

## THE MANY FACETS OF THE MAN TGS.

The MAN TGS is uniquely adaptable: whether you use it for heavy local and distribution transport, on construction sites, for municipal services or as an expert for special tasks, the MAN TGS is a versatile truck which is tailored perfectly to industrial use. It sets standards with its powerful drive, unrivalled load capacity and one-of-a-kind ergonomics.

The MAN TGS boasts a number of practical features. The driver's workspace is much more streamlined and the rest area has been optimised further. Meanwhile, the traffic jam assist and the stop-and-go function in ACC help you make your way through traffic congestion with ease. Further assistance systems contribute to your safety: In addition to familiar assistants, highlights include improvement of the sensor systems so that, among other things, pedestrians and cyclists in front of the truck can also be detected and taken into account in the warning and braking strategy. Systems and system improvements such as distance warning system or FrontDetection, traffic sign recognition, AttentionGuard and Reversing Motion System help the driver to concentrate on the traffic situation.

Our MAN TGS powerhouses also offer our customers a comprehensive digital package that pairs tried-and-tested MAN quality with fascinating innovations. Take, for example, the electrical/electronic architecture and innovative, digital services with which MAN is opening up a whole new dimension. The MAN TGS – your connected truck – is always connected and fully digital.

From enhanced performance, greater comfort, maximum transport capacity, top quality and service life to exemplary safety and environmental friendliness, and digital connectivity, the MAN TGS ticks all the right boxes. Trucks from MAN never fail to deliver top quality, anywhere and anytime. Prepare to be impressed by a truck that maximises value while minimising costs. It will soon win you over – both on the road and in your accounts department.

Find out more: www.man.eu/mantg



# **EXCELLENT DRIVER FIT**

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**TRUCK** 



# ERGONOMICS START WITH THE VERY FIRST STEP.

The ergonomic entry design of the MAN TGS ensures a pleasant start to the day. As the entrance is positioned in the middle of the door area, the driver can get into the vehicle in an upright position. The access ladder is designed as a stair so you have all steps in view. On entering the vehicle, the design ensures extra comfort, and it offers better safety, too. Thanks to entry lighting, the steps and surroundings are visible at any time of day and in any weather conditions as soon as you open the door. For all this, we didn't forget the little things either: an entrance optimised especially for off-road work and that features steps with a non-slip surface and a lattice structure, washable interior door panelling and a compressed air supply. This way sand, mud and gravel can quickly be shown back out the door. In addition to ensuring your truck makes a positive impression visually, breaks feel all that much better, too.

That said, we developed the MAN EasyControl system specifically to help you avoid getting in and out when you don't have to. Within the driver-side door there are four

controls that can be easily accessed from outside the vehicle. Depending on your configuration, they come preprogrammed with the key functions or can even be implemented according to individual needs.

Once in the cab, you have a variety of driver's seats to choose from, each ready to welcome your particular build. There is a larger range of backrest adjustment options for drivers of all sizes. The passenger seat as well features highly ergonomic design and its own range of individual adjustment possibilities. The Vario seat is especially spacesaving: when it's not needed, thanks to its Cinema function, it can simply be folded away.

Even the steering wheel has been given greater flexibility: for the resting position, the steering wheel can be tilted forward to a horizontal position by the driver, and in action as well, it can be given as steep an angle as that of an average passenger car. The result is a workplace that bends over not only backwards, but forwards and sideways as well, to suit. So the driver doesn't have to.



With a very wide door opening angle of 89 degrees and the very low step position, the MAN TGS clears the way for getting in and out ergonomically, whether you are at a parking lot or on a building site.



The lowest step, which is prone to damage when driving off-road, is now movable. Its mounting brackets are made from flexible plastic, meaning that they can change shape if they come into contact with the ground and return to their original shape again afterwards.





# WITH MAN YOU CAN TAKE A LOAD OFF.

Everything has to come to rest at some point. A good atmosphere. A cosy environment. In the sleeping area of the MAN TGS that's exactly what you'll find. In the extended cab models TM and TN, a multizone cold-foam mattress and a slatted frame ensure comfort for well-deserved shuteye and peaceful dreams. Personal items have their spot too in the many, customisable stowage compartments.

The bed is so comfy, you might want to stay just where you are. And you can, too, since all important functions can be operated and monitored right from the remote control. Lights, locks, heating, windows – all a simple push of a button away. Just like the radio, music, the perimeter camera and important data on the battery's current status or driving times. The infotainment system can also be conveniently operated via the MAN Driver app. Breaks and sleeping times can therefore be used optimally so that you're well rested and ready to take on upcoming challenges.

In our cabs an auxiliary water heater provides pleasant temperature and air condition. For the TN and TM cabs an electrical auxiliary air-conditioning system (as an option) is ready for use.

The electric air conditioner works without a cold reservoir, which would have to be charged during vehicle operation, and is thus ready for use at any time. Even in summer it can keep things refreshingly cool for up to 11 hours.

While the truck is on the road, MAN Climatronic maintains the chosen temperature fully automatically. Comfortable temperature zones in the cab are assured as well, as the foot area and the head area are controlled separately. Perfect for keeping your head cool but your toes toasty. Noise and lights are kindly asked to stay away, however.

To create the perfect feel-good environment, the entire interior can be tailored to suit you down to the ground. From the colour scheme (Desert Beige or Moon Grey) to the storage space in the cab and even the interior lighting, everything can be customised to your needs – while maintaining a clear focus on the functionality which will never let you down.

#### Lion emblem on partial leather seats and curtains

With the expressive lion emblem on the partial leather seats and the practical curtains, stays in the cab are even more pleasant. The curtain fabric is hard-wearing and is in the same colour for both interior colour schemes. The crosscab curtain is designed as a single piece. The bunk area can now be made even darker.





- 1 Perfect for independent types: on-board coolbox/fridge
- 2 Lion emblem and curtains

Innovative MAN SmartSelect multimedia control

# TOP-CLASS DRIVER'S CAB.

The driver's cab is the heart of the MAN TGS. Because comfort in the cab means easier workflows and faster completion of your haulage jobs. Ideal conditions for higher driver motivation, and that translates to an investment that pays you daily returns. The controls of the MAN TipMatic® automatic gear shift system situated directly on the steering column stalk is just one example.

With this design, there's all kinds of free space, for you to use whichever way suits you. Because our customers' requirements are as diverse as our trucks, we attach great importance to wide-ranging configuration options – such as stowage spaces, pull-out drawers or storage compartments, all sorts of boxes, and built-in cupboards for the back walls of our cabs.

One feature is the trailblazing MAN SmartSelect system. It was developed together with our customers, makes using the multimedia system child's play even in demanding driving conditions. Here, too, comfort and safety was our inspiration for eliminating the touchscreen. With MAN Smart-Select, functions such as maps, music, cameras and more can be selected via a user-friendly dial with hand rest. There's so much more to discover in our driver's cabs, so get in, get comfortable and enjoy all the possibilities.



## **EVERYTHING IN ORDER.**

The traffic situation is becoming ever more demanding and complex. And when off-road, you're always facing new challenges that call for a driver's full concentration. It is all the more important to us then to make the cockpit as driver-friendly and organised as possible. Displays and controls are separated from one another spatially. Reading distances and reachability are thus ergonomically optimised: data is set at a farther distance, making it easier to grasp, functions are colour-coded, and buttons and switches are within easy reach. The focus is clearly set on the most important areas. The driver's view can easily go between the road and the instruments, without fear of distraction. Just another MAN contribution to making drivers' lives less complicated and less tiring.

The controls for the MAN media system and MAN SmartSelect are simple to use. All of the displays and controls throughout the vehicle follow a single concept. Symbols, colours, usage, alert and warning sounds as well as design are consistent throughout the cockpit. The quick-selection keys are individually programmable and accelerate workflows. Not to mention notices can be played in any of 30 different languages. For voice command operation, a choice of six languages is offered. All of it intuitive to use. After all, the controls – and especially the cutting-edge digital components – were developed by drivers for drivers. This way the driver can see to the truly important things: the cargo and the transport, whatever the terrain.

### Direct call-up of central operating menu for assistance systems

Assistance systems make driving comfortable and the roads safe – but only if they are active and correctly set up for the intended use. With the new button, the central operating menu for all assistance systems is only a push of a button away.

The new button directly opens the central operating menu for configuring the assistance systems available in the vehicle. This simplifies switching on and off as well as configuration of all the available assistance systems – especially with frequently changing drivers. Depending on the equipment, the button for central operation of the assistance systems is located either on the multifunction steering wheel or in the assistance system key panel on the instrument panel (for vehicles without multifunction steering wheel). There is also a button for temporary switching off the acoustic signals of the assistance systems.



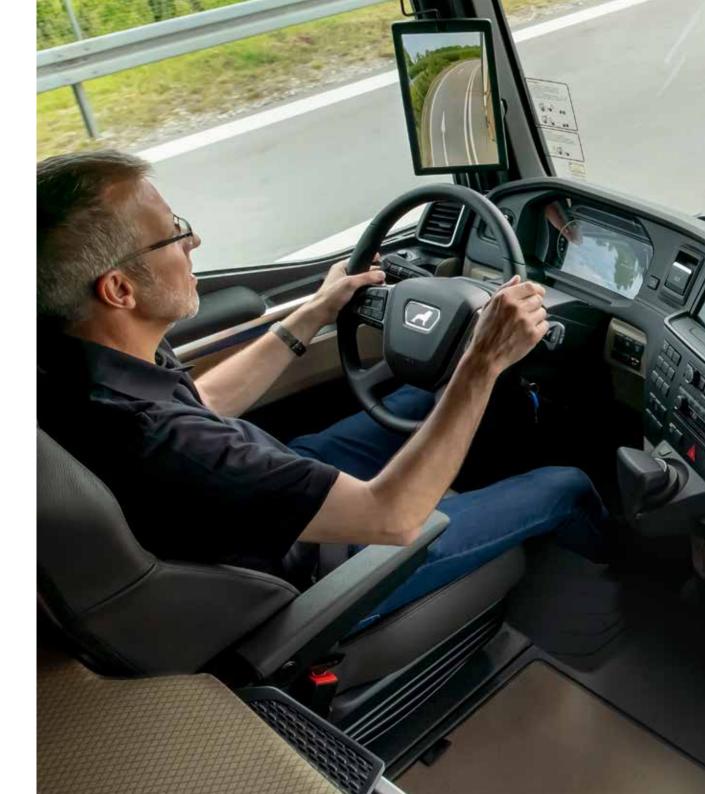


- 1 Assistance systems button for vehicles with multifunction steering wheel
- 2 Assistance systems button for vehicles without multifunction steering wheel
- **3** Button for temporary switching off the acoustic signals of the assistance systems



# EVERYTHING UNDER CONTROL.

The controls of the MAN TipMatic® automatic gear shift system have been placed in the right-hand steering column stalk. That not only frees up space between the seats, as the usual console between the seats is no longer needed, but also improves ergonomics and safety. Close at hand as well - to the right of the combi-dashboard - is the control for the electric handbrake. This means it is optimally positioned with respect to gear controls and the ignition. It can be operated at any time but is now also automatically activated when the vehicle is parked and released when it moves off. This is another idea which creates additional room where a lever was previously needed. One more smart solution that adds to the extra space and comfort that MAN is known for. And, in particular, a big relief when all around you it's bumper to bumper and the streets are a mess.



## **DRIVING SMART.**

With navigation, radio (from standard to digital), video, telephone and more tailored to trucks, the infotainment system of the MAN TGS is a communication and multimedia hub. It is available in five different variants, from entry-level to Navigation Professional. The 7-inch or 12.3-inch display – both with brilliant HD resolution – makes for great viewing. Direct access buttons and a USB-C input connection are part of the standard fittings, and from Advanced level on up to two smartphones can be paired. The media system Medium 7" is an entry-level media system version for vehicles that are subject to the new statutory provisions on equipment with a Reversing Motion System.

The infotainment system can be operated either via a classic control system with buttons or via MAN Smart-Select (can be combined from version Advanced 7-inch). Throughout, familiar usage meets innovative comfort. The result is one you can see and feel, too, as high-quality surfaces make every journey with the MAN TGS tangibly special.

#### **Reversing Motion System**

Overview to the rear when manoeuvring – ex-works! When reversing a solo vehicle, the camera image of the camera installed ex-works in the rear area supports the driver. People or objects behind the vehicle can be detected, trailers or semitrailers are in full view when connecting or hitching up.

The image from the camera is automatically shown on the MAN media system display when reverse gear is engaged and the vehicle rolls backwards. A button on the instrument panel with a camera symbol enables manual activation of the system.





- 1 Infotainment system with 12-inch display and MAN SmartSelect
- 2 Right: Camera image of the Reversing Motion System when hitching up

Left: Camera image of the front camera with MAN OptiView

## A NEW PERSPECTIVE.

With the innovative MAN OptiView digital mirror-replacement system, enhanced safety takes to the road. This is not only because MAN does away with mirror arms and depicts the statutorily required fields of vision, but also because in critical driving situations such as manoeuvring, turning off and changing lanes, the extended views provide the driver with the optimal overview of the traffic situation.

MAN OptiView does far more than conventional mirror systems. Besides the statutorily required fields of vision, the digital mirror-replacement system also shows views specifically adapted for various driving situations (e.g. turning off, manoeuvring, driving on motorways). The functional principle and display concept of MAN OptiView are thus optimally matched to natural human perception, enabling the driver to visually grasp the vehicle surroundings and traffic activity quickly, evaluate them reliably and deal with them safely.

#### Components of the system

- Five cameras: Two cameras (near range and wide-angle) on each side of the vehicle above the door frame replace the external rearview, wide-angle and kerb mirrors. A camera on the A-pillar on the co-driver's side replaces the front mirror.
- Additional displays in the cab on the left and right sides, near the A pillars
- Door control modules for manual settings and changing the views

#### Camera systems

- Manual fold-in arms (side cameras)
- Filtering of glare (e.g. when the sun is low or there is traffic behind the vehicle)
- Protection by guided airflow against splashing water for continuously high image quality, even in the rain
- Automatically heated side cameras (depending on the ambient temperature) for clear pictures even under frosty conditions

#### **Displays**

- HD quality (resolution 1,920 x 1,080 pixels)
- Display 1 (driver's side): 12 inches
   Display 2 (co-driver's side): 15 inches
- Brightness and contrast of displays 1 and 2 adjust automatically to the ambient brightness. In addition, the display brightness can be adjusted manually, for example for night trips.
- 12-inch display of the MAN infotainment system (3): Automatic display of front-camera image up to a road speed of approx. 10 km/h (split-screen display mode possible)



1 Display driver's side 2 Display co-driver's side 3 Automatic display of front-camera image up to a road speed of approx. 10 km/h (split-screen display mode possible)





# MAN PUTS SAFETY FIRST, EVERY TIME.

MAN has the right cab for every need – and maximum safety, comfort and ergonomics travel with you wherever you go. Our cabs are designed for fatigue-free, focussed driving, relaxing breaks and maximum passenger protection.

All of the cabs offer optimum safety thanks to a range of features, including the mirror system comprising main and wide-angle mirror, large kerb mirror and front mirror. Or the innovative MAN OptiView digital mirror-replacement system which provides the driver with the optimal overview of the traffic situation. A heated windscreen ensures an unobstructed view even at the coldest times of the year.

There is a choice of three cabs for the MAN TGS. Their compact cab width makes it easier to use the vehicle when space is tight, e.g. on construction sites, in woodland or when making deliveries.

# TREMENDOUS TRIO.







	CAB TM: THE COMFY ONE	CAB TN: THE FLEXIBLE ONE	CAB NN: THE PRACTICAL ONE
	(narrow, long, medium height)	(narrow, long, standard height)	(narrow, medium length, standard height)
W × L (mm)	2,240 x 2,280	2,240 x 2,280	2,240 x 1,880
SLEEPING FACILITIES	2	1	-
SEGMENT	Heavy-load special uses in national long-haul transport	Local and distribution transport, off-road transport	Local and distribution transport, off-road transport, municipal services
BENEFITS AT A GLANCE	<ul> <li>2 sleeping spaces</li> <li>Capacious exterior storage compartment</li> <li>Expanded standing space in through access</li> </ul>	<ul> <li>1 sleeping space</li> <li>Capacious exterior storage compartment</li> <li>Expanded standing space in through access</li> </ul>	<ul> <li>Space behind seats for work clothes, etc.</li> </ul>



# **GUARDIAN ANGEL INCLUDED.**

Safely to your destination and back. This wish has right of way. The extended range of assistance systems facilitate the work of the driver and can increase the safety of other road users. In addition to protecting drivers and other people on the roads, comfort and cost-effectiveness are important aspects, too. A central button for calling up the assistance systems facilitates their operation, and even if in case of an accident the driver and vehicle escape with no serious injuries or damage, something else is lost: the valuable time it takes to record and report the accident. In order for your driver to arrive relaxed and secure, we have made the MAN TGS your personal safety expert.

The MAN TGS offers protection through the reinforced cab. It warns you via turning and lane-change assistants or by the improvement of the sensor systems so that, among other things, pedestrians and cyclists in front of the truck can also be detected and taken into account in the warning and braking strategy. It keeps everything in view when turning or parking thanks to BirdView\*. Its emergency braking system and lane return assist even look a few seconds into the future for you. Still, assistants have a supporting role: the final say is always the driver's.

\* MAN Individual package











- Language recognition via driver card
   Preparation for Alcohol Interlock
   Sensor system for the fifth-wheel coupling

# DRIVING IN COMFORT.

#### Language recognition via driver card

With automatic language recognition via driver card, activated via MAN Now, the language saved on the card is automatically adopted as the "vehicle language" after inserting the driver card into the tachograph (when the ignition is switched on) and does not have to be set or selected manually via the vehicle menu. Manual language setting via the vehicle menu remains available, so that a language other than the one stored on the driver card can be subsequently selected.

28 languages are available. The languages German and English are available in every vehicle. In countries where RIO is offered, additional languages are also available subsequently free of charge via MAN Now.

#### **Preparation for Alcohol Interlock**

Traffic accidents caused by alcohol are particularly annoying because they are absolutely preventable. The driver must react in a fraction of a second even in a sober state. e. g. to avoid an impending accident. Under the influence of alcohol, this is impossible. With the preparation for connecting a device for determining the alcohol content in the breath, the engine can only be started if a maximum permissible alcohol content (may vary from country to country) is measured in the air tested.

The electronic blocking of the engine start by the alcohol tester can be cancelled or bypassed (depending on the version, for example in emergencies) by pressing a secured button. Please note: This is only permissible for certain countries.

#### Sensor system for the fifth-wheel coupling

The sensor system of the fifth-wheel coupling enables safe and convenient sensor-supported monitoring of the coupling and uncoupling operation from the driver's workplace. This prevents damage due to incorrect coupling processes. For a controlled and guided coupling process between the semitrailer tractor and semitrailer, displays and text messages are shown to the driver on the instrumentation display as a sub-item of the air suspension menu. If a coupling process has been completed correctly, this is also confirmed by an acoustic signal. Please note: The pre-departure check remains mandatory despite the indication of the locking status in the driver's display.

## **INCREASED SAFETY.**

#### Front Detection

Whether in the delivery zone of a supermarket, when leaving the workshop or in hectic inner-city traffic: people may be located directly in front of the vehicle where they are difficult to see. When moving off and at speeds of up to 10 km/h, Front Detection monitors the close range in front of the vehicle, which is difficult or impossible for the driver to see, and warns the driver in two stages if it has detected particularly vulnerable, "weaker" road users, such as pedestrians or cyclists. Front Detection thus helps to increase safety and prevent accidents. It relieves the strain on the driver, in particular during urban driving.

Front Detection supplements the Emergency Brake Assist EBA Plus, which includes a comparable protective function for particularly vulnerable road users, but only becomes active at speeds above 10 km/h.

#### **Emergency Brake Assist EBA Plus**

In an emergency, automatic brake intervention until full braking – this has previously saved lives in the event of an impending collision with other vehicles. But what happens if pedestrians or cyclists suddenly enter the driving area? The enhanced Emergency Brake Assist warns and now reacts to these more vulnerable road users as well. The Emergency Brake Assist EBA Plus warns the driver of an impending collision at road speeds of 10 km/h and above. In the event of an emergency, if a collision hazard is detected, automatic braking intervention takes place even to the point of standstill – also for vulnerable, weaker road users such as pedestrians or cyclists. Available on demand in a version that cannot be switched of.





- 1 Front Detection
- 2 Emergency Brake Assist EBA Plus



# FURTHER ASSISTANCE SYSTEMS.

#### Direct call-up of central operating menu for assistance Lane Change Collision Prevention Assist systems

configuring the assistance systems available in the vehicle. This simplifies switching on and off as well as configuration of all the available assistance systems - especially with frequently changing drivers. Depending on the equipment, the button for central operation of the assistance systems is located either on the multifunction steering wheel or in the assistance system key panel on the instrument panel (for vehicles without multifunction steering wheel). There is also a button for temporary switching off the acoustic signals of the assistance systems.

#### Long-haul transport assistant MAN CruiseAssist

Across the entire permitted speed range on motorways and main roads similar to motorways with structural separation of lanes, the long-haul transport assistant MAN CruiseAssist automatically controls the driveline, brakes and steering, if necessary decelerating to a full stop behind a vehicle that is stopping and, in the case of brief stops, automatically moving off again. MAN CruiseAssist guides the vehicle continuously by means of gentle steering interventions. The system uses the detected lane markings as orientation.

The MAN Lane Change Collision Prevention Assist uses A new button directly opens the central operating menu for radar sensors to monitor the areas to the left and right of the vehicle's lane. If the sensors detect that changing lanes would result in a dangerous situation, the driver is warned in good time. If the vehicle nevertheless leaves the given lane - also if the turn indicator has been actuated - the Lane Change Collision Prevention Assist steers it back into the lane by means of a corrective steering torque.

#### Lane departure warning (LDW)

An acoustic signal warns the driver if they drift out of their lane. Available on demand in a version that cannot be switched off.

#### Lane change support (LCS)

Lane Change Support LCS monitors the lanes on the right and left next to the vehicle with the aid of radar sensors from a driving speed of 50 km/h - up to approx. 30 m towards the front and up to approx. 80 m towards the rear. If the sensors detect a dangerous situation when the vehicle is changing lanes, the driver is warned in good time so that they can prevent a potential collision with other vehicles.

#### Lane return assist (LRA)

If the truck departs from its lane, corrective steering guides the vehicle back. The vehicle is automatically steered until it reaches the normal lane position; it is not kept in its lane continuously.

#### Turn Assist

Turn Assist monitors the difficult-to-see side area next to the vehicle (co-driver's side) with the help of radar sensors at road speeds of up to 30 km/h. If the sensors detect a dangerous situation when the vehicle is turning off, the driver is warned in good time so that they can intervene and prevent a possible collision with other road users.

#### Traffic jam assist

On motorways or other well-constructed major roads, the traffic jam assist can independently operate the vehicle's drivetrain, brakes and steering. It slows behind a stopping vehicle ahead until coming to a stop and moves the truck forward again by itself.

#### ACC Stop&Go

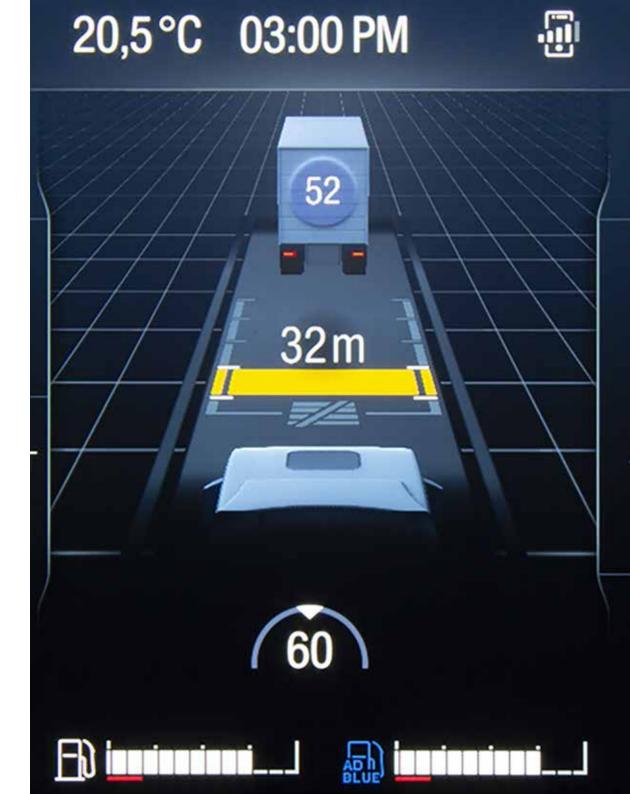
The ACC with Stop&Go feature automatically controls speed and the distance from the vehicle in front. The desired speed is maintained without the driver having to operate the accelerator. The truck automatically brakes until it comes to a standstill and moves away again after short stops.

#### Distance warning system

The distance warning system helps to maintain the required, generous safety distance to the next vehicle. After an acoustic or visual warning, the driver can correct the distance so that more reaction time remains for unforeseen situations.

#### MAN AttentionGuard

MAN AttentionGuard is an attention assistant based on the principle of lane monitoring. Within the limits of the system, starting at a speed of approx. 60 km/h it detects reduced driver alertness in good time. A visual as well as acoustic warning supports the driver in refocusing their concentration on the road – thus we help reduce a possible accident due to lane departure. Compared with the previous version, the enhanced MAN AttentionGuard continuously evaluates the driver's directional accuracy, steering interventions and other parameters. The uniformly specified, scientifically recognised rating scale (Karolinska Sleepiness Scale, KSS) is used to calculate and estimate the driver fatigue level. The driver is warned when a specific stage on this rating scale has been reached.



## FURTHER ASSISTANCE SYSTEMS.

#### Traffic sign recognition system

The traffic sign recognition system uses the new video camera on the windscreen to detect road signs on the route in front of the vehicle and displays the permitted maximum speed on the instrumentation display. This applies to both traffic signs that show a specific speed limit, as well as town boundary or motorway signs. If the permitted maximum speed is exceeded, the system warns the driver visually and, if necessary, also acoustically.

For vehicles with navigation system, the system combines the optically recorded data with stored navigation data. This means that the system can also react accordingly to current changes in signs – which are not shown in the existing navigation data. Other country-specific and vehicle-specific restrictions such as no-overtaking or no-entry restrictions can also be shown on the display.

#### Tyre pressure monitoring system

The tyre pressure monitoring system (TPM) with display of tyre temperature uses sensors to determine and monitor the air pressure and temperature in the vehicle tyres – including the spare wheel (here only air pressure). If the air pressure is too low/too high in comparison to the nominal pressure or the tyre temperature is too high, the driver is warned by means of a display in the instrumentation. As standard available for the entire range up to and including 4-axle vehicles. The function autolearn/autolocate automatically learns the sensors and their position so that the wheels no longer have to be fitted in the same position; there is no need for a workshop visit to re-initialise the sensors with the correct position.

#### Driver's airbag

The airbag integrated into the steering wheel and the seat belt tensioner incorporated into the belt lock on the driver's side are activated in the event of a collision via a joint trigger: if a critical deceleration of the truck is detected, the activators for the airbag and belt tensioner launch in parallel.

#### High-beam assist

Depending on the driving situation, high-beam assist optimises use of the main beam. It prevents the drivers of oncoming vehicles or vehicles in front from being dazzled by automatically dipping the headlights.

#### Side camera system (SCS)\*

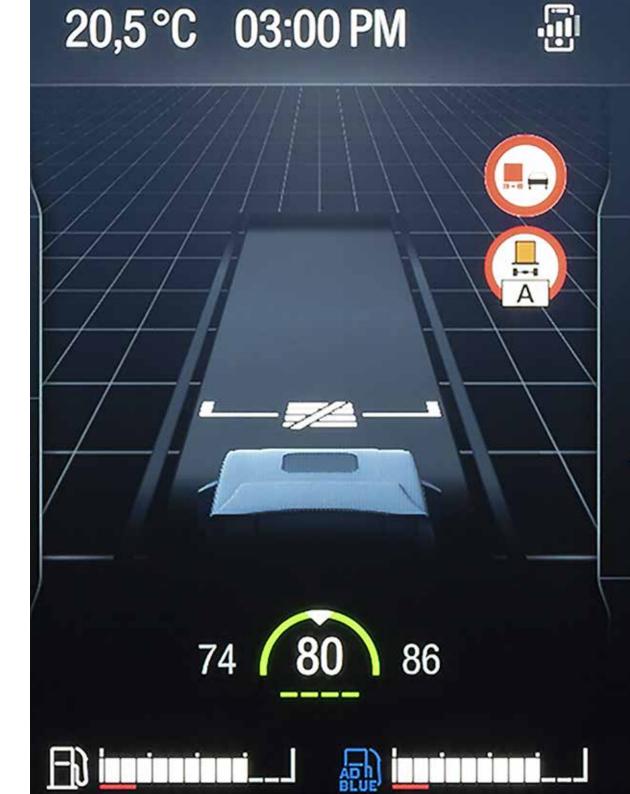
The side camera system is an integrated camera system for assisting in turn-off procedures. It makes it easier for the driver to observe those areas next to the vehicle that are difficult to see (co-driver's side). The video feed is transmitted to an optional additional monitor (only for vehicles with conventional mirrors) on the co-driver A-pillar or to the media display.

#### Video Turn Assist (VTA)\*

Video Turn Assist expands object recognition by comparison with the side camera system (SCS): Objects are detected in an area of  $2.5~m\times 6~m$  to the right of the vehicle and the monitor display is supplemented by a warning to the driver in the form of an acoustic signal from the loudspeaker built into the vehicle. The video feed is transmitted to an additional monitor (only for vehicles with conventional mirrors) on the co-driver A-pillar. In addition, an optical display lights up and an acoustic signal is emitted.

#### 360° view assistant BirdView\*

The camera system for a 360° live view 'from above' seamlessly displays an area of up to four metres around vehicles with fixed bodies (e.g. fire-fighting, beverage or wastedisposal vehicles). Stitch-and-blend technology combines four camera views (front, rear, left and right, in full-HD quality) to a single image from the bird's-eye perspective. A special feature of the system is – depending on the driving situation – self-adjusting image sections at manoeuvring speed ( $\leq$  40 km/h), when the turn indicator is set (lane change) and when reversing.



<sup>\*</sup> MAN Individual package





# POWER FROM START TO FINISH.

So that you can get the most out of our high-performance engines at all times, we have a variety of digital tools ready and waiting. As support for every journey, we also offer the MAN EfficientCruise® service, new in combination with PredictiveDrive: The system weighs up possible speed and gearshift strategies against each other like a strategist and ultimately selects the one with the most economical fuel consumption. Just one of the many MAN ideas to help you get your business where it wants to be. The outstanding efficiency of the MAN trucks is reflected in press tests and the your experiences.

#### Dynamic torque control

Depending on the torque and engine speed, there are certain ranges in the engine-specific consumption characteristic map in which the engine can be operated most efficiently, i.e. with the lowest fuel consumption per output kilowatt-hour. MAN's intelligent dynamic torque control automatically brings the operating parameters of the engine within these ranges. In this context, the Efficiency Plus driving program dynamically reduces torque. The prerequisite is that the reduction does not result in a gearshift. The function can be used with and without MAN EfficientCruise® – both in cruise-control operation and when driving freely.

## Additional reduction of engine speed by 50 rpm with MAN EfficientRoll gearbox function

The MAN EfficientRoll gearbox function automatically shifts the gearbox to neutral position N on slight downhill gradients, thus helping to reduce fuel consumption. During rolling phases, the engine is disconnected from the gearbox and continues running at only 550 rpm, instead of the usual idling speed of 600 rpm. Fewer revolutions consume less fuel!

#### Economical driving style - functionality of Perform

The digital service Perform assists drivers in optimising the economy of their driving styles. Perform evaluates all the relevant vehicle data with respect to the economic efficiency of the driving style. The service provides important vehicle data about utilisation of cruise control or the service brake, for example.





## EFFICIENT DRIVETRAIN.

Especially for high mileage in long-distance transport of 120,000 km per year and more, the efficiency of the drive components is decisive for the economy of the vehicle. Everything fits together in the MAN trucks: Efficient and powerful engines and the new generation of hypoid axles lay the foundation for exceptionally low fuel consumption.

With every stage of development, a high level of engineering skill reduces fuel consumption and increases performance. Recent example: the MAN D26 in Euro VIe. Brings 10 hp and 50 Nm more to the road and still consumes up to 3% less fuel.

The MAN D15 engine series does away with EGR thanks to enhanced SCR technology and the widespread availability of AdBlue®. Exhaust gas aftertreatment by the SCR catalytic converter and the MAN CRT (continuously regenerating trap) system ensure cleanliness and compliance with legislation. Plus, the MAN D15 has slimmed down and is significantly compact. When paired with the optimised axle drive, weight was reduced, thereby increasing load capacity.

Efficiency is always what comes first when it comes to MAN engines. You can count on it. Finally, there was only one component left for us to improve: the driver. And we took that on, too: first via efficiency data displays and assistance systems like the GPS-based speed control system MAN EfficientCruise® with PredictiveDrive. Then we added tailored driver training using the data from your specific MAN truck, continuously digitally recorded and ready for evaluation. Together it's the ideal basis for the perfect interplay of human and MAN.



#### New generation of hypoid axles

The new generation of hypoid axles enables a driveline configuration that is optimally matched to the respective application: Lighter and more efficient. As single axle or tandem-axle assembly.





## THE MAN TGS IS PRE-PROGRAMMED FOR EFFICIENCY.

MAN has taken efficiency to the next level with the MAN TipMatic<sup>®</sup>. This system enables the vehicle to automatically recognise the load and incline conditions and optimise the gear-changing strategy to match. Whether the truck is unladen or fully loaded, MAN TipMatic<sup>®</sup> automatically selects the ideal gear for pulling away. Moreover, the wide gear spread and software which recognises inclines guarantee outstanding performance when moving off. "SmartShifting" is a further evolution of the well-known "SpeedShifting" and minimises traction interruptions when changing gear while travelling uphill, for instance.

"Idle Speed Driving" enables comfortable moving off and driving at idling speed. This feature allows the driver to manoeuvre the truck with precision and sensitivity or "just go with the flow" in slow-moving traffic on the motorway. And should the truck get stuck in snow or in wet, loose ground, the rocking-free function makes it easier to drive off, especially due to the ability of the clutch to rapidly open and closing.

In addition, MAN TipMatic® also contains pre-programmed driving settings for various driving situations, such as the fuel-saving Efficiency program, Manoeuvre mode, programs for heavy loads and Performance mode for a more agile driving style. This ensures that your truck will always perform to the max, anytime, anywhere.

### MAN TipMatic® 12 for MAN 26 engine also available for 4x2 standars semitrailer tractor

In future, for all standard semitrailer tractors in the heavy series the MAN TipMatic® shift system is based exclusively on the twelve-speed gearbox. The MAN TipMatic® 12 offers significant added value for applications in which payload and consumption play decisive roles.

The twelve-speed TipMatic gearbox has twelve forward and two reverse gears. There are two versions of the gearbox: direct drive and overdrive. The automated manual gearbox independently performs clutch actuation and gearshifts. The MAN TipMatic® shift system uses software control functions to determine the optimum moving-off and gearshift strategy in all situations in conjunction with the load and slope detection function.

The innovative SmartShifting function permits particularly fast gear changes with minimum interruptions in tractive force as required and thus increases efficiency. Due to its three-shaft design, the gearbox has a low weight with high transmission efficiency.

## THE MAN TGS KNOWS EVERY HILL – AND THE BEST GEAR TO MATCH.

Complex chess game on uphill gradients: the new PredictiveDrive function of the MAN EfficientCruise® GPS cruise control no longer drives blindly and stubbornly uphill, but weighs up possible speed and gearshift strategies against each other like a strategist and ultimately selects the one with the most economical fuel consumption.

By taking into account the selected navigation route, or without navigation the most likely, the cruise control function MAN EfficientCruise® calculates the route with its uphill and downhill gradients up to three kilometres ahead with the aid of three-dimensional map data. The new PredictiveDrive supplements the effect of MAN EfficientCruise®, especially on uphill and downhill gradients. The PredictiveDrive system continuously analyses potential driving and gearshift strategies in these route sections and selects the most efficient one depending on the situation. This makes it possible to prevent unnecessary traction interruptions due to gear hunting and frequent gearshifts. Depending on the topographical conditions, the available torque is enabled or reduced as part of the dynamic torque adjustment. In addition, the characteristics of the selected drving program are also taken into account.

What is new is that a reduced form of dynamic torque adjustment is also used in the Efficiency driving program – with a correspondingly positive effect on the fuel consumption of the entire fleet. Previously, the positive effect of dynamic torque adjustment was reserved for the Efficiency Plus driving program. The aim of the Predictive-Drive function is generally to make the best possible use of the predicted topographical changes on the route in order to be as fuel-efficient as possible by actively varying the speed, gear and available engine torque. With the goal of implementing this at almost average speed neutrality.

For example, it may be advantageous:

- to drive into an uphill gradient with momentum and shift down early,
- to use the full engine torque when on the gradient,
- and to reduce the engine torque again at the end of the incline.

MAN EfficientCruise® and PredictiveDrive are already active from low speeds (approx. 30 km/h). The system works both when driving freely and in cruise control mode. The anticipatory system reactions on uphill gradients ensure significantly better drivability and thus also increase driver acceptance of the dynamic torque adjustment.

Within a tolerance range, adaptation of the vehicle speed to the topography can be higher or lower than the desired speed set by the driver. This maximum deviation from the desired speed can be set in four ECO levels. In this way, the driver is easily able to adjust the potential fuel saving to the road surface, visibility and traffic conditions.



# MORE TRACTION AT THE TOUCH OF A BUTTON.

You never know what to expect on the job, so it's best to be prepared for anything - like slippery terrain, mud and gravel. MAN was the first manufacturer of utility vehicles to launch the engageable hydrostatic front-wheel drive HydroDrive onto the market and has extensive experience with this system. The MAN HydroDrive® easily copes with any situation where traction is crucial - even scenarios where a truck with rear-wheel drive only would have to give up and go home. The system is available with the semiautomatic MAN TipMatic® transmission or with a manual transmission, so the choice is always yours. MAN also makes downhill gradients safer by transferring the engine braking torque to the front axle (known as "support"). What is more, the combination of MAN HydroDrive® with a PriTarder extends the life of the service brake. This enhances safety and improves directional stability on unpaved surfaces, even when travelling downhill - the perfect solution for your driving jobs.

You only need to press a button to access considerably better traction. This allows your MAN to tackle a much wider range of jobs. In addition to using less fuel than a conventional all-wheel drive, it reduces the weight by as much as 400 kg. Even if you do almost all of your driving on the road, the additional traction boosts mobility and safety, especially for unladen trips on slippery surfaces.

Of course, anyone who makes it up the mountain wants to come back down again, too. That's where the MAN Brake-Matic smart brake with electric braking and ABS comes into play. They make it possible, for example, to maintain a constant speed when going downhill by regulating the sustained-action brakes automatically. In situations where you have to react fast, the MAN braking system is exactly the partner you want at your side, too: based on the strength of pedal movement, the braking assistant recognises when hazard braking is needed and immediately activates full braking power. No matter where the road takes you, the MAN TGS gives you the power and security you need.



Front axle with hydrostatic wheel hub motors





## **IMPROVED AERODYNAMICS.**

The better the headwind flows around a vehicle, the less fuel is required for driving. An aerodynamically optimised A-pillar cladding has a specially shaped attachment made of flexible plastic, which improves airflow around the A-pillar and thus - due to lower eddies - reduces drag. Vehicles with the MAN OptiView mirror replacement system benefit to a greater extent from the new aerodynamically optimised A-pillar cladding and the calm airflow in this area.



## RELIABILITY IN DETAIL.

Our reliability rests on many components. The first is our continuously growing LED range for the lighting systems of the vehicle. Another is our dedication to the little things. For instance, when it comes to the electricity supply of the MAN TGS we pride ourselves on laying not one wire more than your configuration needs. The wires themselves are now protected by even more flexible and elastic materials, and the number of joints has been cut. We also reduced the wire thickness overall, which in turn means less weight and more available load capacity.

The modular wiring concept offers additional advantages by allowing customer requests to be easily incorporated and enabling quick repairs thanks to prefab sets. Together, the result is shorter downtimes and a vehicle electrical system with higher performance overall.

#### 24V battery management system

Empty batteries and stranded vehicles due to excessive use of electrical devices during rest periods are a thing of the past with the new MAN battery management. The system ensures that the vehicle engine can be started by automatically switching off less important consumers.

#### Cyber security

The networking of electronic systems and the associated data availability and use are both a curse and a blessing. On the one hand, this enables new helpful functions and applications – on the other hand, it offers potential targets for hackers. MAN consistently safeguards all vehicle systems against misuse.



## SUPPORT NON-STOP.

Only a truck that runs is a good truck. Unplanned down-time and the associated loss of time and earnings are something we'd all like to do away with for good. The MAN Truck Generation has got your back there too. Right from day one, it brings the ultimate quality synonymous with MAN to its work. So much so that it's hard to get it to stop. If you need us, however, we're ready and waiting. When you're at a standstill, we will get you back on track as quickly as possible. We will move heaven and earth to keep you mobile. In short, where there's a MAN employee, there's a way.

When it comes to financing, too, you can rely on MAN: MAN Financial Services supports your needs and makes sure you stay mobile. You can even cover bottlenecks and react flexibly to higher demand thanks to truck leasing from MAN Rental.

With our clever solutions, you can make your business noticeably easier and more transparent. We've got it covered, so that your head stays clear for the road in front.

#### At a glance:

MAN Mobile24

Via the MAN Mobile24 mobility service, you can reach us round the clock europe-wide. The service has been expanded with additional solutions, so that our customers are always on the safe side for every kilometre. As well as the guarantee that the transport business can continue to run smoothly in the event of a breakdown.

Uptime guarantee

The MAN uptime guarantee keeps you moving. We are never far away in the event of a breakdown and, even if downtime or repairs are required, we will get you back on the road in no time.

Service contracts

We help you save time, money and stress. MAN takes care of everything as required, from servicing and invoice management to answering questions relating to guarantees and goodwill.

MAN Genuine Parts

With compliance with strict quality standards guaranteed, MAN Genuine Parts are the ideal match for your vehicle. It's the only way for your MAN vehicle to be driven safely, efficiently and with minimum wear.

Accessories and retro-fit solutions
 Easily tailor your MAN to your needs with our high-quality accessories. Subsequently and simply. With products exactly matching your MAN model. And matching you.

For further offers and details please contact your local dealer or visit our website:

mantruckandbus.com







## SERVICE AS YOU LIKE IT - PERSONAL AND DIGITAL.

Could your company also benefit from the increasing digitalisation taking place in logistics? We are convinced it can. That's why we would like to give you a brief insight into how you can better master the **most pressing challenges of your industry with smart digital solutions.** 

Above all, the high cost and time pressure make the working environment in the logistics industry particularly challenging. Every vehicle in your fleet must be operated as economically as possible. This requires economical driving behaviour as well as effective and repair management. With an internet-enabled truck with Over-the-Air Upgrades, an overview of all the key data about the vehicle and its performance appears directly on your desktop, and many other useful features of our digital services give you the freedom to take care of business.

#### Your benefits:

- more efficiency,
- simplified work processes, with maintenance outsourced to your MAN Service Centre or by keeping drivers and fleet managers digitally connected
- lower costs.

The best part: it's already a reality.

With MAN DigitalServices, you can begin straightaway.

While transport is – and will always be – analogue, fleet management is becoming digitalised. MAN DigitalServices helps you optimise business tasks, bring fuel and admin costs down, plan and manage servicing tasks from the truck, manage time and provide continuous training to drivers.

We would like to give you the opportunity to try out this comprehensive package for three months for free! Our trial offer includes the following paid-for digital services: Geo, Perform, Compliant, MAN ServiceCare M and Timed. MAN ServiceCare S and the MAN Driver app are already free and are not part of this offer.

#### Take advantage of:

- efficient fleet management with digital services that make your job significantly easier
- our new cost- and risk-free offer: your free trial will automatically end after three months, with no further obligation.

The trial offer\* is valid for all the vehicles\*\* in your fleet for your registered trial period. Get started now: with just a few clicks, you can try all the benefits of MAN DigitalServices for your whole fleet. We are sure that you will be impressed. www.man.eu/marketplace

The digital services listed below help you manage your fleet economically and efficiently:

- Vehicle tracking
- Maintenance and repair management
- Tachograph and time management
- Economical driving
- Driver assistance
- Over-the-air upgrades

The latest information on MAN DigitalServices can be found on our website: www.digital.man

Valid for all customers who do not currently pay for MAN DigitalServices.

<sup>\*\*</sup> Depending on technical availability.

## EASIER WORKDAYS.

#### MAN ServiceCare

Regular maintenance is a must if you want to reduce unscheduled downtime and repair costs for your fleet. Our free MAN ServiceCare S is there to help - we'll be very happy to take care of your maintenance and repair needs. The service works using vehicle and maintenance data relayed to MAN ServiceCare over the Internet. Your MAN Service Centre uses this to proactively arrange maintenance appointments and combine your maintenance tasks. After all, you've got enough to do already. What's more, your nearest MAN Service Centre can use remote vehicle diagnostics to view targeted vehicle data and give you a more personalised service if you break down. MAN ServiceCare M gives you all the benefits of MAN ServiceCare S but you also get extra tools for even more personalised maintenance and repair management across your whole fleet. We are continually upgrading MAN ServiceCare - with pre-emptive tools that increase the uptime of your vehicles in a more straightforward and comprehensive way.

#### MAN Driver App

The MAN Driver app ensures that drivers always have important information about their MAN to hand. Not only does our smartphone-based digital assistant make life on the road easier but it also speaks 26 languages, which means that drivers from lots of different countries can use it. Our smart, user-friendly and efficient MAN Driver app helps MAN drivers on every trip, providing important information and offering a range of features to make their lives easier. For example, if they break down, they just tap on the app and connect to the MAN Mobile24 emergency service. Drivers can also notify fleet managers about any damage and send any documentation guickly and easily through the app. The MAN Driver app is a constant companion - whether you need to carry out a vehicle check before departure, look for a parking place online or check driving and rest times.

The MAN Driver app is free of charge and connects drivers, fleet managers and workshops in a simple and secure way. We're constantly improving our driver app and adding new offers and features that make MAN drivers' jobs even easier.





## **SMART SOLUTIONS.**

#### MAN Now

With MAN Now, you receive exclusive vehicle functionalities and upgrades, allowing you to modify your truck software to meet your requirements, any time, any place – and all without having to drop into a MAN service outlet. Thanks to the new and convenient over-the-air technology, you can easily enable and expand functions or add new ones. Thanks to these retrofitted modification options you are more flexible in the vehicle configuration. As no visit to the workshop is required, you increase the vehicle uptime and efficiency.

The following features are available for all vehicles with a model year of 2020 or later:

- MAN OnlineTraffic
- MAN MapUpdate

The following features are available for all vehicles with a model year between 2022 and 2024:

- MAN LanguagePackage
- MAN LanguageRecognition
- MAN Idle Shutdown
- MAN EfficientCruise®
- MAN EfficientRoll
- MAN TimeInfo
- MAN TimeControl
- MAN TipMatic<sup>®</sup> driving program

The first usage of MAN OnlineTraffic per vehicle is free.

#### MAN SimplePay

Your trucks become digital wallets that can be used to pay for all the usual transactions that occur in the driver's daily business. The payment platform MAN SimplePay also offers a user-friendly user interface for fleet managers and provides full cost control in a timely manner.

MAN SimplePay can make everyday work easier: For example by instantly approving requests, confirming payments and consolidating invoicing. Or with full transparency and time savings for the fleet manager – all costs are in one system (dashboard). The payment is easily processed via the MAN media system in the vehicle, giving you greater security for transactions.

The portfolio (= use cases and payment options) of MAN SimplePay is constantly being expanded. When the service feature is activated in the MAN SimplePay portal, the new features are automatically imported over-the-air into the vehicle.

Technical requirements for these features are a RIO Box, registration on the RIO platform and activation of your vehicles. The range of over-the-air features is being continually expanded.





## **BUILT TO TAKE YOU THERE.**

From axles and suspensions for any set of requirements to a body-compatible frame and a robust chassis, every component of the MAN TGS is built for the utmost reliability, safety and efficiency.

A new frame of reference: the frame construction of MAN tractor units offers far more. More stability, more bodycompatibility, more cost-effectiveness. The completely level upper edge of the frame means that all kinds of bodies can be accommodated with ease. The frame also boasts extra space for the same reason. Whether you choose a two-, three- or four-axle chassis, MAN tractor units are built to take you there, from the low-friction hypoid drive axle to the planetary drive axle, which is great for off-road use and offers good ground clearance and high traction performance on both wheels – perfect for heavy-duty tasks.

You can also choose a weight-optimised hypoid axle that weighs 180 kg less than the normal hypoid axle and 280 kg less than the planetary axle. With this option, the ground clearance is similar to that of a planetary axle. Vehicles with leaf springs are available with a lightweight hypoid axle tandem in standard and medium-height versions, while trucks with air suspension come in a standard height. Maintenance-free construction air suspension for the planetary tandem-axle assembly is a MAN speciality. Thanks to the ECAS electronic levelling system, this delivers excellent ride comfort, regardless of the load. An additional advantage is that no axleguidance parts protrude from the wheel track. This makes for especially good ground clearance.

MAN offers a large number of chassis options to ensure the right suspension for the task in hand. In the payload-intensive tank and silo segment in particular, the MAN TGS-TS is designed for higher payloads with its weight-optimised and application-oriented equipment concept. The vehicle can be further optimised by means of lightweight options.

What's more, the trucks with a leading axle and trailing axle boast a variable axle load ratio for optimum weight distribution. This ensures that optimum traction is always available to the drive axle, regardless of the load. With this system, the axle load is distributed variably between the driven and non-driven rear axle – whatever the loading status.



## **CUSTOMER-ORIENTED.**

#### New air suspension control

The air sprung rear axle is now standard in long-haul transport. However, the possibilities and advantages of air suspension are also increasingly being used in many other application segments. The new air suspension control with its improved and extended range of functions takes this trend into account. This include for example, a 2nd rear axle relievable, and a manual and automatic suppression of VASC (Vehicle Air Suspension Control) level control. In addition a selection option of 2nd lowered driving height for compensation of tyre rebound on empty runs. This function assists in observing the height limit. And another new feature is the control of the air suspension of the trailer/semitrailer.

The electronically controlled air suspension VASC (Vehicle Air Suspension Control) allows the vehicle frame to be raised and lowered to suit different deployment scenarios.

The control unit for the electronically controlled air suspension (VASC) is installed in a separate holder next to the driver's seat and allows the driver to adjust the height of the vehicle frame quickly and precisely – for example, to adjust the cargo space floor and the loading ramp to the same level. An extended control unit enables the VASC to be operated via the multifunction steering wheel and via a menu in the display of the instrumentation.

#### System improvements:

- New functions
- Shorter lifting and lowering times (up to 50%)
- Remote control with new ergonomic operating design
- Control via multifunction steering wheel and on-board menu
- Control of the air suspension of the trailer/semitrailer via remote control or multifunction steering wheel



Control unit for electronically controlled air suspension (VASC)

## **MORE TRACTION.**

#### New electronic brake system EBS

The electronic brake system EBS combines the basic function of the electro-pneumatic brake with the extended functions of antilock braking system (ABS) and anti-slip control (ASR). With the aid of EBS, driving and braking procedures can be optimised in many different ways. It thus makes an important contribution to enhancing driving safety, driving comfort and cost-effectiveness. In the brake system of the MAN Truck Generation, the electronic brake system EBS has been further developed and its range of functions expanded with new functions. Active wheel speed sensors with their own power supply and evaluation electronics now replace the previous passive sensors. Active sensors enable extremely accurate and fast speed measurement from just 0.1 km/h. Off-road moving-off behaviour with tandem-axle units is improved with the use of sensors on the second axle. Also new are halt brake braking function with preparation for reversing restriction and rollback detection, MAN EasyStart Offroad hill holder and the hill-climbing brake in conjunction with manual gearbox. It is now also possible to combine the systems in one vehicle.

#### Electronic anti-slip control (ASR)

In future, the new electronic anti-slip control will be able to prevent the spinning of driven wheels on all vehicles – including on the driven front axles of vehicles with MAN HydroDrive®.

The anti-slip control (ASR) prevents the drive wheels from spinning when moving off or accelerating. This improves traction, particularly on slippery surfaces such as ice, snow, loose chippings or wet cobbles, and ensures stable driving. The further development of the electronic brake system EBS (use of active wheel speed sensors) means that for example vehicles with MAN HydroDrive® can also be combined with anti-slip control (ASR). This improves traction in this type of drive when a front wheel spins more on one side.

#### MAN works tipper range

From the MAN factory gate directly and without detours to the construction site – that is the MAN works tipper range. The two-, three- and four-axle chassis with tipper body can be used directly ex-works. This means that everything comes from a single source.

All MAN works tippers are designed as complete vehicles by the MAN engineering departments, have passed the relevant strength calculations and have been validated by the standard MAN driving test processes. The interaction between chassis and body is therefore particularly efficient and reliable.



Some of the features illustrated in this brochure are not part of the production series generally described here.

Both the vehicle's air conditioning system and refrigerator contain fluorinated greenhouse gases (R134a / GWP 1430 with up to 1.15 kg; 1.6445 t  $\rm CO_2$  accordingly).

#### MAN Truck & Bus SE

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