

# THE NEW MAN eTRUCK.

eMPOWERING YOU. ALL THE WAY.





# eMPowering YOU. ALL THE WAY.



With the world undergoing rapid changes, the transformation of the commercial vehicles industry and the transport sector to electromobility is happening right before us.

As a reliable partner, we enable our customers to pursue this new path with the most environmentally friendly and intelligent vehicles MAN has ever built; The new MAN eTGX and eTGS. As we embark on an electrified future, the new MAN eTrucks and suitable digital solutions make sustainable transport easy.

## THE HOLISTIC MAN APPROACH TO SWITCHING TO ELECTROMOBILITY.

### The Right Partner

Based on decades of electric vehicle expertise, MAN knows exactly what is necessary for the economic introduction of electric mobility in the transport sector. With 360° eMobility Consulting from MAN Transport Solutions, we guide our customers on their path to electrification.

### Next Level Truck

Featuring the latest technology, the new MAN eTruck generation effectively combines ecology with economy. In addition to an emission-free drive train, the MAN eTGX and eTGS offer excellent driving behavior and ease of operation.

### Smart Charging & Battery

Range, longevity and performance through state-of-the-art battery technology and a sustainable charging infrastructure are two critical requirements for the transition to eMobility. MAN is also creating a networked eMobility ecosystem for a seamless digital customer experience.

### Maximum Efficiency & Availability

Finally with smart services complementing the MAN eTruck, the usage will become more economical, environmentally friendly, safe, comfortable and better connected across systems.





# ELECTRIFY YOUR FLEET WITH **360° eMOBILITY** CONSULTATION FROM MAN TRANSPORT SOLUTIONS.

## Support for the transition to eMobility

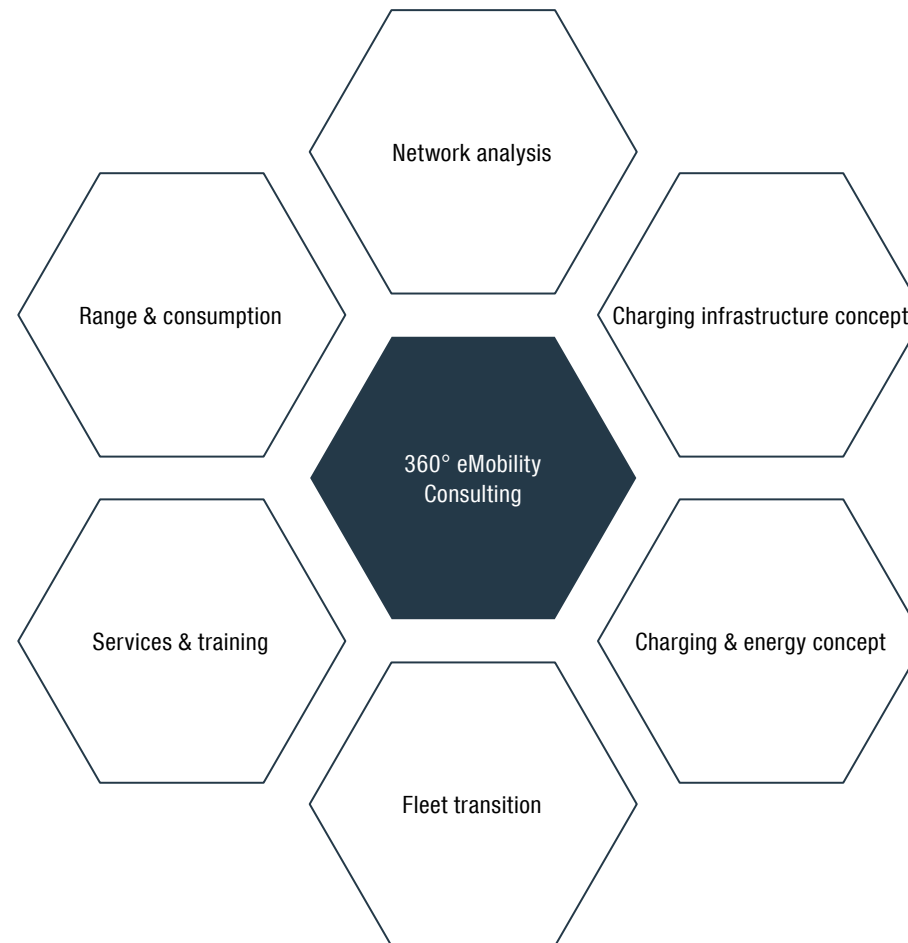
With comprehensive 360° eMobility consultation, we check whether your routes can be covered by electric vehicles and whether they can be operated economically. In this way, we help you to set and achieve your carbon reduction targets.

## Consultation provided to several hundreds of customers by the Europe-wide network of eMobility experts

The expertise of our eMobility experts is valued by customers throughout Europe, whom we support, with comprehensive strategies for the electrification of their fleet.

## Charging infrastructure and energy supply

We work with you to plan the design of your charging infrastructure and develop an optimal energy supply strategy for your business.





# eREADYCHECK

## READY TO CHECK WHICH MAN ETRUCK IS RIGHT FOR YOU?

Our MAN eReadyCheck supports you in this process and uses selectable parameters to show you which MAN electric vehicles are exactly the right fit for you.

Our 360° consulting for the eMOBILITY ecosystem

### 1. Range calculation and consumption

- Analysis of the currently driven routes
- Definition of the key factors that influence the range (charging, topography, auxiliary consumers, weather conditions)
- Simulation of possible ranges for different scenarios

### 2. Network analysis / Route planning

- Simulation of your route planning with electric vehicles and, if necessary, adaptation of vehicle routes
- Composition of the optimal fleet mix of classic and electric vehicles for your company
- Analysis of potential carbon saved by converting to eMobility
- Cost-effectiveness analysis

### 3. Charging Infrastructure concept

- Simulation of various charging schedules for your fleet:
  - Definition of the charging infrastructure needs
  - Development of a tailor-made charging strategy
- Concepts for installing the charging infrastructure in the depot
- Set-up scenarios for public charging

### 4. Charging and energy concept

- Definition of the expected energy consumption based on route planning – Creating and checking concepts for safe energy supply, e.g. avoiding load peaks
- Definition of an energy strategy that considers potential for optimisation with respect to electricity use and company requirements as a concept for your electricity supplier.

### 5. Fleet conversion

- Development of a long-term plan for the complete conversion of the fleet to electric vehicles
- Determination of the electricity demand and development requirements for charging infrastructure for the early planning of major construction measures and application for extended power connections from the supplier
- Structuring of cost-effectiveness calculations and investment plans to correspond to long-term support programmes.

### 6. Services and training

- Consultancy with respect to the adaptation of workshop equipment and processes
- Concepts for safety training and courses for the safe handling of high-voltage systems
- Support with the definition of technology and driving training courses for your employees.

To the MAN eReadyCheck:



# THE NEW MAN eTGX AND eTGS ARE HERE.



With the smartest and most environmentally friendly vehicles it has ever built, MAN is simplifying your path to electrification. Besides an emission-free driveline and daily ranges of up to 800 kilometres\*, the new MAN eTruck generation offers excellent handling with simple operation. In addition, MAN gives you a future-proof and intelligently networked eMobility ecosystem of the future that provides you with the best possible support in your daily work through digital solutions.

\*Including intermediate charging (Megawatt Charging) of 45 mins with a battery capacity of 480 kWh allows for daily ranges of up to 800 km.

## BENEFITS OF A MAN ELECTRIC TRUCK.

### Ideal application fit

The MAN eTruck offers the shortest wheelbases for semitrailer tractors at 3,750 mm – with a battery capacity of up to 480 kWh and a high fifth-wheel coupling load. This means you can combine your eTruck with ISO or special trailers without exceeding a train length of 16.50 m. We also offer chassis with a wheelbase of 3,750 mm to 5,950 mm - and PTO's are also available.

### Extreme semitrailer (ultra) tractor for large-volume transport

Low design, high efficiency: With a minimal height of 953 mm, the MAN extreme semitrailer tractor is ideal for semitrailers with an interior height of 3,000 mm and a volume of up to 100 m<sup>3</sup>. For example, it is perfect for just-in-time/just-in-sequence deliveries in the automotive sector, where maximum use of space is crucial.

### Flexible modular battery system

Customer-specific battery configuration: Thanks to our intelligent battery modular kit, you can select three to six battery packs depending on your usage specifications (four to six for semitrailer tractors). Whether you want more payload/fifth-wheel coupling load with lower acquisition costs or a higher range, you are in control. Body manufacturers have also been part of the development process from the start. For example, frame clearance for hydraulic supports for front crane applications was taken into consideration early on.

### Commercial vehicle specific batteries - made in Germany

MAN recognised the importance of battery development as a key technology for eMobility and has created cellular chemistry specifically optimised for commercial vehicle applications. And battery production remains in-house too with the batteries being produced at the MAN location in Nuremberg.

### Quick charging made easy

Instantly charge your MAN eTruck: The maximum 375 kW charging capacity of the combined charging system (CCS) makes charging time incredibly short. And the megawatt charging system (MCS) is even faster with a capacity of up to 750 kW. Four possible charging positions on the vehicle also make handling easier.





### All-round carefree package

We make your introduction to eMobility as easy, plannable and successful as possible by providing you with comprehensive help in the form of our 360° eMobility consulting. All the digital services available for MAN eTrucks are already part of our standard offer, including MAN eManager. The flexible MAN eMobility service products also offer you vital planning security, including a 3-year warranty for the driveline, service contracts plus tyre service or individual purchase warranties.



# THE NEW MAN eTGX.

The eTruck for long haulage.



## ELECTRIFYING LONG-HAUL TRANSPORT.

With a daily range of up to 800 kilometres\*, the new MAN eTGX competes with conventional semi-trailer tractors when it comes to long haul. Regardless of whether it is a semi-trailer tractor or a chassis variant with body, the new Megawatt Charging System gives the electric truck a charging capacity of up to 750 kW. What's more, 45 minutes of recharging – the length of a typical break time – is enough to fully charge the battery, making it ideal for long-distance travel. And after the work is done, the driver can relax in the cab's comfortable rest area.

## HIGHLIGHTS OF THE MAN eTGX

- A variety of cabs (GX, GM, GN) with a comfortable rest area
- Daily ranges of up to 800 km
- Choice between 3 and 6 battery packs

\*Including intermediate charging (Megawatt Charging) of 45mins with a battery capacity of 480 kWh allows for daily ranges of up to 800 km.



# TECHNICAL SPECIFICATIONS OF THE NEW MAN eTGX

	4x2 Semi-trailer Tractor	4x2 Chassis	6x2 Chassis
Range	260 – 400 km	195 – 600 km	195 – 600 km
Battery packs	4 – 6	3 – 6	3 – 6
Battery capacity	320 – 480 kWh	240 – 480 kWh	240 – 480 kWh
Gross vehicle weight / gross train weight	- / Up to 44 t	Up to 20 / 44 t	Up to 28 / 44 t





# THE NEW MAN eTGS.

The eTruck for heavy-duty distribution transport.



## STRONG, VERSATILE, QUIET.

Be it in regional distribution transport, for robust special applications or as an emergency vehicle for heavy loads: the new MAN eTGS is ready to extend its versatility according to your daily challenges. It can be used for a wide range of applications: from a (refrigerated) box to a heel tipper, as a semi-trailer tractor or chassis. Thanks to the smooth power delivery, the ample torque from a standstill and the precise handling, the MAN eTGS offers an exceptional driving experience. And with its usable battery capacity of 480 kWh, it easily covers most industry-specific range requirements, all while remaining climate-conscious and quiet. This makes concerns about range a thing of the past.

## HIGHLIGHTS OF THE MAN eTGS

- Flexible pre-fitting for body mounting ex works
- Tailored MAN Digital Services included
- Comfortable driving experience and precise handling



## TECHNICAL SPECIFICATIONS OF THE NEW MAN eTGS

	4x2 Semi-trailer Tractor	4x2 Chassis	6x2 Chassis
<b>Range</b>	260 - 400 km	195 - 600 km	195 - 600 km
<b>Battery packs</b>	4 - 6	3 - 6	3 - 6
<b>Battery capacity</b>	320 - 480 kWh	240 - 480 kWh	240 - 480 kWh
<b>Gross vehicle weight / gross train weight</b>	- / Up to 44 t	Up to 20 / 44 t	Up to 28 / 44 t





# VERSATILE SOLUTIONS FOR YOUR SUCCESS.

The MAN eTGX and eTGS serve as the ideal foundation for all focus applications, offering a high payload and long range.

## LONG HAUL TRANSPORT



### Vehicle for swap bodies

- High range
- Fast charging required, as often used in shift work
- Multi- and standard swap bodies possible
- Narrow vehicle width



### Standard / Refrigerated semitrailer tractor

- High range
- Powerful drives
- Wide range of cabin types
- Short wheelbase, allowing for a wide range of semitrailers



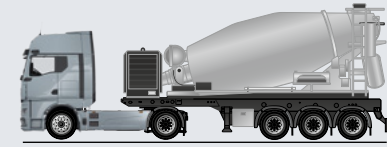
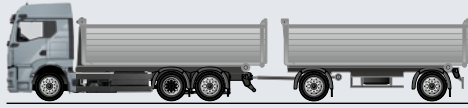
### Ultra-Semitrailer tractor

- High range
- Powerful drives
- Short wheelbase, allowing for a wide range of semitrailers
- Fifth-wheel heights from 950 mm





## CONSTRUCTION



### Set-down and Roll-off skip loader

- High payload and range
- High-voltage interface suitable for the industry
- Drive program for manoeuvring intensive applications
- Also possible in trailer operation
- Short industry grade wheelbases available

### Platform body with loading crane

- High range
- Cost-effective mechanical power take-off
- Modular battery layout with frame clearances for hydraulic support for front crane operations

### Tipper/mixing semitrailer tractor

- Up to 480 kWh battery capacity
- Configurable with 4 to 6 battery packs depending on application requirements
- Industry-specific preliminary setups

## DISTRIBUTION TRANSPORT

## REFRIGERATED GOODS VEHICLES



### Box body

- Up to 480 kWh battery capacity
- Flexible preliminary setups for body installation ex works
- Also possible in trailer operation

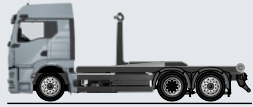
### Refrigerated goods vehicle

- Up to 480 kWh battery capacity
- Battery layout with frame clearances for refrigeration unit
- High-voltage interface suitable for the industry
- Flexible preliminary setups for body installation ex works
- Also possible in trailer operation

### Standard / Refrigerated semitrailer tractor

- High range
- Powerful drives
- Wide range of cabin types
- Compact dimensions

## MUNICIPAL VEHICLES



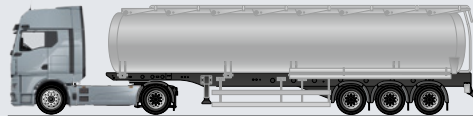
### Set-down and Roll-Off skip loader

- High payload and long range
- High-voltage interface suitable for the industry
- Drive program for manoeuvring intensive applications
- Also possible in trailer operation
- Short industry grade wheelbases available

### Waste collectors

- High range
- Battery usage strategies for long vehicle life
- Driving program for waste disposal operations

## TANKER AND SILO



### Tanker

- High payload
- Transport of dangerous goods pursuant to ADR regulations ex works
- Drive program for smooth gearshifts
- Flexible preliminary setups for body installation ex works
- Mechanical power take-offs and electrical interfaces

### Tank semitrailer tractor

- High payload
- Transport of dangerous goods pursuant to ADR regulations ex works
- Drive program for smooth gearshifts















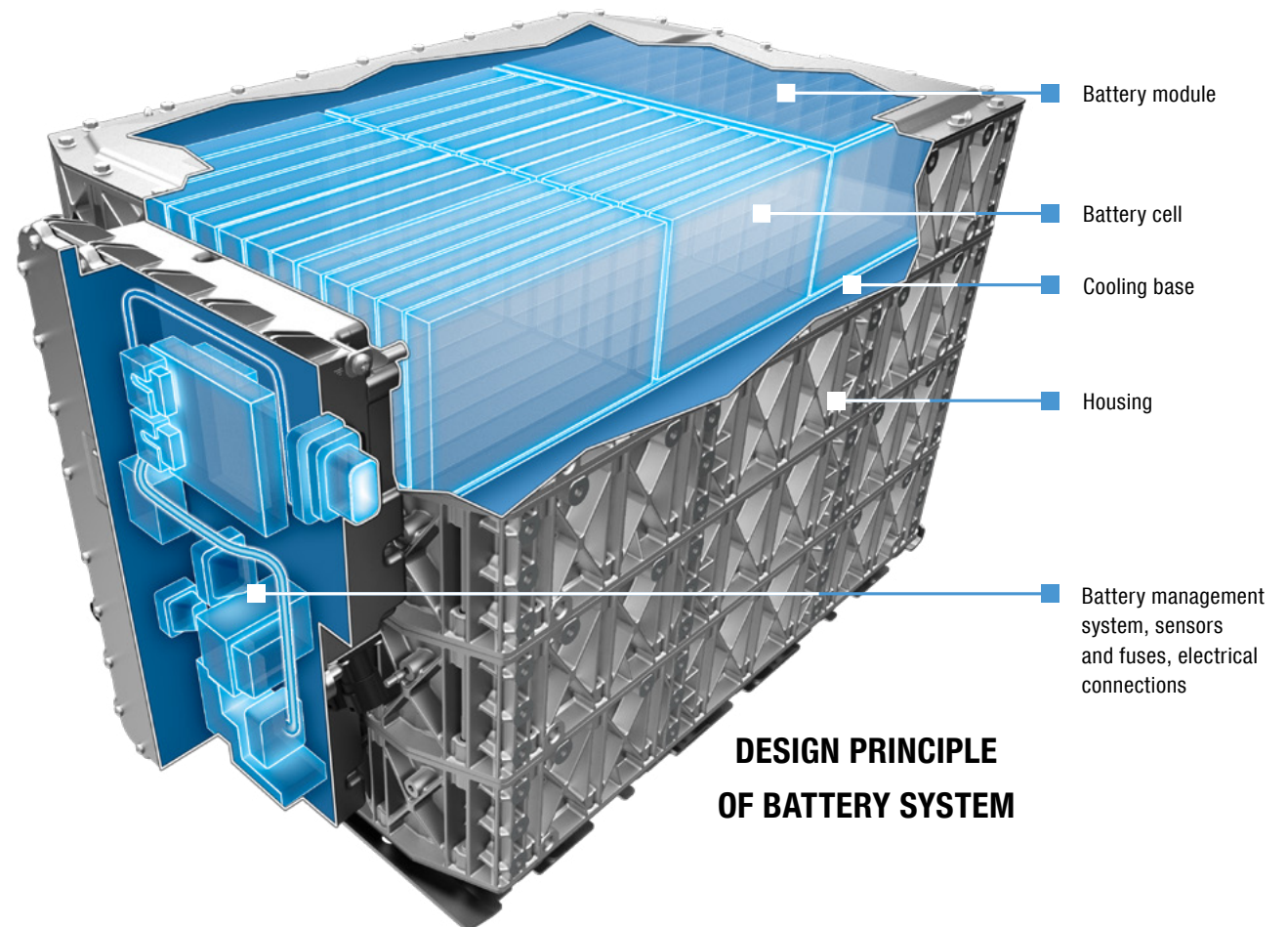


# THE HEART OF THE MAN eTRUCKS – THE BATTERY.

The use of an emission-free truck driveline relies heavily on the battery. For this reason, the new MAN eTrucks are equipped with batteries that have been specially designed at the MAN site in Nuremberg, Germany. This means that the know-how of one of the most important technical components of the MAN eTrucks remains in-house.

Depending on the intended use of the electric truck, various capacities of up to 480 kWh can be selected. This ensures daily ranges of up to 800 kilometres, provided intermediate charging times are observed. Thanks to the new megawatt charging at up to 750 kW, it will only take 45 min to recharge the battery packs, depending on the battery configuration.

Thanks to an expected predicted performance period of up to 1.6 million kilometres or up to 15 years, depending on the type of application, the batteries are also extremely durable and extremely suitable for use in municipalities.





## MAINTENANCE AND REPAIR

The battery-specific maintenance intervals depend heavily on the application profile of the new MAN eTrucks. They are therefore calculated and determined on a vehicle-by-vehicle basis. Continuous analysis of battery data helps with this. MAN ServiceCare bundles this data into a maintenance plan, which the MAN service centre proactively discusses with you.

The average use of new MAN eTrucks can be less maintenance-intensive and wear-intensive than that of diesel vehicles – this depends very much on the individual application.

## REPAIRING, INSTEAD OF REPLACING

The high-voltage battery packs significantly contribute to the acquisition costs of electric trucks. For economic and ecological reasons, it goes without saying that in the case of the most common faults, the battery is repaired in an economically sensible way and not completely replaced. Typical fault patterns, diagnostic software and suitable repair methods are currently being developed for use in service branches in time for the start of production of the electric truck. Another step towards a more sustainable future.

## QUICK REMOVAL

The fastening of the high-voltage battery packs developed by MAN enables the battery packs to be quickly removed to the side, usually a time-consuming process. In addition to disconnecting the cable periphery, all you have to do is loosen the locking screws and move the battery pack out to the side – saving a lot of time.



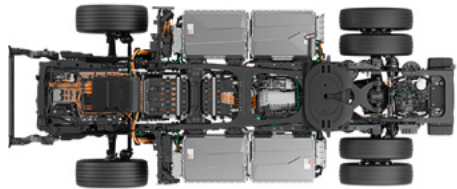
# RANGE – BATTERY OVERVIEW

Battery packs in the MAN eTruck	Usable battery capacity	Max. range of solo vehicle distribution transport (0.8 kWh/km)	Max. range of long-distance train combination (1.2 kWh/km)	Payload MAN eTruck*	Recommended use of the MAN eTruck
<b>Chassis variants</b>					
<b>6 Battery packs</b>	480 kWh	600 km	400 km	16.3 t	Max. range for long-haul transport
<b>5 Battery packs</b>	400 kWh	500 km	325 km	17.1 t	Size of range for long-haul transport
<b>4 Battery packs</b>	320 kWh	400 km	260 km	18.0 t	Typical daily mileage in distribution transport
<b>3 Battery packs</b>	240 kWh	300 km	195 km	18.8 t	Highest payload in distribution transport with limited range
<b>Tractor-trailer variants</b>					
<b>6 Battery packs</b>	480 kWh	-	400 km	9.5 t	Max. range for long-haul transport
<b>5 Battery packs</b>	400 kWh	-	325 km	10.3 t	Compromise between payload and range in long-distance or distribution transport
<b>4 Battery packs</b>	320 kWh	-	260 km	11.2 t	Typical daily mileage in distribution transport

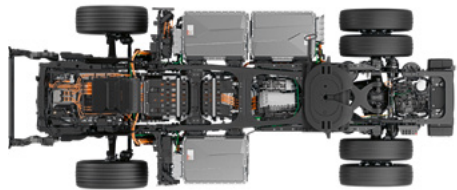
\*Approx. up to, for MAN eTGX semi-trailer tractor, 4x2, BL with GX cab; or MAN eTGX chassis, 6x2-, BL, with GX cab



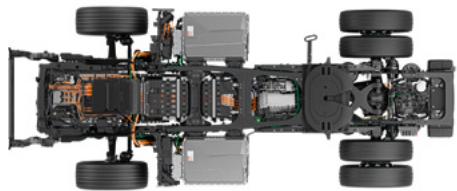
### Installation positions of battery packs, semi-trailer tractor



6 battery packs

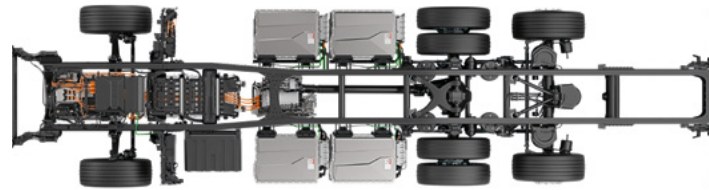


5 battery packs

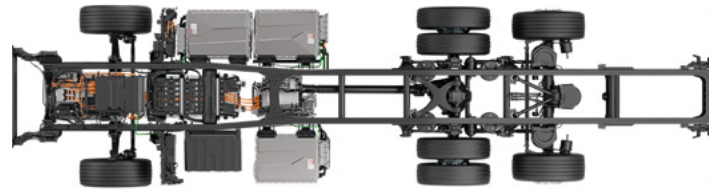


4 battery packs

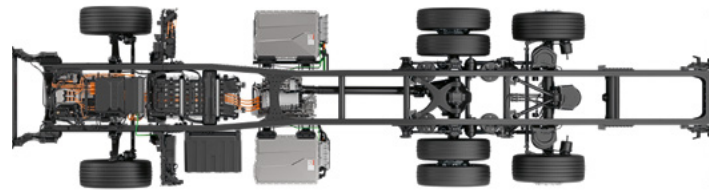
### Installation positions of battery packs, chassis



6 battery packs



5 battery packs



4 battery packs



3 battery packs



# CHARGING eTRUCKS.

## ON-SITE AND THROUGHOUT EUROPE

There are two scenarios when it comes to charging an eTruck: private charging infrastructure at the company's location and public charging. In both cases, MAN, together with premium partners ABB, Heliox and SBRS, provide charging solutions throughout Europe that are tailored to the specific system.

The Combined Charging System (CCS) charges up to 375 kW, while the Megawatt Charging System (MCS), provides charging at up to 750 kW.

If the eTruck is parked overnight on company's premises, the vehicle can easily be fully charged. For cases where the electric truck is traveling long distances and has to resort to public charging points, there is a useful tool: MAN SmartRoute simplifies route planning for the new MAN eTruck – and at the same time increases confidence in the electric range.





Charging Power	Approximate charging time in min, depending on battery configuration	System
200 A (150 kW)	115 – 230 Min	Combined Charging (CCS)
500 A (375 kW)	45 – 90 Min	Combined Charging (CCS)
670 A (approx. 500 kW)	35 – 70 Min	Megawatt Charging (MCS)
835 A (approx. 625 kW)	28 – 55 Min	Megawatt Charging (MCS)
1,000 A (approx. 750 kW)	22 – 45 Min	Megawatt Charging (MCS)

## YOUR PATH TO AN OPTIMAL CHARGING SOLUTION FROM MAN – IN FOUR EASY STEPS

### Step 1: Demand analysis via MAN 360° eMobility Consulting

When you purchase an electric commercial vehicle, we calculate the required electricity demand and provide an initial estimate of the required number of charging points. Your MAN contact person will work closely with you on the requirements, obtain a quote and suggest a suitable MAN premium partner. At the same time, we will check on the availability of subsidies.

### Step 2: Find the right offer for you

In close cooperation with our approved MAN premium partners, we develop a suitable charging infrastructure solution for you and your electric fleet. This may also include comparison quotes that give you maximum freedom of choice.

### Step 3: Commissioning your desired charging solution

Our MAN premium charging Infrastructure partners will present the solution to you and discuss the details with you. You can then decide which solution you would like to have implemented by our partner.

### Step 4: Installation and maintenance by the MAN premium charging infrastructure partner

Once the contract has been successfully awarded, the installation and commissioning of the charging infrastructure will be carried out by our partner at your premises. There is no easier way to get into e-mobility.

# SUSTAINABLE TRAVEL WITH MAN DIGITALSERVICES.

The future of the transport industry is electric – and, of course, digital. That's why many of the digital services available for conventional trucks can also be used with the new MAN eTrucks. In addition, MAN offers other digital solutions specifically tailored to its electric trucks: MAN eManager and MAN SmartRoute.

## MAN eManager

MAN eManager enables comprehensive charging management as well as vehicle and battery monitoring for the entire MAN electric truck fleet. Short ranges or charging failures are transmitted directly to the fleet management. Battery temperatures are monitored and if there is a risk of overheating, the fleet manager is warned in case of emergency. The charging of the vehicle is intelligently controlled. The vehicle's pre-air conditioning is integrated into the charging process, thus saving energy while driving.



The **MAN eManager** is available in two versions:

### MAN eManager S

- Efficient control of the charging process of a single MAN eTruck or the entire fleet
- Timer mode: Set when the electric truck should be fully charged – the MAN eManager takes care of the rest
- Real-time overview of the progress of the charging process, the possible range with the current battery status and the time of full charge

### MAN eManager M

- Includes all functions of the MAN eManager S
- Transmission of battery-relevant key figures on temperature, voltage as well as charging and discharging
- Display of the remaining battery capacity in kWh in all state of charge
- Overview of the status of the entire MAN eTruck fleet, including information on the driving condition







### MAN SmartRoute

MAN SmartRoute – for fleet managers and drivers – simplifies route planning for your new MAN eTruck fleet and assists with optimum planning of intermediate charging along the route so that the tours can be completed successfully.

The following parameters are taken into account:

- Battery charge status and remaining range
- Traffic (e.g. traffic jams, accidents, roadworks)
- Infrastructure (e.g. charging stations, service areas)
- Topography (e.g. mountains)
- Weather
- Commercial vehicle restrictions (e.g. load)
- Driving job (e.g. route, customer stops)
- Time requirements (e.g. travel times, unloading times)
- Driving times and rest periods



# TRANSFORMATION OF THE MAN SERVICE NETWORK FOR eMOBILITY.

For both conventional trucks and the new MAN eTGX & eTGS, an efficient service network is crucial. To ensure that the new eTrucks have as little downtime as possible, MAN is updating its function and service structure with regard to the topic of eReadiness. The transformation follows an ambitious plan: by the start of production of the eTrucks in 2025, 70% of all MAN-owned service operations in Europe will be e-ready. And from 2028, MAN plans to have 100% e-readiness.

## **MAN ServiceCare**

With the predictive, digital maintenance and repair management MAN ServiceCare, you can always keep an eye on the maintenance status of your electric commercial vehicle. In order to reduce workshop visits and downtimes, maintenance and vehicle data are transferred from your MAN electric fleet to MAN ServiceCare. Depending on the individual requirements, you can choose between the following service packages: MAN ServiceCare S and MAN ServiceCare M.

## **MAN Mobile24**

Proactive precautions, quick action, acting instead of reacting – these are the principles of MAN Mobile24. We'll help you get to your destination. You can reach us around the clock – 365 days a year – free of charge by calling 00800Mobile24 / 00800 66245324.

MAN Mobile24 is MAN's very own "roadside assistance service" and includes Europe-wide vehicle support.

## **MAN Service Contracts**

With MAN Service Contracts, there is no need to worry about unexpected repair costs or breakdowns of your electric commercial vehicle. Our service contracts help you keep your expenses calculable with a comprehensive service package. Throughout Europe, our experts in the MAN service centers handle MAN electric trucks with professional care. This means that you can devote your full concentration to your core business.

## **MAN Genuine Parts**

MAN Genuine Parts guarantees that you are driving with the best MAN quality. The parts are manufactured in accordance with MAN guidelines and inspected carefully to ensure that they comply with our strict quality standards. They also guarantee maximum reliability and economy. In addition, they come with a two-year warranty that is valid worldwide for MAN service and parts.

## **MAN Uptime Guarantee**

Wherever you go with your MAN electric truck, the MAN uptime guarantee, MAN ensures the reliable operational readiness of every eTruck fleet. The MAN uptime guarantee for electric trucks assure your mobility in more than 30 European countries.





MAN

M AN 800E

TGS





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