

Mercedes-Benz

1 | 2019

# Unimog

The magazine for multi-functional applications



## Universality to the manner born

**U 423** | Bayernhafen in Regensburg relying on an all-rounder: Alongside its bimodal operation, the Unimog clears snow, cuts shrubbery to keep clearances free – and can do a lot more besides

Snow-clearing in extreme conditions | Off-road TLF 3000 | Local public transport service



**Dr.-Ing. Ralf Forcher, Vice-President  
Marketing, Sales and Service  
Mercedes-Benz Special Trucks**

## Dear friends of Unimog,

Yesterday a great storm blew over Europe. And at present, as I write this editorial, thick snowflakes are falling. They are covering the roads and houses in a dense white carpet – most likely the tail end of what in many regions has been an extreme winter, and a sign of ever-increasing climate change. The more extreme the weather, the more vehicle design concepts capable of dealing with such tough conditions are in demand. Did you see the images on the television where emergency services were shovelling snow from roofs to prevent them from collapsing? Or where masses of snow had to be cleared so that the emergency services could get through to those in need? Then you doubtless noticed that most of the vehicles taking the crews to the incidents or clearing the roads were Unimog. I am quite proud of that, to be honest. But ultimately it is the emergency services whom we need to thank. We have done that in our own way. See for yourself at: **[mbs.mercedes-benz.com/winter-service-amstetten](https://mbs.mercedes-benz.com/winter-service-amstetten)**.

Unimog had a successful year in 2018 – and not only thanks to its attributes as a helper when disaster strikes. Many cus-

tomers opted for one of our vehicles because they appreciate their reliability, versatility and economy. And we are proud to have the privilege of assisting you as our customers. We are working tirelessly to continually adapt our Unimog to the diverse needs of our customers. In this issue, for example, my colleague Michael Geisler sets forth our strategy with regard to transmissions. Also, we will in future be offering the Unimog with certification as a tractor in Europe. This is in response to the wishes of customers in many countries looking to deploy the strengths of the Unimog in agricultural logistics.

I very much hope you enjoy your reading.

Best regards,

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## An all-rounder at home on the quayside

The Bayernhafen port in Regensburg is a hub for freight transport throughout eastern Bavaria. Its operations demand a multi-talented all-rounder capable of towing, lifting, spreading or cutting to keep clearances free. The Unimog U 423 is just such an all-rounder – with very special technical features.

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Tom Shepperson (pictured top left) made a comparison, and he confirms his Unimog delivers greater ride comfort and is more economical

## Economical towing machine

The U 423 operated by Shepperson Contracting is highly economical, achieving a 30 litre a day fuel saving compared to other alternatives.

**BASED IN ST. NEOTS**, Cambridgeshire in England, transport company T. Shepperson Contracting opted for a Unimog U 423 tractor vehicle. The U 423 features a 5.1 litre four-cylinder in-line diesel engine developing

170 kW (231 hp). The transmission is an electropneumatic unit with eight forward and six reverse gears. A key factor in Shepperson's choice was a comparison of fuel consumption figures within its fleet, which showed clearly

in favour of the Unimog. Company head Tom Shepperson based his calculation not on an mpg or litres per 100 km rating, but on a realistic daily consumption figure – and the Unimog U 423 turned out to be on average 30 litres a day more economical than a tractor or any other towing machine. That represents a saving of about £1250 (€1350) a month. Tom Shepperson deploys his new vehicle in a wide variety of applications, including earth-moving, farming, and transporting used oil to disposal centres. ■

## Practising for next winter

Precision is vital in the snow-ploughing championships. The event was won by the drivers from the Emmelshausen highway maintenance unit.

**FOLLOWING THE MAXIM THAT** "the next winter's bound to come" – and it was to come with a vengeance – they began practising with the snow-plough back in the autumn. After all, snow-clearing is all about precision, and fingertip sensitivity down to the last centimetre. The first snow-ploughing championships organised by the Landesbetrieb Mobilität (state mobility agency) of the state of Rheinland-Pfalz saw 22 teams from various highway maintenance units taking up the challenge of eight tricky competition exercises using a Unimog U 430. At the end of the day, Matthias Rudolph and Luca Assenmacher from the Emmelshausen highway maintenance unit emerged victorious. ■



Eight disciplines, two winners: Matthias Rudolph and Luca Assenmacher



# Cult TV presenters in a Unimog

TV motoring show presenters Jean Pierre Kraemer and Matthias Malmedie enjoyed a great time with the Unimog.

**THE TWO ARE ACTUALLY** more normally concerned with powerful cars. A while back, however, they swapped to a more rugged chassis type, living the dream of anyone with a little diesel in their blood: taking the Unimog around a challenging course, where no slope was too steep, no ground too slippery. For JP Kraemer and Matthias Malmedie it really was a dream come true. On a visit to the Unimog Museum Gaggenau, they discovered all about the history and wide-ranging versatility of the "universal motor machine", before having the opportunity to get behind the wheel themselves.



Matthias Malmedie (on the Unimog) and "JP" Kraemer (with cap) had a great time with the Unimog

At the Mercedes-Benz Special Trucks demonstration track not far from the vehicle's former production base, the two presenters experienced a real off-road adventure. Under the guidance of Unimog expert Karl-Josef Leib, they negotiated obstacles of

all kinds. "I think today we've done pretty much everything you can do when it comes to driving a Unimog," said Jean Pierre Krämer in summing up the day. Video of their off-road adventure was also uploaded to Youtube: [d.ai/letsdriveUnimog](https://www.youtube.com/watch?v=d.ai/letsdriveUnimog)

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# An all-rounder at home on the quayside

The Bayernhafen port in Regensburg is a hub for freight transport throughout eastern Bavaria. Its operations demand a multi-talented all-rounder capable of towing, lifting, spreading or cutting to keep clearances free. The Unimog U 423 is just such an all-rounder – with very special technical features.

Text: Gerfried Vogt-Möbs | Photos: bayernhafen

**THE U 423 SETS OFF SMOOTHLY, ALMOST GENTLY**, despite the heavy rail car hitched to it. It is transporting test weights. They are needed for the annual safety testing of the single-link and double-link gantry cranes on the north quay at Regensburg's western port. The facility handles heavy loads round the clock, and the U 423 is key to ensuring that everything runs smoothly. Without its heavy-duty, non-wearing hydrodynamic torque converter clutch, smooth starting when towing such heavy loads would be impossible. The Zagro rail guide bar enabling both road and rail operation is just one special feature of the 231 horsepower U 423. But the Unimog has to handle lots of other jobs at the port too.



The loader crane is concealed compactly behind the driver's cab of the U 423



One of many tasks: clearing the port grounds in winter



Thanks to its combination of torque converter clutch and hydrostatic traction drive, the Unimog can tow even heavy load: in this case, crane test weights



The Unimog is also used as a towing machine and for excavating

### Much more than just a towing machine

The team at the Regensburg facility is glad to have the compact implement carrier as a reliable tool for routine maintenance and clearing operations. Covering an area of 175 hectares, and over 30 kilometres of rail track, those are time-consuming jobs, and so efficient equipment is more than welcome. Bayernhafen Regensburg is a leading river-borne freight handling centre in Bavaria. It is one of six locations alongside Aschaffenburg, Bamberg, Nuremberg, Roth and Passau. Its main benefits are its economically key geographical hub location and its efficient interlinking of water, rail and road transportation. The port handles some nine million tonnes of freight a year.

Whereas previously winter clearing and spreading operations in Regensburg could be managed by a Unimog U 90, with a marshalling locomotive handling the rail car move-

A visually striking pair:  
double-link gantry  
crane and mower boom



## Well-designed right from the start

Interview with Michael Geisler, head of powertrain development, Mercedes-Benz Special Trucks

Text: Gerhard Grünig | Photo: Daimler AG

### What is special about the Unimog?

We don't flange the gearbox directly onto the engine, instead it's connected by a shaft in a "semi-detached" design in the centre of the vehicle. That gives us room to install other equipment such as a torque converter clutch in point of the conventional clutch, or hydrostatic units (behind the gearbox). And it means we can also interlink things, such as a power take-off for the fire service, or automate everything. It's a design that gives us maximum flexibility. The Unimog was very cleverly designed right from the beginning. We discovered generations ago that it is best to activate something mechanically when it's needed and disconnect it again mechanically when it's not. That delivers the right performance with high efficiency.

### What custom solutions are you realising in relation to the powertrain?

We create custom solutions by translating specific customer wishes into reality. We do that by our so-called CTT (Custom Tailored Trucks) process. It enables us to produce single items, or to create a parallel "custom mini-series" alongside our actual production. It's not about making across-the-board decisions though. We check what is technically feasible and then develop a solution in close conjunction with the requirements from our sales and development functions.

### How do you distinguish between a custom solution and a production solution?

If we are regulating creating custom solutions within the aforementioned process based on customers' wishes, we often decide to turn it into a production model. That does, of course, mean that the solution has to be tech-

nically sound, and can be produced on the line. Nevertheless, we cannot turn every individual customer wish into a production model. Our operations are too complex for that.

### Why does Daimler continue to rely on conventional gearboxes and clutches for the Unimog?

Basically, a vehicle manufacturer's choice of transmission design is always about what the customer is actually looking to do with it. A power-shift transmission can be advantageous on an agricultural machine or a plough. The Unimog has to both drive and work – but not necessarily on a field. Where we need slow and steady driving, we use a hydrostatic traction drive. As soon as the demand is for transporting loads, we disable the hydraulics and shift gear purely mechanically – or on request also automatically. None of our potential competitors can do that. Analysis based on driving and working in the DLG



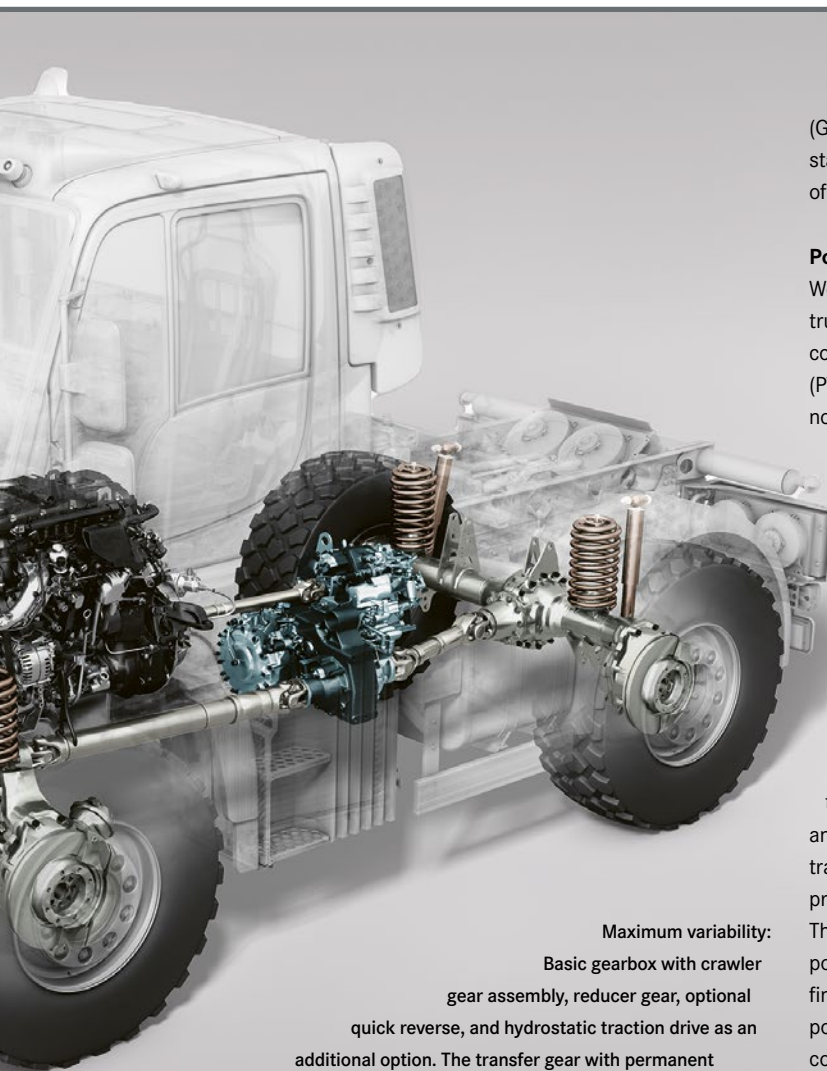
ments, for work involving the need for cherry-pickers, keeping clearances free, mowing or mulching, equipment mostly had to be hired or contractors were engaged. To be able to carry out the necessary work more efficiently, in 2015 Bayernhafen first gave consideration to acquiring a multi-functional work vehicle based on a Unimog. Some time later, those considerations did indeed result in an acquisition for the Regensburg facility. Bayernhafen engineering director Klaus Hohberger comments: "The demands of a port are very diverse, so we need more than just standard equipment." A brainstorming session produced a wealth of requirement specifications for equipment to cover the wide-ranging applications: spreading and clearing in the winter months, mowing and mulching, but also frequently transporting material. Not least, consideration was given to excavation and earthworking, as the built-on crane and grab made it possible to load and carry cuttings, mulch or gravel.

#### An unusual idea translated into a standard product

In line with its wide-ranging applications, the features on the U 423 include a mechanical front power take-off shaft and the typical Unimog multi-circuit hydraulic unit. The hydrostatic traction drive

enables infinitely variable control of the working speed when mowing or cutting clearances by keeping the revs constant. "Daimler's standard portfolio didn't in fact include a combination of torque converter clutch and hydrostatic traction drive," explains Manfred Plodeck, sales advisor with local Unimog agent Beutlhauser. The combination was realised by the Würth-based specialist team from CTT (Custom Tailored Trucks; see box).

And they did great work. The blue U 423 has been working at Bayernhafen for over a year now, and since being approved for rail use on-site can now also operate with any of its mounted equipment within the port area. In August, it was additionally fitted with a special front-mounted boom mower with a coordinated mower head, making the Unimog even more valuable for Bayernhafen. For Mercedes-Benz Special Trucks, the outcome was that it had an attractive new combination in its portfolio. "We are delighted to have found partners in Daimler and Unimog agent Beutlhauser who were willing to accept the challenge of designing a vehicle tailored to our specific requirements," says Klaus Hohberger. "With their support, we have acquired a vehicle which is doubtless a ground-breaker in its segment." ■



(German Agricultural Society) mix shows that combining a selectable hydrostatic unit with a mechanical gearbox delivers marked advantages in terms of powertrain efficiency.

#### Powershift 3 is a big attraction, isn't it?

Well, to judge that you have to know how Powershift works on our Daimler trucks, and what it could be used for on a Unimog. Powershift cannot be combined with a torque converter clutch, and it cannot shift a power take-off (PTO). That would require additional custom solutions which would ultimately not deliver any improvement. To answer your question in brief: the Powershift concept is ideal for on-road driving. For the characteristic features of an implement carrier like the Unimog there are better concepts which we prefer to use. The same is true with regard to the axles for example. Take off-road driving: If I want to drive over a 40 cm high rock, I need a portal axle. The earliest Unimog designers knew that – because at the end of the day a Unimog has to keep doing the job!

#### Can customers nevertheless expect to see further advances?

Yes. We are increasingly looking to features including the connected powertrain and mechatronics. We are currently making ourselves fit for the future. I refer to it as powertrain control management. We already have an automated gear-shift and clutch control with very short interruption of traction. Our overall transmission is right. Our aim is to achieve further improvements, particularly in relation to user-friendliness and driving comfort. There are plenty more possibilities especially in terms of clutch control and powertrain operation. For our future strategy, we are observing the latest findings on what is possible with regard to control systems and available powertrain sensor technology. Wherever improvements exist – such as in comfort driving modes – we adopt them. There are plenty more possibilities especially in terms of clutch control and powertrain operation. And we make sure to pass on what is feasible to our customers.

#### Maximum variability:

Basic gearbox with crawler gear assembly, reducer gear, optional quick reverse, and hydrostatic traction drive as an additional option. The transfer gear with permanent four-wheel drive and inter-axle locking differentials is standard

# A medal for diagnostics and service

Euro Skills and World Skills are the European and World championships for trade professionals. Andreas Enzensberger, a Unimog and commercial vehicles expert, is someone who knows the demands of the competition.

Text: Gerfried Vogt-Möbs | Photos: Vogt-Möbs, WorldSkills Germany/Frank Erpinar



Blue Medal winner  
Andreas  
Enzensberger (r.)  
inherited the Unimog  
gene from his father  
Wolfgang (l.). Today  
he is a top mecha-  
tronics engineer

**ANDREAS ENZENSBERGER IS** a trainee master mechatronics engineer. He began his career at Henne Commercial Vehicles in Heimstetten, and in 2018 took part in the "Heavy Truck Maintenance" category of the Euro Skills contest in Budapest. His outstanding performance secured him an award: the Blue Medal of Excellence. The 22-year-old from Attenkirchen took the opportunity to hang it around his neck once again for his Unimog Magazine photo – it is, after all, a very special mark of recognition. The World Skills competition is open only to the best – and they are only allowed to compete once. And only if they are not older than 25.

Andreas Enzensberger undertook his apprenticeship at Mercedes Commercial Vehicles in Munich – with outstanding success, of course. "When his trainers from the Motor Trade Association were asked to pick a candidate for the Euro and World Skills, they chose him," reports his father Wolfgang Enzensberger. Enzensberger senior has been working at Unimog agent Henne Commercial Vehicles for 37 years. Last summer he brought his son into the team. "He had an affinity with Unimog from an early age," recalls Dad with a smile. "When he started school he wanted a Unimog-branded school-bag. Whereas his friends presented show-and-tells about animals and football, I drove him – and his self-made Unimog posters – to school in our 406."

## A growing passion

Today, at 1.90 metres tall, he no longer quite fits beneath the roof tarp of the silver-coloured 1970s implement carrier. But his passion for commercial vehicles generally – and for the Unimog in particular – has continued to grow with him. That passion convinced the trade association that they had indeed chosen the right man to compete at

the 2018 contests in Budapest and Abu Dhabi. After their initial get-together, the German team set about their rigorous preparations, entailing intensive diagnostics training as well as mental coaching. Preparations also included consultations with the trainers, and an advance camp with the support of sports psychologists.

## Five tasks – mental and physical challenges

"Right from the preparation stage, it was hard work, with intensive learning," the 22-year-old recalls. As part of it, he spent a week in Würth watching the experts in the final inspection department at work, and learning entire new approaches to practical problem-solving. Diagnosing faults in electronics, for example. That was an essential element, because the testers included an array of such faults in

## Even while still at school, Andreas Enzensberger was an enthusiastic Unimog fan

some of the five tasks forming part of the Euro Skills competition. Andreas and his six co-competitors in the "Heavy Truck Maintenance" category were physically and mentally challenged throughout the three days of testing – especially since the two-hour time allowed for each task was extremely tight. It started with engine diagnostics and fault detection. The challenge was to get an Actros restarted, detecting and correcting a CAN bus fault with an incorrect pin assignment. Task two involved a set of three faults in a comfort electrics system, followed by a brake fault involving an "unpinned" handbrake



The atmosphere was terrific, echoing that of the Olympics

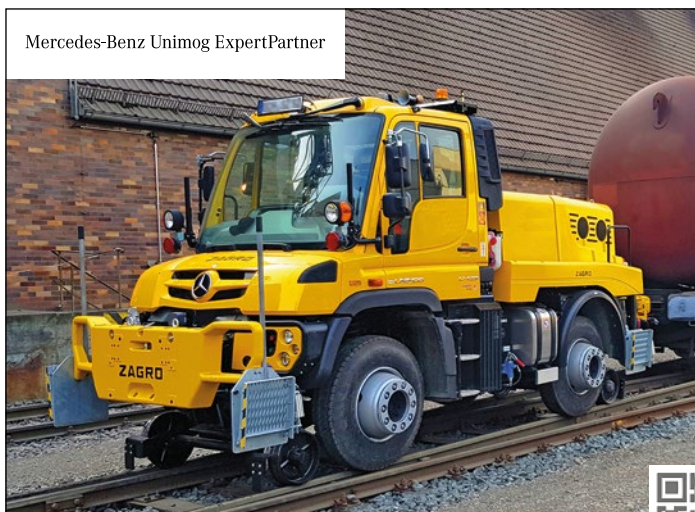
switch in an Atego. The brake had to be dismantled, then a wheel alignment had to be carried out. Finally, things really got down to the technical nitty-gritty: Removing the rocker arm shaft from a 13-litre diesel unit, assessing the pistons and cylinders with an endoscope, and professionally checking the head gasket and honing. "Just bolt fastening, but based on English instructions: always correct, secure, quick, and error-free," Andreas explains.

It demanded supreme concentration, because the adjudicator was watching the candidates closely, appraising their safety, work organisation, how well they followed the manufacturer's specifications, and much more. Spectators thronged in the huge hall, watching as the contestants from seven countries performed their fault finding procedures. "Fortunately we were pretty oblivious", Andreas recalls.

ence with the German team, spectacular opening and closing ceremonies like at the Olympics, and lots of new contacts that I would never have made otherwise," Andreas concludes. He was also awarded a grant which is now covering almost all his master's exam costs.

And not least, he gained the respect of his employer, who are proud to have a man like him in their team, as Thomas Rieger affirms. The southern centre manager with Henne Commercial Vehicles in Heimstetten knows what he's talking about. "Examination subjects such as diagnostics especially are becoming ever more important for us too. We are all aware of the need for digital transformation. For our young colleagues that represents a huge opportunity, enabling them to become a knowledge resource that we will need in their role as specialists on the next generations of the Unimog." ■

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# Clearing, spreading, transporting – a Unimog for any need

There is a talented new addition to Martin Storr's fleet. And it soon started demonstrating just how powerful a tool a Unimog can be, especially when things get really tough. That happened in Bayrischzell in January, when the area was declared a disaster zone in the face of huge snow storms.

Text: Gerfried Vogt-Möbs | Photos: Henrik Morlock

**200 OPERATING HOURS** in just three weeks – 5,000 kilometres running with snow-clearing apparatus and full spreading material tanks. No a bad effort for a new vehicle fresh into service. "There's hardly a more intensive way to get to know a vehicle," comments Martin Storr, who is giving his Unimog half a day's rest after being constantly on snow-clearing duty the previous week. Such extreme service is a real rarity even in a popular winter sports location such as Bayrischzell on the slopes of the Wendelstein mountain. Paradoxically, while in past winters lower-lying ski areas even saw snow, this year the authorities were literally caught cold. Even the services in the foot-

hills of the Alps are barely equipped to deal with the amount of snow that fell in the first half of January 2019 on Bayrischzell.

## **72 hours' continuous service – not a problem with the Unimog**

Over a metre of fresh snow in 48 hours meant round-the-clock shifts for Martin Storr's team. "We basically worked six consecutive twelve-hour shifts to keep the roads clear," the 36-year-old business owner reports with some pride. The only problem was that the temperatures were actually too high, especially during the day. The Gmeiner body unit on the new Unimog has both brine and salt tanks. "We had to



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Martin Storr loves the superb ride comfort, quiet running, and above all the versatility and power, of his new U 530

continually adapt our plans, deciding which combination of spreading materials to use based on instructions from the local highways agency," the winter service professional recounts. Brine in conjunction with salt only provides lasting ice protection down to about minus two or maximum three degrees. If it gets colder at night, the service has to immediately switch to spreading salt in order to maintain safety on the roads.

The demanding nature of the job at the wheel of the Unimog is demonstrated by an inspection tour a week after the disaster was declared. Georg Scharmann is turning off the main road between Bayrischzell and Schliersee onto a side road. The cleared snow is piled well above 1.5 metres high to the left and right. Nevertheless, the snow-plough has to clear a thin covering of fresh snow and ice from the asphalt. "You have to drive very precisely here, because if the plough edge hits the snow wall on the right or left side it makes an almighty bump," Scharmann comments.

A short time later he undertakes an inspection tour towards Sudelfeld. The sun is shining today, attracting many people from Munich to come and ski down the perfectly prepared pistes around the area or explore the winter-wonderland scenery on cross-country skis. What the piste snow-clearing units do on the slopes, we do in the surround-



Brine and salt tanks enable rapid adaptation to changing road conditions

ing area," contractor Martin Storr explains. Because in addition to clearing the approach roads to the ski slope car parks, he also has to clear snow and ice from the car parks themselves and from lots of utility access routes.

#### A power plant providing cosy warmth

When Martin Storr started his business back in 2006, he was actually skiing rather than clearing access routes as he does today. "It basically all began with an idea in a ski-lodge," the successful entrepreneur recalls. A friend asked him whether, in view of the strategically favourable location of his depot, he might want to acquire a vehicle for routine transportation of wood chippings. No sooner said than done: a first tractor was acquired, and from then on Martin Storr transported wood chippings. He subsequently expanded his fleet, and added a dedicated wood chip store. After just two years the business was well established. The company now also operates a wood chip-powered combined heat and power plant, supplying the local community with heat and power all year round. Over the years, a second power plant was to follow in the neighbouring community. That made it necessary to expand the fleet again – even the power plants' own demand is well over 50,000 cubic metres of wood chip a year. So today the Storr fleet includes two 40-tonners complete with roll-off containers as well as a third Unimog. The versatile entrepreneur is entirely satisfied with his Unimog vehicles: "Thanks to the top-class support from Harald Medl at Henne Commercial Vehicles, the new U 530 has totally met our expectations. The ride comfort and handling, even in extreme weather, are impressive. And we also chose the right accessories in the tyre pressure control unit and the Scharmüller trailer hitch."

#### The business (practically) runs itself

In response to the question whether he needs to go out looking for new business to keep his fleet occupied, Martin Storr replies with a grin: "In our business we normally operate on long-term contracts,



The idea for Martin Storr's business came to him quite spontaneously. The fleet now includes three Unimog and two 40-tonners

under stable terms – provided we perform properly and the team is willing to work hard, and regularly long hours." Only one worry haunts Martin Storr occasionally: "Even here out in the country, you rarely find drivers nowadays who are suitable to meet the demands of our job." The Storr business has a staff of six permanent employees. Yet even if business were merely to remain at the same levels, there would quite easily be room for two more transport professionals, the boss explains as he arrives back at the depot.

Dealing with the innumerable cubic metres of wood chip that Storr trades in, burns and transports to supply its now large customer base in Bavaria and Tyrol, the Unimog will barely get a rest even in the summer months. Because during the warmer time of the year, when Martin Storr is stocking up large numbers of wood chip stores for the next winter, he needs the 530's manoeuvrability and speed for towing his walking-floor semi-trailer. It is a combination perfectly attuned to the needs of wood chip logistics. After having so impressively passed its winter service trial, the new star in the fleet will now have the opportunity to show its strengths in the coming summer. ■



Martin Storr transports some 50,000 cubic metres of wood chippings – when he's not keeping the roads clear



Just a small sample:  
almost 50 body solutions  
were on show

# Experiencing the Unimog "live"

On February 12th, the Unimog Winter Tour 2019 was launched in cooperation with equipment and body unit manufacturers as a one-day event at four locations.

Text: Daimler /Gerfried Vogt-Möbs | Photos: Daimler AG



There were lots of  
new things to see  
on the perfectly  
organised tour

**UNIMOG AGENTS** Wilhelm Mayer (Neu-Ulm) and Knoblauch (Immendingen) demonstrated the versatility of the Unimog from February 12th to 21st. There was plenty on offer for visitors to the four events to enjoy. Almost 50 Unimog vehicles from all model series were challenged to demonstrate their qualities at spectacular live events held in the bitter cold. The applications on show covered all the seasons. Major interest was attracted by the series of presentations on the subject of "Future technologies in municipal service engineering", featuring spreading data recording, road-sweeping, electric drive and telematics systems.

From the compact implement carrier to the extreme off-roader Unimog, the wide range of vehicle solutions delighted the more than 1,650 spectators representing municipal utilities, agricultural

businesses and contract service providers. The equipment presented covered the full spectrum of applications, from the mower to the Unimog semi-trailer. Technical experts demonstrated special equipment features in action – from sprayer arms for watering plant pots, through snow-ploughs, to tree branch shears.

Thanks to its permanent four-wheel drive, differential locking, single tyres, and powerful mechanical and hydraulic drive units, winter service capability is an outstanding feature of the Unimog. The optional EasyDrive traction drive permits live-switching between the hydrostatic unit for infinitely variable speeds up to 50 km/h and the manual 8-speed gearbox for economical driving up to 89 km/h. The joystick control of all functions is also a popular feature. ■

# Code name: Florian Minden 2 TLF 3000

In late September the Minden fire service commissioned a new fire-fighting tank tender into operation. Based on an extreme off-roader Unimog U 5023 featuring a 3,000 litre extinguishing water tank, it can be rapidly deployed even across rough terrain.

Text: Gerhard Grünig / Gerhard Kortenbruck | Photos: Gerhard Kortenbruck

- 1** The folding steps up to the equipment compartments do not restrict the off-road capability of the Unimog
- 2** The kit includes two breathing apparatus sets
- 3** 230 hp and automatic transmission provide plenty of drive power



**THE NEW ADDITION IS ON-SITE QUICKLY** and provides its crew with maximum protection – among other features thanks to its 1.2 metre wading depth. Other benefits include impressive slope, tilt and ramp angles, guaranteeing safe progress even in rough terrain. The 231 horsepower TLF 3000 is operated by the Hahlen fire crew as a rapid-response unit. Specialist body-builder Lentner modified the TLF in line with the DIN 14530-22 standard. Bielefeld-based RKF-Bleses coordinated between the client in Minden, the body-builder and the vehicle manufacturer.

The client's focus was on acquiring a state-of-the-art vehicle for off-road fire-fighting. The fire pump installed in the vehicle's rear supplies the roof-mounted rapid deployment device. The jet tube is controlled from the circular roof hatch of the U 5023. The Unimog's "pump and roll" function is now almost a standard feature, guaranteeing consistent water supply. The person sitting at the steering wheel is also responsible for the spray bar under the bumper – which also serves as a self-protection feature when flames are close to the ground.

#### **Ideally fitted for heading off-road – and back onto the road**

The finely graduated off-road gearing of the automatic transmission adapts the vehicle's speed precisely to the fire-fighting requirements. The 395/80R20 off-road tyres, together with a fully integrated ex works tyre pressure control unit, ensure safe progress through off-road terrain. Reducing the tyre pressure when off-road increases the contact surface area of the tyre, and the vehicle sinks less deeply into the ground. The pressure reduction is automatic. Safety circuits prevent excessively high or low pressures. Back on the road, the air pressure in the tyres is automatically adjusted as necessary. The driver is able to concentrate fully on the mission and the traffic. ■



The rapid deployment device behind the cab roof is operated through the Unimog's roof hatch. The extinguishing is directed without having to leave the vehicle



# The mobility guarantee with the three-pointed star

For the Krefeld municipal utility SWK it's all about mobility. A new Unimog U 423 is keeping the wheels in motion. When blockages occur, it ensures that buses and trams are quickly running again.

Text: Christian Bonk | Photos: Henrik Morlock

**AT PEAK TIMES**, Jörg Lingel's realm covers more than 160 buses, 40 trams and an entire brigade of refuse and cleaning vehicles. As the fleet manager of SWK MOBIL GmbH, he is not only responsible for procuring the vehicles. His duties also include assuring the mobility of his substantial fleet. To that end, he recently added a new Unimog U 423 to it. Because every now and again a specialist

from Jörg Lingel's six-strong mobility team has to head out and tow a broken-down vehicle back to the depot – usually following an accident involving inattentive road users. Fleet manager Jörg Lingel comments: "We purposely chose the U 423 with the torque converter clutch and short wheelbase because buses or trams often break down just at the worst place, in very constricted and hard-to-access



locations. The drivers often have to manoeuvre in very tight spaces.

#### **With 40 tonnes coupled**

"When a tram breaks down, for example, we use the Eggers coupling fitted on the back of the new Unimog. It can easily pull a tram to the workshop without placing a strain on the vehicle's hitch coupling. That's almost 40 tonnes of dead weight," Jörg Lingel explains. "As a bimodal vehicle, it could even handle as much as 100 tonnes of unbraked hitched load in rail marshalling operations," adds Ralf Borauke from Mercedes-Benz specialist vehicles dealer RKF-Bleses. He it was who configured the Unimog for Jörg Lingel as it now stands in the depot.



David Watola has to keep a fleet of 160 buses and 40 trams running

#### Always the right accessories container on-board

Jörg Lingel is especially delighted with the Jotha CombiCon 5018U skip loader, mounted on the Unimog as an interchangeable unit. "From now on we will be fitting it out with the right container for any application," the fleet manager reports. Previously, specialist tooling, lifting and towing equipment was taken to the operating location in a separate trailer. "This now means we save a lot of time and are much more mobile and flexible when on-site," the head of the SWK mobile

team comments happily. Incidentally, the trailers used to be pulled by the predecessor to the U 423, a silver-coloured 400 model equipped with a 20 metric tonne crane. "The old one is still top-fit, but we are very pleased that we can now take some of the strain off it when it comes to towing and marshalling," says Jörg Lingel. The 400 is something of an all-rounder within SWK's special fleet. "We need the Unimog with the crane regularly for maintenance and repair jobs assuring grid security on behalf of regional power company Netze-



The U 423 can be equipped as needed with a remote-controlled interchangeable skip loader from Jotha



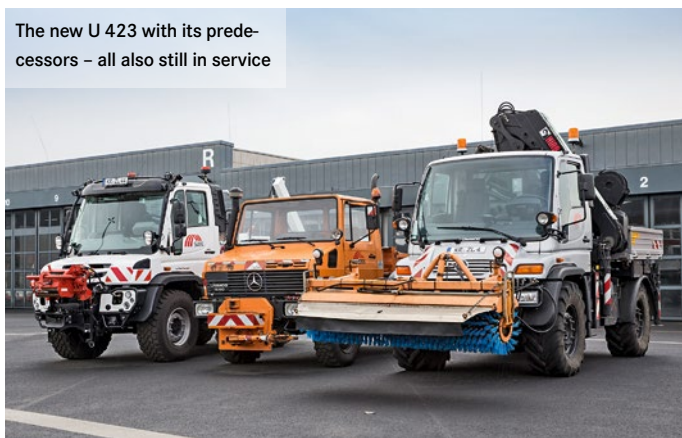
Occasionally the U 423 is also used to tow a special trailer



Whether pulling a 20 tonne bus or a 40 tonne tram: the U 423 is a tried and proven towing vehicle. Optional extras help to keep operations safe



The new U 423 with its predecessors – all also still in service



sellschaft Niederrhein. If a tram then breaks down due to a collision accident at the same time, it's a tight call with only one Unimog in operation. That's no longer a problem now that we have the new one. Jörg Lingel's operational capacity has essentially more than doubled since the 423 joined the fleet.

### Safety is the top priority for SWK

In addition to the Eggers coupling and the Jotha container system, Jörg Lingel mainly ordered a whole array of additional lighting for his Unimog. "Our work often involves operations in remote locations. In the winter months they're often in total darkness, so we need lots of light to be able to work effectively. "I always configure the vehicles in our fleet with all the safety equipment available as a matter of policy, because the safety of our staff and of other road and rail users is our top priority." Unimog specialist Ralf Boraue from RKF Bleses GmbH has noticed that more and more customers are looking to invest in increased safety when specifying their equipment wish-lists: "It's

good to see that commercial customers, too, are willing to invest in systems which enhance active and passive safety when configuring their vehicles."

### An experienced team of skilled mechatronics engineers

The team operating the Unimog on its call-outs comprises six mechatronics engineers and fleet manager Jörg Lingel himself. That means that he works one week in six on 24-hour call like the rest of the team. And Jörg Lingel is looking forward to his first call-out with the new Unimog. "Hopefully it won't be as tough as three years ago," the team leader recalls with a grin: "I was called out because we had black ice in Krefeld. Five buses had got completely stuck all at once; one of them was in a ditch outside of town. I was astounded how assuredly the 400 pulled each of the buses clear, one after another." And the new 423 will doubtless not disappoint him either when it comes to exhibiting supreme manoeuvrability, grip and towing power.

The crew comprises mechatronics engineers who are long-standing members of the SWK workshop team, and for the most part underwent their training in it too. Because it takes much more than a truck driving licence to do the job on the new Unimog. "Recovery work is very demanding," explains Jörg Lingel. Broken-down vehicles have to be towed away rapidly so as to get Krefeld's traffic moving smoothly again. A short time later we see what fleet manager Lingel means. A tram being operated by a driver under instruction has broken down not far from the company headquarters and is blocking one of the main lines on SWK's 80 kilometre rail network. After just a quarter of an hour, the main gate of the company depot opens and the Unimog comes around the corner with the 40 tonne beast hitch to it. After switching the hitch from back to front, it pushes the tram backwards into SWK's gigantic workshop shed – and the city's traffic is back up and running smoothly again.





Sönke Greve (r.) is the third generation of his family to head the company and – like his father and grandfather before him – relies on a number of Unimog vehicles



# A versatile professional on the Baltic coast

In the far north of Germany, on the Eckernförde bay, lies the home of Sönke Greve and his business. He carries out work that many people would not notice in their everyday lives, but which is of great importance.

Text and photos: Heinrich Blumenberg

**SÖNKE GREVE SPECIALISES IN** pest control. That includes wide-ranging preventive measures which are an essential element especially in the food wholesaling, retailing and processing industries. Measures which are obligatory for every supermarket, but which no consumer ever consciously notices. Greve also provides crop protection services to farms, as well as handling winter road clearing and caring for road-side verges on behalf of a number of local authorities.

The business was founded shortly after the Second World War. The fleet was soon enhanced with its first Unimog featuring a built-on sprayer unit – at the time still originating from Böhringer. This laid the foundation stone for a long-standing partnership between the company and Unimog. Sönke Greve, grandson of the company's founder, can today only guess at how many Unimog vehicles there have actually been across the three family generations: "It must have been around 20."

The current backbone of the business is a state-of-the-art Unimog U 530 – the third Unimog from the implement carrier series to perform

that role. A Dammann crop sprayer is mounted on it to carry out the main work duties. The sprayer has a 3,000 litre capacity, and can work at widths from 24 to 30 metres. That enables Greve to meet a wide variety of different customer wishes. The state-of-the-art GPS control permits high-precision spraying. Special sensors ensure that the bar is kept at exactly the right height. Some 5,000 hectares are treated in this way every year.

## Customers focused on core business

Customers are often livestock farms which outsource their crop protection in order to concentrate on animal breeding. For some customers, Sönke Greve not only sprays the crops, but also decides which crops to plant and selects the appropriate protection agents. He mainly treats wheat, rape, maize and sugar beet – but also Christmas tree plantations. Key partners are also a number of large-scale operators which contract his services in peak work times. Greve operates within a 30 kilometre radius of his base. He particu-

larly appreciates the Unimog's high speed because, as he says, "crop protection is time-critical". He lists another benefit as being the spring suspension of the Unimog, which provides high levels of ride comfort both on the road and in the field. "In the field, especially, it compensates for hard knocks due to uneven ground which would otherwise impact on the 30 metre wide bar." Since frequent switching between field and road is part of routine operations in order to refill the sprayer, the tyre pressure control unit is particularly important. It provides maximum soil protection. With those attributes, the Unimog is turned into a crop protection expert.

But the Unimog's biggest appeal is its versatility. As well as the built-on sprayer unit, the Unimog is also operated with a Dücker mower combination, and in winter



As well as crop protection and winter service, the U 530 is used for mowing



service with a snow-plough and spreading trailer. During the crop protection season, from March to November, the equipment configuration is swapped as many as 10 times. "It's a 30-minute job for an expert," Greve states. The spacious cab means the equipment control units can be left inside the vehicle, and just need to be swivelled aside.

For mowing, Sönke Greve above all appreciates the clear view of the mounted implements as well as the high front axle load capacity of the Unimog, permitting a combination of mowers to be mounted on the front. As a counterweight to the heavy mower boom, the inventive entrepreneur has mounted a solid concrete block in the rear-mounted power lift. That enables him to quickly mount and dismount equipment when switching between mowing and crop protection.

#### Versatility is the Unimog recipe for success

In place of the mower head, Greve can also fit branch and hedge shears to the Dücker boom and assist in caring for the many hedges in the region. And when snow starts to fall again, or frost makes the roads icy, the Unimog can be rapidly converted into an efficient winter service vehicle. The equipment includes a snow-plough and a single-axle spreading trailer with a four-tonne capacity. In winter service, the U 530 is assisted by a U 1600 with a snow-plough and top-mounted spreader, and by two MB tracs with snow-ploughs and built-on spreaders. The full schedule of the U 530 provides more than 1,000 hours' work a year, and thanks to its great flexibility that year-round operation can be covered by just one vehicle. Typical Unimog in fact. ■



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