** of the possible diesel power

plant is incidentally a core feature of modern hybrid systems: in the parallel hybrid, the electric motor contributes to covering short-term peak performance requirements. This “booster” function enables the use of significantly smaller diesel engines. And that in turn reduces weight and fuel consumption.

Since the Volvo trial vehicle, in service as a waste collection truck, must be able to service inner-city routes under purely electric power, all peripheral units which are normally driven by the combustion engine must also be powered electrically. Otherwise the servo-steering pump, air compressor, oil pump, fuel pump and auxiliary drive would all be inoperable in the purely electric mode. This constitutes a substantial requirement, which significantly

increases the power consumption in electric operation, and which must be compensated for by recharging during transit in operation with the diesel engine.

The fact that Mercedes for example has already designed a **PLUG-IN SOCKET CHARGING** solution for its hybrid Sprinter points out the problem: it is by no means the case that the electrical energy requirement can be covered over the working day of a hybrid distributor exclusively by recuperation, i.e. the recovery of braking energy in propulsion operation. It requires additional charging current to top up

The best of two technologies: Diesel engine and electric motor

- Use of the high torque of the electric motor for accelerating
- Use of the efficiency of the diesel engine for speed
- Smaller diesel engines required
- Zero exhaust and noise emissions when stopped
- Significant savings potential for fuel and harmful emissions
- Energy efficiency and practicability by charging the batteries during braking (recuperation)
- Combination of “stop-and-go” capability and long-distance capability

the batteries to the extent that movement under purely electrical power is ensured. Charging overnight from the socket is essential for longer, purely electrical routes in the town. For the hybrid Sprinter with Ni-MH batteries for example, this process can be completed in six hours.

Or one can resort to charging during the journey with the diesel engine: in this case, a significant proportion of the performance of the diesel drive is diverted via the electric motor, which now acts as a generator. In comparison to charging overnight with cheap electricity from the socket, this form of on-board recharging is however not particularly economical, especially since the diesel engine only works (in the best case) at an energy efficiency level of 42 to 45%.

The hybrid drive with an intentionally high proportion of purely electrical drive therefore requires a high charging rate, which cannot by any means be covered by the recovery of braking energy. Progress has already been made with regard to this problem in the case of inner-city buses. The IDEAS project (“Innovative diesel-electric hybrid drive for city buses”) initiated by MAN and Siemens uses the combustion engine only as a pure plant engine, which only operates the electrical systems via a generator, and has nothing more to do with the actual drive to the wheel. The advantage of this so-called “serial” hybrid: the diesel engine only runs when required, and then only in a very narrow revs range, always with optimum load and consumption. The actual drive is provided only by electric motors. To complement this, high-performance condensers, so-called **ULTRA-CAPS**, have already proven their capability as short-term, high-energy accumulators for scheduled bus services.

Developers however consider battery systems as more suitable for emission-optimised distributor use in truck applications. The energy density required for pure, **EMISSION-FREE ELECTRONIC DRIVE**

(without the supporting generator drive by the diesel engine) can at the moment only be provided by battery-assisted systems.

The logical consequence of all these efforts towards high-efficiency hybrid drives for commercial vehicles would in future be a drive using electric wheel hub motors. This would allow manufacturers to dispense with many components such as differentials, gearboxes, shafts, which not only entail unnecessary weight, but also significantly restrict the basic idea of a distribution vehicle, namely the transport of goods to the trade.

A truck whose basic structure would only have to accommodate a battery pack, in addition to a diesel engine as a purely power plant motor, could be designed completely differently to current concepts thanks to the space-saving wheel hub drive: for example as a self-supporting construction with a very low bed.

Whether light hybrid transporters and trucks will be able to be launched onto our markets quickly depends primarily on whether they will be in demand, and at the same time subsidised. The demand pressure for high-performance hybrid trucks and transporters will only become great enough if towns and communities establish extremely restrictive “zero-emission” zones.

Vehicles complying with these requirements could be quickly brought to the point of service maturity. Progress in the technology of **LITHIUM-ION-(LI-IO) BATTERIES** in particular gives cause to hope for more economical and durable battery solutions. Viable hybrid trucks, according to Volvo and also Daimler, will not be available until 2009, by which time Mercedes will have the plug-in hybrid Sprinter ready for series production, and Mitsubishi Fuso the hybrid Canter. Volvo is also promising that the FM will be available as a hybrid for 2009. (rd)





If we do it – we'll do it right

The production of BPW's new trailer disc brake is something that requires space, so the company decided on a new building for the purpose. The result: a modern, well-planned production hall completed in just nine months.



It's not going to work", was Michael Ley's opinion while taking a look at the production hall in Reichshof (Hunsheim) close to Wiehl last year. The production operations of slack adjusters are being relocated shortly, and the intention was to convert the old hall so that the new ECO Disc brake could be produced there in the future. Michael Ley had headed the Process Optimization department before taking over as project manager for the market launch of BPW's new disc brake, and was already picturing where the new machines would be positioned in the hall. "There would have been enough room for them, but not enough for conveying the materials and for any extension of the facility", was how Ley saw the situation. "The material flow needs space". It was clear to him and his project team that building a new hall was an absolute necessity.

The first machines had been ordered for August 2008, so Ley and his team nevertheless presented their view of things to the company's top management and arranged a "Phase-Zero Workshop" with general building company Vollack, in the course of which all possible variants were considered. When the BPW team left for home late in the evening, the construction planners put in a night shift – and tabled a detailed plan in the morning. With the promise: "We can complete the building by the end of August, but we need some quick decisions to that end."

That was on December 14th, 2007. And the decisions were indeed taken quickly: on December 17th, BPW's management board approved the building of a new production hall – and thus an investment of around seven million euros was sanctioned. On December 20th the company informed the local authority of its plans and submitted its application for building permission; a partial building permit enabled commencement in mid-January 2008 of the excavation and earthwork in Hunsheim.

The full building permit arrived in early March, and August saw the hall completed – on schedule to the day. "This project really was a case of everyone pulling together, both on the part of our company and the contractors as well as the public authorities", says Michael Ley. The district council in Gummersbach even applied for certification that a building permit in the Oberbergische Kreis district was to be granted within 40 days. "The application from BPW came quite unexpectedly, but we had a meeting with all concerned and took on this task", says head of department Gabriele Keil-Riegert. Markus Hippel, personal aide to Gregor Rolland, mayor of the municipality of Reichshof, stresses the significance the building project has for the region: "It goes without saying that the preservation and long-term security of jobs is extremely important for our municipality. The Oberbergische Kreis district is an attractive industrial location

and, since the completion of the A4 motorway, very well developed in terms of accessibility."

A webcam documented the project's progress throughout the building work. In fast-forward mode it's possible to see how everything was systematically and sequentially fitted together. The actual construction activities were preceded by extensive excavation and earthwork. This was necessary since the landscape in the Oberbergische Land region isn't flat like in the north, and a sizeable incline of seven meters had to be levelled out. Then came the foundations, then the erection of the hall walls, then the roof. The roof is supported by pillars, which create a matrix that provides optimal conditions for locating the machinery – and considerably more working space than the old hall. The machines can be moved virtually hindrance-free between the pillars. A variable electricity supply system has been fitted to the ceiling, and this likewise enables flexible solutions. Travelways and storage facilities need adequate room – and it has been possible

to provide for this requirement. At the same time, provision has been made for additional space, meaning that the hall is well prepared for the future and will be able to cater for any increase in production capacity.

The new building's biggest advantage lies in the short transport paths that are now possible for the parts and material and which are expected to make for significantly enhanced production efficiency. Achieving this did, however, call for a lot of planning and patience. The first step was to put down on paper exactly where all the production areas had been placed on the architect's plan: delivery zone, four complexes for the mechanical machining of components, assembly zone and storage facilities.

"We played through various solutions again and again", Michael Ley tells us. BPW is keeping a number of options open for the purposes of testing them in practical application: "In some areas we start by just drawing lines on the hall floor, in those places in which, for example, a special rack for the brake callipers is to be positioned later on", continues Ley. The brake callipers arrive at Goods Inwards in wire mesh crates. They could then be organized by means of a push-through rack which forwards the crates over an inclined plane. "At the beginning, however, we just put the crates on the floor to see how the flow would really work. We undertook a lot of small but sound steps along the way to our objective", says Ley. And this objective is an ambitious one: BPW Bergische Achsen KG has not only dedicated itself to ensuring the very highest quality in terms of its products but is also aiming for the continuous improvement of process flows. "We intend to live up to our guiding principle of a lean production operation", explains Ley. "This modern building will enable us to do just that." (jg) ○

»Once again this project was a case of everyone pulling together, both on the part of our company and the contractors as well as the public authorities.«

Michael Ley



Build it and they will come!

The sheiks of the United Arab Emirates are investing their revenues from oil and gas production into grandiose construction and infrastructure projects and are thus attracting further investors.

From the window of an airplane approaching Dubai, United Arab Emirates, the visitor first notices the skyline, one of flair and futuristic immensity, rising abruptly from rolling sand dunes. Buildings 350 metres tall, an indoor ski slope, and countless clusters of construction cranes compose what is self-described as the “21st century city of the world.” Located in one of the world’s most inhospitable climates, the UAE seems to be doing just fine. Occupying 83,600 km² on the south-eastern shore of the Persian Gulf, it stretches nearly to the Straits of Hormuz in the north. The country borders Saudi Arabia to the west and south, and Oman to the east. The climate remains extreme, with minimal rainfall during winter months. For half of the year, the temperature is extremely pleasant, although temperatures in summer surpass 50° C with paralyzing 90 per cent humidity. Dubai is the second largest emirate in total area behind Abu Dhabi, the capital of UAE.

Worldwide highest GDP per capita

Sitting on 9 per cent of the world’s proven oil reserves (98.2 bn barrels) and almost 5 per cent of the world’s natural gas (6.01 trillion cu metres), the UAE’s extraordinary hydrocarbon wealth gives it the highest GDP

per capita in the world. Currently, the UAE produces about 2.5m barrels per day (bpd) of crude – just above its OPEC quota of 2.4m bpd. The UAE’s consumption of oil is around 375,000 barrels a day, with 1/3 of that being imported. Currently there are six operational refineries in the UAE with existing refining capacity in the region estimated at around 800,000 tonnes. Development of downstream industries such as refineries and petrochemical plants remain a central part

of UAE’s efforts to move away from crude oil exports. The major player remains Emirates Petroleum Products Company (EPPCO), which is responsible for over 50% of the country’s naphtha, marine diesel oil, diesel, kerosene, jet fuel and LPG exports.

Cheaper refuelling in Abu Dhabi

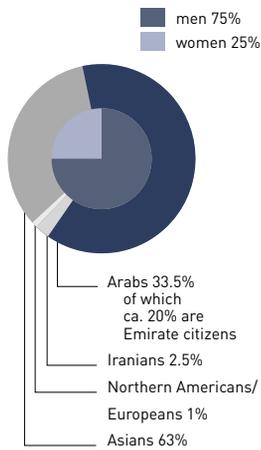
The price of diesel in the UAE varies from one emirate to the next. In Dubai, diesel →



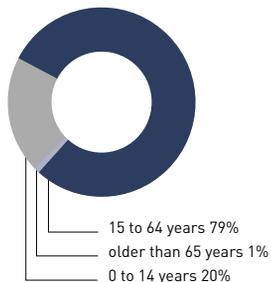
Huge demand for construction vehicles: 20% of all large-scale cranes are in use in Dubai.

Population of the UAE

population 4.95 million

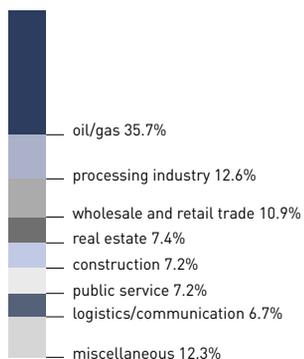


Age Structure of the UAE



GDP per capita 32,990 US\$

Division into sectors by percentage



is loosely priced around \$5 dollars a gallon. However, in Abu Dhabi the price is closer to \$2 a gallon. Local truckers are knowledgeable to fill up whenever in Abu Dhabi, often deemed the oil capital of UAE. As Abu Dhabi is renowned for its oil production, Dubai's reputation is largely based on trade and tourism. Priding itself as the crown jewel of modernity, Dubai is the city where things need to be the first, the biggest, or the one and only in order to fit it. Though it sits at the edge of the world's second-largest desert, Dubai boasts abundant golf courses and fountains- not to mention the world's highest rate of water usage per capita.

Before it became known for mega projects, Dubai was a stop off for merchants on trade routes connecting the Gulf, Africa and the Far East. Centuries as a transit hub have made the emirate home to many people, cultures and traditions-and preserved its reputation as a commercial centre for the region.

Logistics hub of the region

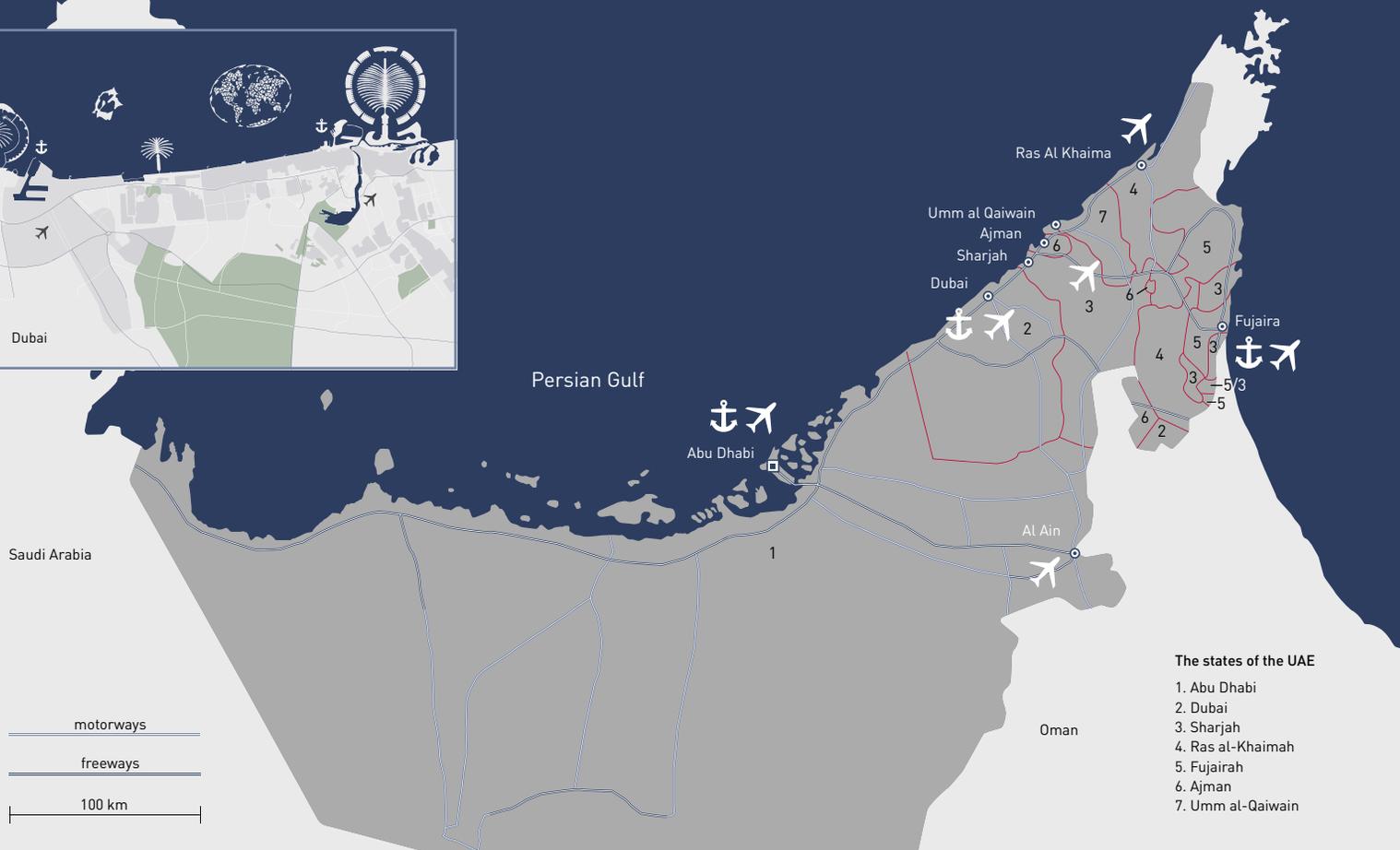
As of late, Dubai's economy has been on fire, consistently leading the region in almost all non-oil sectors. Making economic diversification the cornerstone of its policies for the past 30 years, the fruits of such labors are paying off. Beginning first with infrastructure-ports, airports, and logistics- in the 1970s and 1980s, by the end of the 1990s, Dubai had built an impressive construction and real estate sector. It would really take off in 2002, after the emirate announced that foreigners were permitted to own freehold property. With the iconic offshore Palm islands, the Burj Dubai (the tallest building in the world) and the massive Jumeriah Beach Residence (the largest single phase building project ever attempted), Dubai has constructed a global reputation for itself within the construction and development community. It's been said that 20 percent of the world's tall cranes and over 80 per cent of the world's dredgers are in Dubai these days. Such statistics give some indication of the impressive

volume of construction currently underway in the emirate. As awe-inspiring as the sheer numbers is the unbounded imagination of the developers, who continue to raise the bar for mega-projects: buildings half a mile tall, man-made cities larger than Manhattan rising over the Gulf, islands reproducing the map of the world, snow covered mountains among desert sands and larger than life models of the wonders of the ancient and modern world. If that is not enough, even a rough estimate of the amount of money being spent is shocking. The invested value alone of the following projects, which is not even a comprehensive list, is between \$80bn and \$100bn, or more than double Dubai's GDP.

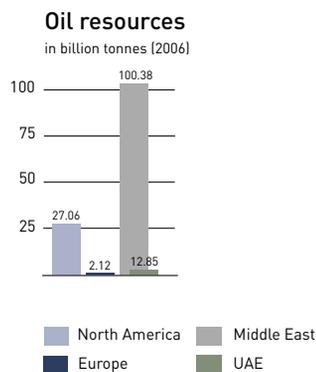
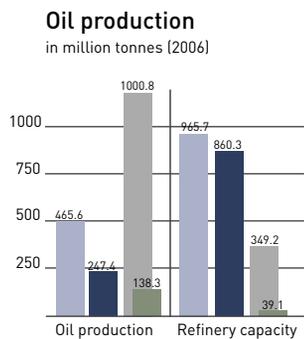
A paradise for investments

"Dubai is totally construction-based. It's a construction guy's dream," says Martin Mileham, director of operations for Dubai offices of Norr, a Toronto-based architectural, engineering and interior design company. "You've got every type of building going on here, from individual villas to multi-development reclamation projects. There's no other place in the world where two or three jobs walk in the door every day." While Dubai has gained fame for its over-the-top projects, the city is also putting equal effort into its basic infrastructure -roads, utilities, port upgrades and air links -to keep up with the expected influx of people. Dubai Municipality, Dubai Electricity and Water (DEWA), Ports and Customs Free Zones (PCFZ) and the Civil Aviation Authority plan to spend an estimated \$25 bn in the next few years. Additionally, while roads and bridges appear to be in a perpetual state of expansion, projects like the mass transit system, Dubai Metro, a light rail system traversing the city, is currently under construction and expected to be completed by 2009.

One major player who has been active in UAE for more than 35 years is BPW. Producing axles and suspensions for light and heavy duty indus-



The United Arab Emirates lie between Saudi Arabia and the Oman on the Persian Gulf.



trial equipment, BPW has witnessed first-hand the growth in the region, specifically the transport sector. “The extremely high construction boom and numerous investments which are being done here create a solid demand for quality products from BPW,” says Hans-Peter Birkenbach, Area Sales Manager of Middle East for BPW. “We have very good contacts and business relations to all local trailer manufacturers here. We want to expand our market share while meeting the demands of our customers,” says Birkenbach

Continued growth in the construction industry

Perhaps the most shocking thing about the projects is not their expenses or scale but their timetable. Dubai sets extremely aggressive completion schedules. Maintaining breakneck speed is the contractor’s responsibility in Dubai, where buildings go up in two years when they generally should take three. The vital component in such quick completion times is the large pool of cheap

labourers, able to staff building sites 24 hours a day, seven days a week, making labour costs a fraction of those in Western markets. With excess liquidity in the market from record oil prices, investors have gravitated to Dubai’s real estate sector because it has gained a reputation for delivering rapid, generous returns. Even amateurs can expect to see a return of 20 per cent on their money. Therefore construction should continue to surge in the coming years, as the Dubai government shows no signs of slowing down. The public sector will continue to be the leading client, though the private sector will become more involved, as projects like the ‘Waterfront’ and ‘Dubailand’ plan to sell plots for private development.

The looming threat will be a slow down caused by either a sudden loss of confidence or a string of poor quality projects. However, as long as the construction continues to be underpinned by cash and not financed by debt, market buoyancy should remain poised to continue. After all, Dubai’s unprecedented growth continually reminds us: if you build it, they will come!

Mobile deployment force

Being stuck somewhere out on the road because of a flat tyre is equivalent to a catastrophe for a haulage company. In an era of just-in-time transport, nobody can afford long downtimes. Fortunately, hauliers can rely on the fast tyre and breakdown service of Continental AG.

A flat tyre can happen to anyone, anywhere. Despite their size, strong casing and heavy rubber profiles, even truck and coach tyres are not immune to this problem. Commercial vehicles are continually on the move, and often with heavy loads. A nail or screw can easily become lodged in the profile when manoeuvring in loading yards or when turning round at the coach terminal. Back on the road, the metal bores its way deeper into the casing with every revolution of the wheel. The inevitable finally happens: the truck tyre can no longer maintain pressure, and finally forces the driver to make an emergency stop. A blessing in disguise if the man at the wheel can then make it to a parking place or emergency lay-by. On the motorway, the hard shoulder often remains the last resort.

Professional help throughout Europe

Even with the right spare wheel on board, many truckers still need to rely on outside assistance. Continental AG has been providing such professional breakdown assistance in case of tyre damage to its customers for 30 years. The so-called ContiEuroService (CES) was established for this purpose in 1978, and has since been successively extended. The tyre manufacturer is therefore one of the first

to offer a European tyre breakdown service. Today, customers have access to a network of around 1,800 contract workshops in Germany and 7,000 partners in 24 European countries, who in an emergency can provide fast and expert assistance.

“We have in this respect reacted primarily to internationally active fleet operators, who wanted a reliable tyre partner and calculable costs in the event of a breakdown outside their own country”, recalls Patrick Leuschner, Manager of the ContiEuroService for Germany, Austria and Switzerland. With his 20-man team, the 34-year old Leuschner looks after the two service programmes “ContiTireManagement” for individual tyre management and “ContiBreakdownService” for rapid assistance in the event of tyre breakdowns.

In the current breakdown statistics of the ADAC Truck Service, tyre damage stands at the undisputed top of the list. Almost one in three involuntary stops by trucks in Germany are due to a defective tyre. Places two and three in the most frequent causes of breakdowns, at around 25% and 20% respectively, go to the electrics and the engine. The axles however hardly ever cause a breakdown. The suspension is responsible for breakdowns in only slightly over 2% of cases. And even the hard-working brakes of trucks only figure in the middle of the field at 5%.

This order can also be confirmed by the tyre manufacturer from Hanover. It has continually modified its network and the service offered to the economic, national and international changes taking place in the transport sector. “Our “ContiBreakdownService” has long been available outside western Europe, and can now also be used in Poland, the Baltic states, the Ukraine, the Czech Republic, Slovakia and Hungary – 365 days a year and all around the clock”, explains Leuschner.

Vehicle service card

All that is needed is prior registration. A service contract is concluded with ContiEuroService, and the customer receives from the tyre manufacturer the vehicle EuroServiceCard with the printed customer number and vehicle registration number. “This is the personal permit for obtaining tyres and service from us in the event of a breakdown, without the need for cash”, summarises the ContiEuroService National Manager.

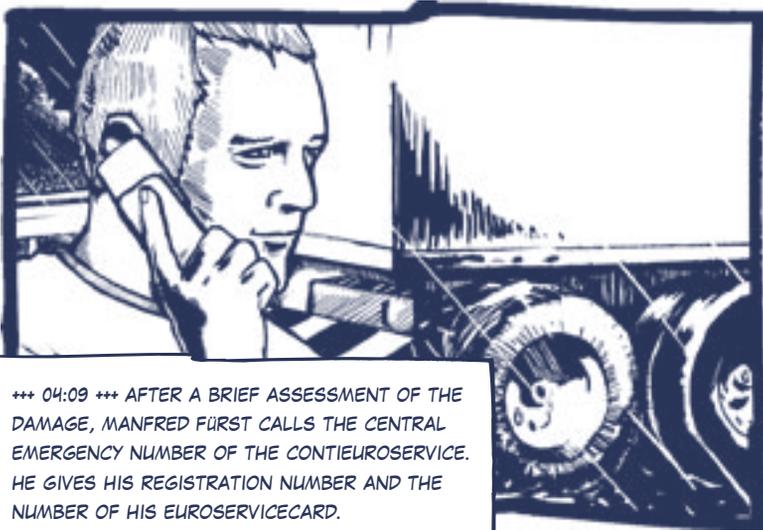
In the event of a breakdown, the driver calls the ContiEuroService in his own language and identifies himself with the customer number. If his vehicle is still roadworthy, he can use the special “GoTo-Service”. A ContiEuroService employee describes to →

THE BREAKDOWN

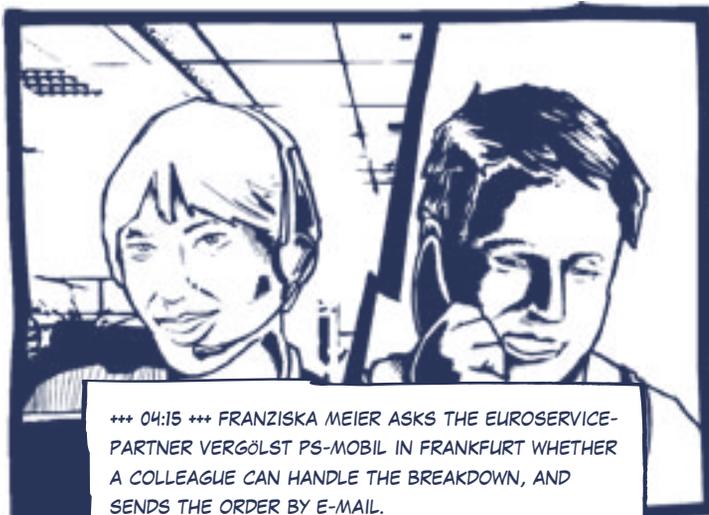


+++ 04:07 +++ TYRE BREAKDOWN ON THE A5 AT THE FRANKFURT JUNCTION. TRUCK DRIVER MANFRED FÜRST BRINGS THE LOADED VEHICLE SAFELY TO HALT ON THE HARD SHOULDER.

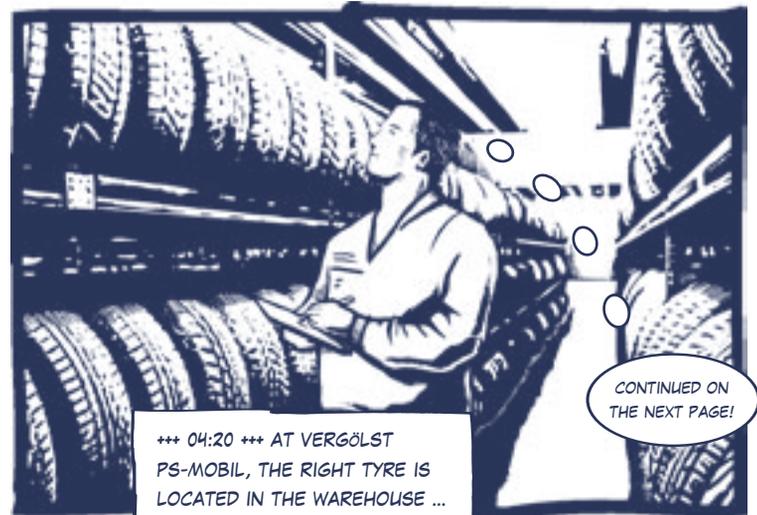
+++ 04:11 +++ FRANZISKA MEIER ON THE SERVICE HOTLINE TAKES DOWN ALL THE RELEVANT DATA, SUCH AS THE BREAKDOWN LOCATION, TYPE OF THE DAMAGED TYRE, VEHICLE CONFIGURATION AND SOME DRIVER'S DETAILS. ON THE BASIS OF THIS INFORMATION, SHE LOOKS FOR A SUITABLE EUROSERVICEPARTNER IN THE VICINITY.



+++ 04:09 +++ AFTER A BRIEF ASSESSMENT OF THE DAMAGE, MANFRED FÜRST CALLS THE CENTRAL EMERGENCY NUMBER OF THE CONTIEUROSERVICE. HE GIVES HIS REGISTRATION NUMBER AND THE NUMBER OF HIS EUROSERVICECARD.



+++ 04:15 +++ FRANZISKA MEIER ASKS THE EUROSERVICE-PARTNER VERGÖLST PS-MOBIL IN FRANKFURT WHETHER A COLLEAGUE CAN HANDLE THE BREAKDOWN, AND SENDS THE ORDER BY E-MAIL.



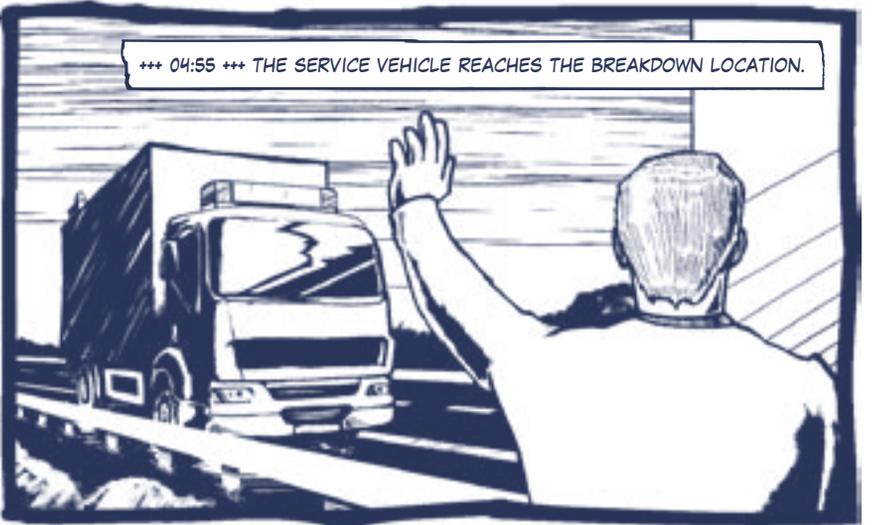
+++ 04:20 +++ AT VERGÖLST PS-MOBIL, THE RIGHT TYRE IS LOCATED IN THE WAREHOUSE ...

CONTINUED ON THE NEXT PAGE!

... AND LOADED ONTO THE SERVICE VEHICLE.



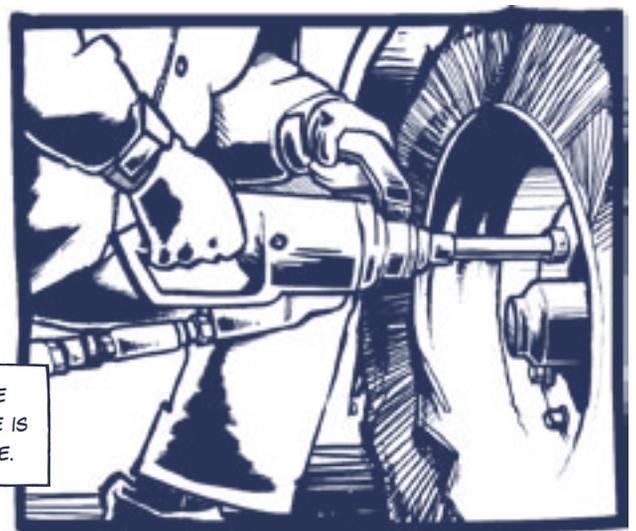
+++ 04:55 +++ THE SERVICE VEHICLE REACHES THE BREAKDOWN LOCATION.



+++ 04:59 +++ SERVICE TECHNICIAN MAKES THE BREAKDOWN LOCATION SAFE ...



... AND BEGINS TO REMOVE THE DAMAGED TYRE. THE NEW TYRE IS FITTED IN THE SERVICE VEHICLE.



AFTER COMPLETING THE NECESSARY FORMALITIES, MANFRED FÜRST IS ABLE TO CONTINUE HIS JOURNEY.



»We are the first and only service partner who also offers a time guarantee, in addition to a fixed-price guarantee.« Patrick Leuschner



him the fastest route to the nearest contract workshop over the telephone. This saves the driver both time and money.

100 Euro, if it takes longer

If the truck or coach is no longer able to move, the service employee passes the order on to one of the listed contract partners in the vicinity, who can handle the breakdown. A specially trained technician with his service vehicle is then dispatched to the breakdown site, and rectifies the problem on the spot. The driver confirms the repair by means of his signature on the service report. The customer is charged both for the service and the new tyres at a guaranteed fixed price.

Depending on the region, the tyre repair takes no longer than three hours, and a maximum of four. This is guaranteed by the ContiEuroService with the "DriveOn" time guarantee introduced two years ago. If the repair takes any longer, the customer receives a 100 Euro refund. "We are so far the only ones to offer a fixed price and a time guarantee", asserts Patrick Leuschner. "In this way, we demonstrate to our customers that we take our product promises seriously", the qualified business manager goes on.

The fixed price guarantee was decisive for Karsten Beimgraben in concluding a contract with the ContiEuroService. The

Workshop Manager of the Willy Petersen hauliers in Wasbek has been using the service for almost four years, and has no regrets. All 200 tractors and 130 trailers operated by the company can make use of the ContiService if necessary. "We have almost 2,000 tyres on the road every day. I am therefore in contact with CES almost every week", says Beimgraben. A new tyre is not always necessary. Often only a missing valve has to be replaced.

The Workshop Manager praises the competent and always friendly CES employees, with whom he has already been able to establish personal contact. "They are the only resort when tyre damage happens at night and abroad", explains Beimgraben. He han-

dles around 40 call-outs per year via the ContiEuroService. The basic contract costs him nothing. Only when the tyre service is called out does a fixed call-out charge become due. Added to this are fixed costs for service and tyres. These fixed costs depend on the time of day and the tyre size.

Loyal and satisfied customers

Karsten Beimgraben has so far never had a refund from Continental. His tyre partner has always been able to meet the guaranteed repair time. One reason for continuing to remain loyal to the ContiEuroService. (fh) ●

→ Info Further information on the ContiEuroService can be found at www.contieuroservice.com.

Continental Group

■ Continental AG is more than just a tyre manufacturer. Based in Hanover, the company is amongst the world's leading suppliers to the automotive industry. In addition to tyres, Continental also supplies brake systems, suspension and drive components, vehicle electronics, infotainment and vehicle communica-

tions equipment, instrumentation and technical elastomer products. As one of the largest producers of commercial vehicle tyres, Continental manufactures tyres light and heavy trucks, coaches and off-road vehicles. These are sold in Europe under the brands Continental, Uniroyal, Semperit,

Barum and Matador. In 2007, Continental produced a total of 7.2 million truck tyres. In August 2008 Continental signed an investor agreement with the automotive supplier Schaeffler KG from Herzogenaurach. Schaeffler will purchase a capital stock of Conti up to 49,9% in the next four years.

»More testing than necessary«

Braking until the discs get red-hot: the ECO Disc has been tested under hardest conditions right down to the very last detail before the series launch in 2009.





New products have to prove their worth in road tests.

tion of the testing. “We were highly satisfied with the product, and only had to slightly modify a few settings which the design department couldn’t be expected to know since they can only be accurately determined in practical operation”, says Eskes.

On completion of this testing it was then time to take the brake out onto the road for the first time. The first tests were carried out on roads in Germany. The company’s own test trailer was fitted with the new product and taken by a driver on a long-distance test. A 300-kilometer circuit taking the vehicle successively through hilly and mountainous terrain on which the driver undertook continuous hard braking, thereby making for high temperature levels. This degree of stress can also arise in normal travel under difficult conditions. Like, for instance, the 16-kilometer downhill run from the Rossfeld Alm heights in the Berchtesgaden Alps, where the driver ill-treats the brakes with constant braking manoeuvres. After a time the brakes literally get red-hot – but the trailer is nevertheless successfully brought to a standstill on arriving at the end of the run: BPW test passed.

This tough test was followed by the tour through Sweden, during which the BPW team put almost 14,000 kilometres behind it. The experts tested to find out what harm snow, wet and ultra-low temperatures can do to the brakes. Special measuring instruments were fitted and delivered data on a regular basis. “We were very satisfied with the results”, says Robin Eskes. This success cleared the way for the first field trials, for which purpose BPW customers were asked if they would like to test the ECO Disc. Those taking part then had their trailers fitted with the new disc brake. A test carried out under everyday operating conditions, accompanied by targeted questioning of the customers and regular workshop checks.

“The testing of our products goes far beyond what’s necessary”, explains Robin Eskes. This huge outlay is something BPW pursues with an alert eye on the future. BPW are already working on improvements for the new disc brake which could possibly be realized in a subsequent version. Eskes now knows the product inside out after all the tests he has performed with and on it: “It hides no more secrets from us.” (jg)

Winter 2008: Snow, ice and a narrow road in Swedish winter. One truck after the other thunders along in the opposite lane: this is where a trailer and its brakes really have to form a perfect team – which makes it the ideal test route for BPW Bergische Achsen KG’s new disc brake. BPW always tests its products under the toughest possible conditions to ensure their absolute suitability for everyday use.

Robin Eskes is one of the people at BPW who keep a stern eye on innovations. He is in charge of the company development service’s “Heavy-duty Road Trial Programme”, and was himself behind the wheel in Sweden. Having previously put the ECO Disc through a number of successful tests, the 33-year-old engineer with a degree in mechanical engineering had already acquainted himself in detail with the new product before trialling it in Sweden’s ice-cold winter.

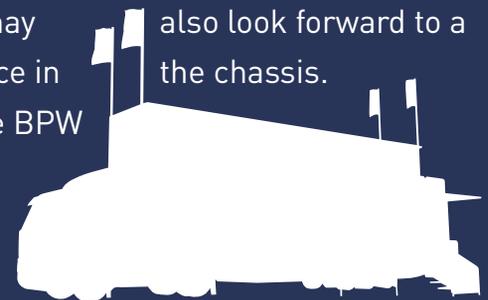
This previous testing was conducted in BPW Bergische Achsen KG’s factory test facilities to ascertain the adequacy of the braking force, establish which brake pressure levels are necessary, whether the brake would also stand up to ultra-high temperatures (which were simulated via continual interval braking). Also, could the new brake be relied upon for a long service life, and are the brake discs of sufficient quality to ensure that they will not crack. These were questions the development service team was able to answer on comple-

»We were highly satisfied with the test results at all times.«

Robin Eskes

BPW ON EUROPE TOUR

At the **IAA** Commercial Vehicles show, the company Bergische Achsen KG will be showcasing not only its new **trailer disc brake ECO Disc**, but also its new "**Infomobile**". From 6 to 27 October, the show truck, specially built to BPW's specifications, will be travelling to 22 towns in all of Germany in order to present the entire range of **BPW's latest innovations** which have also fascinated the international trade visitors at the IAA. This will, of course, include the new ECO Disc, BPW's trailer disc brake system – a product which truly stands up to its name. You may also look forward to a **very special highlight**, which points towards even more intelligence in the chassis. If you are curious about what is behind all this – just drop by at the BPW Infomobile's stopover in your vicinity.



Won't be unveiled until the IAA:
The new "Infomobile" of BPW.

Bremen 10/06/2008 Hamburg 10/07/2008 Bentwisch 10/08/2008 Ludwigsfelde 10/09/2008 Dresden 10/10/2008 Kirchhasel 10/11/2008 Magdeburg 10/12/2008 Markranstädt/Leipzig 10/13/2008 Bakum 10/14/2008 Bielefeld 10/15/2008 Essen 10/16/2008 Willich-Schiefbahn 10/17/2008 Kaiserslautern 10/18/2008 Freiburg-Hochdorf 10/19/2008 Hochheim am Main 10/20/2008 Kassel-Lohfelden 10/21/2008 Schweinfurt 10/22/2008 Stuttgart 10/23/2008 Ulm-Söflingen 10/24/2008 Nuremberg 10/25/2008 Weiden 10/26/2008 Munich-Feldkirchen 10/27/2008

Please find further information at www.bpw.de/aktuell/. In November the show truck will be travelling through Turkey and Italy.

WIN A MINIATURE MODEL OF THE BPW INFOMOBILE

The new BPW Infomobile is going on a tour throughout Europe. And you now have the chance of winning the "Scenix Edition", a Herpa model of the former show truck with light and sound. We will even add a 2nd prize (BPW truck model with a self steer axle) and a 3rd prize (BPW truck as a radio-controlled model). To participate, please just answer the following question (by fax or online at www.bpw.de/trailerworld).

In this issue of trailer world, which two articles did you like best?

1. _____
2. _____

Winners of the trailer world prize draw Issue One 2008:

After reading the Issue One 2008, Michael Schmidt (Weilburg), Andreas Kelzenbach (Rommerskirchen), Hans-Bernd Liesen (Münster), Ingo Ritter (Friedrichshafen), Karl Scheck (Ulm) and Ralf-Rainer Vogel (Falkenhagen) sought the challenge of globalisation. In return, they have all already received the book "The Challengers – 25 Multinationals That We Must Keep an Eye On" by Joachim Dorfs (editor), Deputy Editor-in-Chief at Handelsblatt.



Company:

First name, surname:

Position:

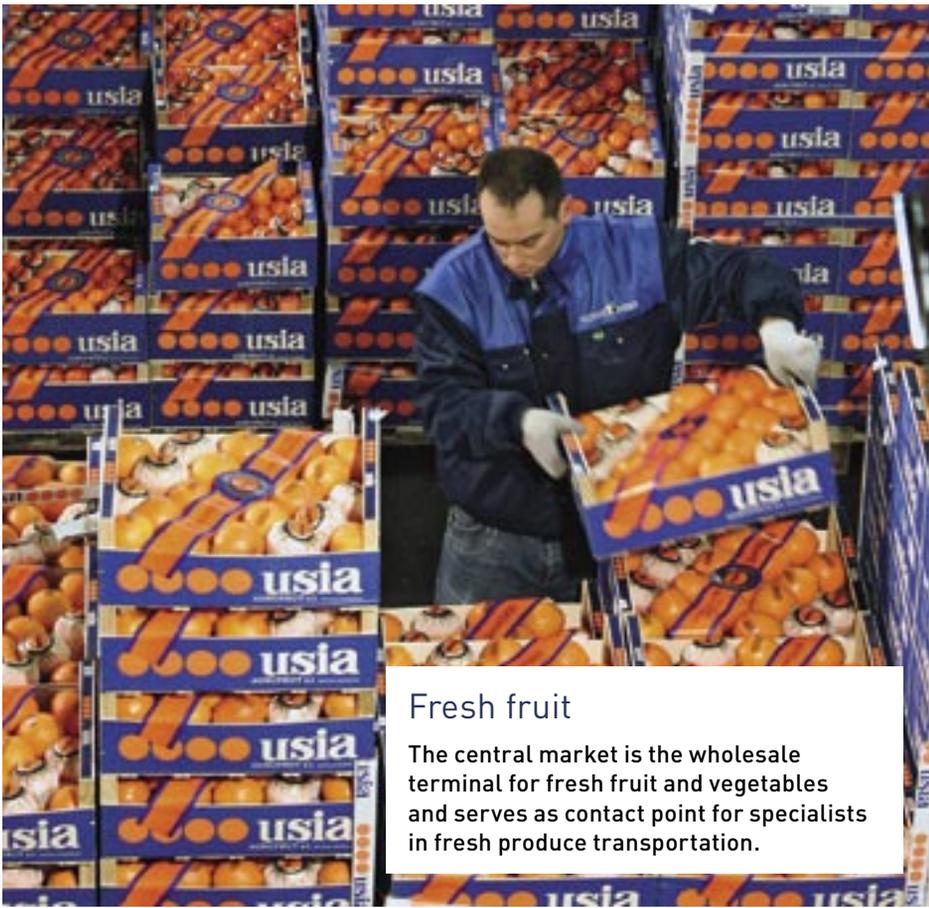
Road, town, post code, country:

E-Mail:

Phone or fax:

**Please send this coupon by post to BPW Bergische Achsen KG,
P.O. Box 1280, 51656 Wiehl/Germany, or fax it to +49 2262 78-1579.**

Planned topics trailer world issue three 2008



Fresh fruit

The central market is the wholesale terminal for fresh fruit and vegetables and serves as contact point for specialists in fresh produce transportation.



Great potato

Grimme's potato harvesting machines are employed world-wide.



Liquide logistics

Beverages producers and suppliers in the service of refreshment and taste.

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