



#ElectrifyingEurope

MAN

M-AN 8466

Lion's City 18 E

360°

ELECTRIC MO(RE)BILITY.

With our integrated eMobility solutions.







MORE VALUE, LESS EFFORT.

We're ready! How about you?

Already by 2025, one in two MAN city buses are expected to have a zero-emission drive system. Hence, converting all or part of your fleet to electric vehicles can give rise to a host of questions such as:

- Which lines can I use electric vehicles for?
- How can I make the transition as easy as possible?
- What kind of charging infrastructure suits my fleet best?

Your smooth and successful transition to eMobility is our top priority. By combining comprehensive yet individual consultancy services, tailor-made eSolutions and reliable fully-electric buses with tried-and-tested cell and battery technology, MAN has put together an eMobility package for you, that helps you easily and efficiently reduce the ecological footprint of your fleet.

Our customized, integrated eMobility solution is your roadmap into the future. For greater efficiency, flexibility and sustainability.

MORE eMOBILITY? MAN LION'S CITY E.

The MAN Lion's City E, available in three different lengths, gets your passengers to their destination reliably and with zero emissions. With our electric bus you can count on an operation range of up to 350 kilometres* without having to charge in-between. In addition to its high range, the MAN Lion's City E offers you further benefits that help you continue down your path to success: fast depot charging, future-proof battery technology, a reliable and maintenance-friendly central motor as well as a highly comfortable passenger area.

Your benefits package at a glance:

- **emission-free mobility** thanks to proven cell and battery technology of the latest generation
- **high operational flexibility** thanks to our extensive product range including vehicles with lengths between 10.5 m to 18.1 m and a low-entry 12 m bus
- **maximum operational reliability** thanks to high, modular battery capacity
- **intelligent energy management** thanks to future-proof lithium-ion technology
- **simple and fast charging** thanks to smart depot charging concept
- **easy integration into existing fleets** thanks to customised eMobility solutions

* Depending on the battery usage strategy and under favourable operating conditions. Applies to the MAN Lion's City 12 E and 18 E.



eFLEET

RANGE

EFFICIENCY

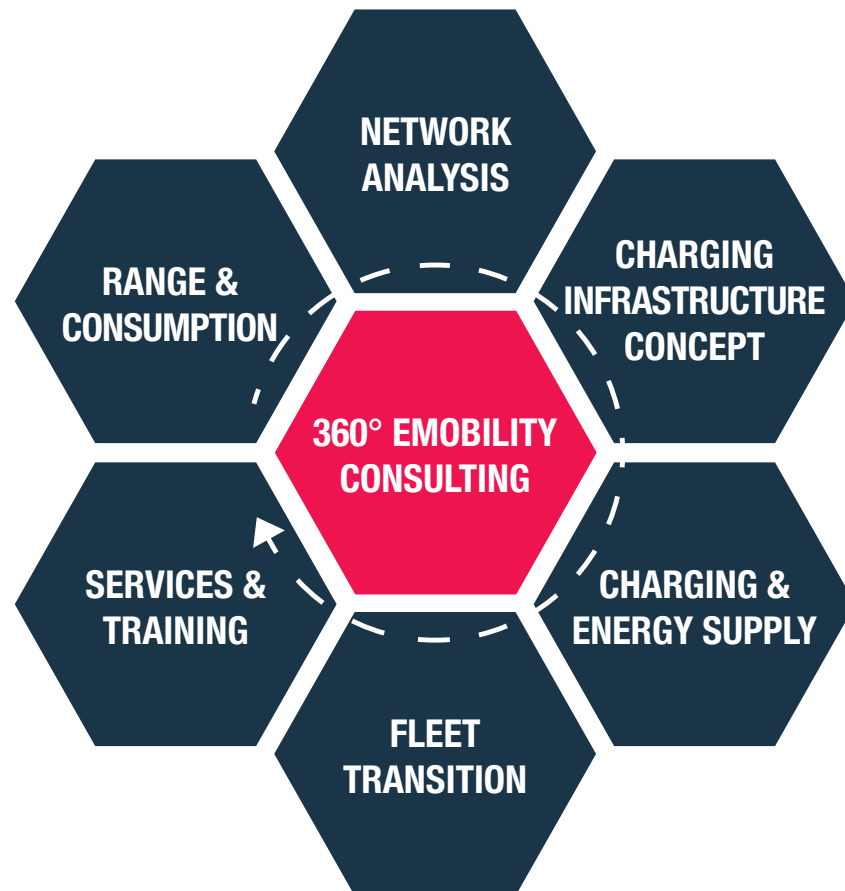
COMFORT AND DESIGN

SERVICES

Global climate protection targets, local emission regulations, cleaner cities or company environmental targets based on fleet emissions – the reasons for switching to alternative drive systems are multifaceted, yet specific to each customer. Just like the solutions from MAN.



eFLEET CONSULTING BY MAN TRANSPORT SOLUTIONS.



Do you want to simply enter eMobility? We have already shown over 200 customers across Europe how this can be done – with MAN Transport Solutions. Our integrated and maximum efficient eMobility solutions offer you genuine added value.

- **Orientation** provided by a competent partner and comprehensive 360° eMobility consultancy
- **Stable and optimised operating processes** thanks to tailored and integrated eSolutions that take into account all relevant factors
- **Maximum efficiency** due to our optimum support across all development stages
- **eSolutions from a single source** thanks to our close cooperation with effective and reliable partners - from electric vehicles and route optimisation to charging infrastructure and installation perfectly tailored to you and your needs



THE RIGHT CHARGING SOLUTION FROM A SINGLE SOURCE.

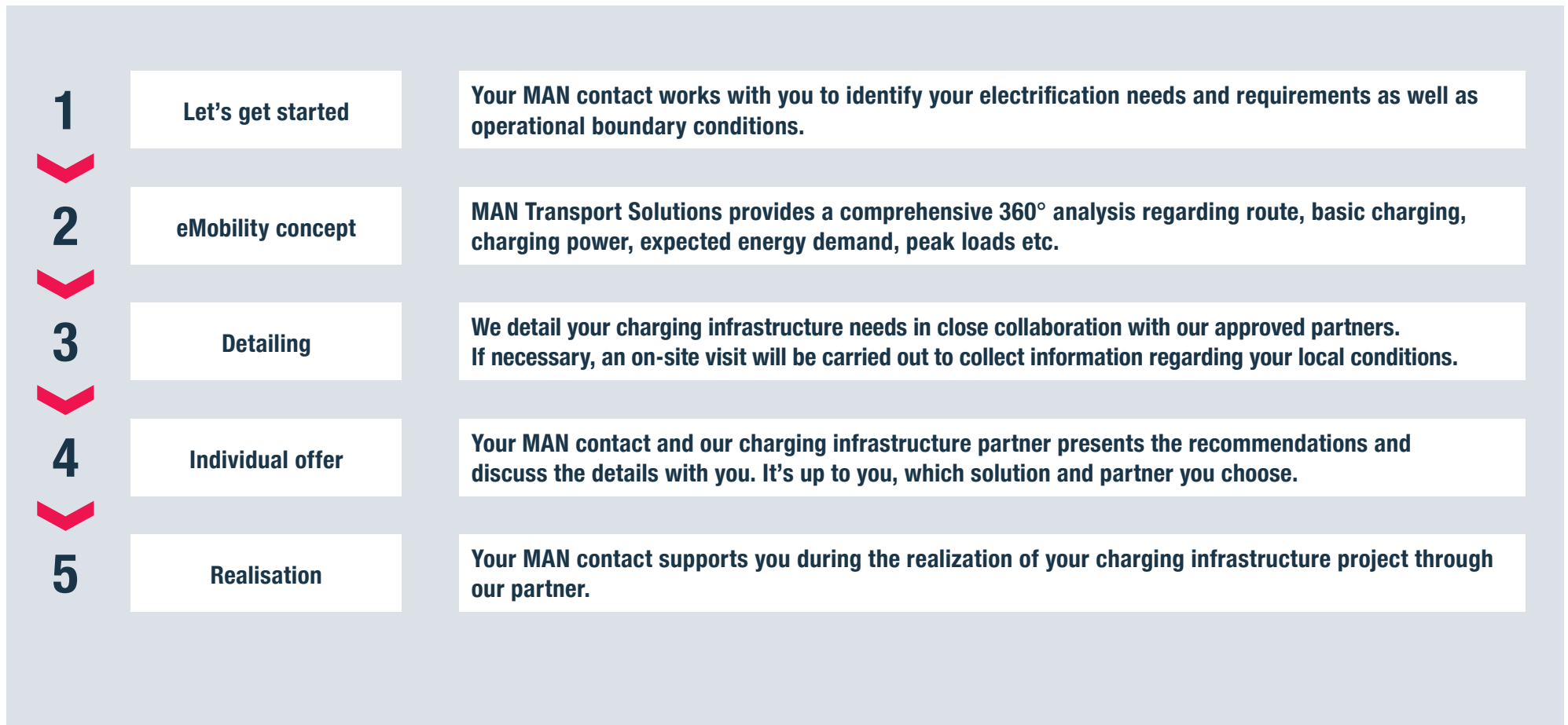
MAN now also offers you the right charging infrastructure together with strong partners.

In close cooperation with experienced international charging infrastructure partners, we provide you with integrated solutions for your entry into eMobility – making things as easy, reliable and cost-efficient as possible.

Our new services are available throughout Europe. They cover a wide range of requirements: from mobile charging units to large fleet solutions. The mobile charging units can be flexibly used in the depot or workshop. Charging capacity ranging from 40 kW to 150 kW guarantees a sustainable tailored solution. It is also possible to charge multiple vehicles from a single charging station. Along with our partners, we develop a charging structure perfectly tailored to your requirements as well as its installation – all from a single source. On request, our partners can provide a maintenance service for your charging solution.



YOUR EASY WAY TO THE RIGHT CHARGING INFRASTRUCTURE.



SO FAR, SO GOOD.

The MAN Lion's City E is already capable of all-electric operation on the majority of the existing public transportation lines. Nevertheless, before the MAN Lion's City E can prove its performance in regular line service, the electric bus is subjected to numerous endurance tests long before the start of production: It has to withstand extremely hot and cold temperatures as well as various peak loads.

What is possible under optimal conditions was impressively demonstrated by the "Efficiency Run" in May 2021. The MAN Lion's City E with trained drivers from MAN ProfiDrive at the wheel was on the road for 24 hours in city traffic and covered 550 kilometres in this time - without any intermediate charging.

Even under real operating conditions, the MAN Lion's City E proves to be a true long-distance runner. With an installed battery capacity of 320 to 640 kWh on the vehicle roof, with five possible CCS connections and a minimum charging time of two and a half to five hours, our electric bus offers your public transport company far-reaching advantages.



Up to **640***

kWh battery capacity

Fully usable year-round and over the entire battery service life.

2:30–5:00

hours minimum charging duration

Charging times are easy to schedule, ensuring efficient route planning.

150

kW charging power

Quick battery charging using a standardised CCS plug.

* MAN Lion's City 18 E; up to 480 kWh for MAN Lion's City 12 E; up to 400 kWh for MAN Lion's City 10 E.

JUST KEEP ON DRIVING ...

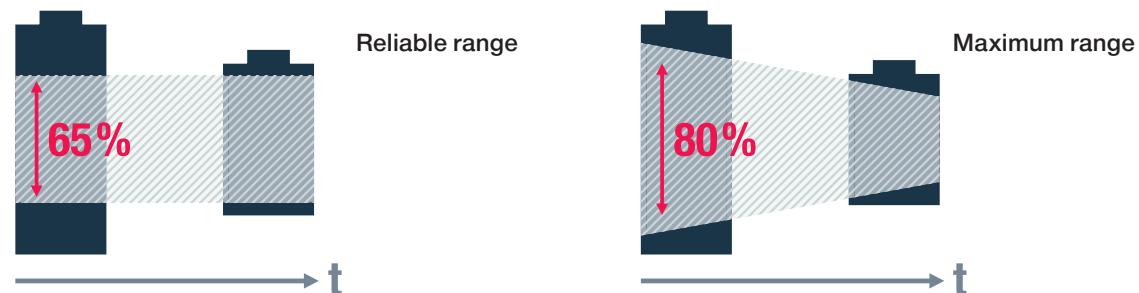
Thanks to the latest battery technology and intelligent energy management, you can plan on a range of up to 350 kilometres for your MAN Lion's City E. The future-proof lithium-ion technology (NMC) of MAN batteries guarantees reliable operation, while the extremely high, modular battery capacity offers maximum flexibility and can be individually tailored to your needs.

This depends on the battery usage strategy you choose: "reliable range" or "maximum range"?

Pick the "**reliable range**" strategy* if you need a constantly reliable range throughout the entire period of operation. This offers sufficient reserves due to a limited charging window of 65 percent and guarantees a constantly high range of 200 to 270 kilometres over the entire period of use.

The "**maximum range**" battery usage strategy, on the other hand, can provide a longer daily range of up to 350 kilometres** when required. Thanks to an extended charging window, more energy can be used per charge, thus optimising the daily range when needed. As a result, you benefit from increased operation flexibility, which can be very useful, for example, in case of extreme temperatures or detours.

Comparison of usage strategy:



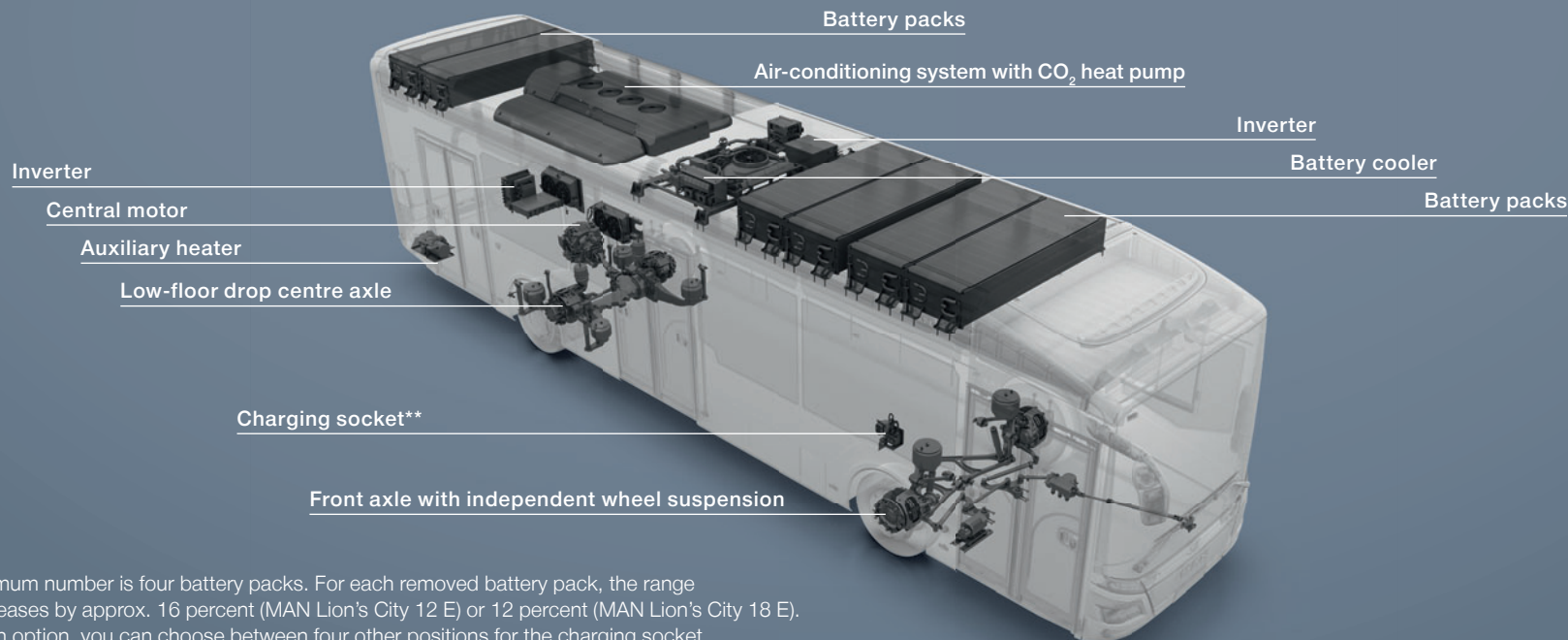
* Does not apply to MAN Lion's City 10 E. ** MAN Lion's City 10 E: up to 300 kilometres.

... WITH MORE EFFICIENCY IN THE LONG RUN.

Depending on the vehicle length, the modular battery system of the MAN Lion's City E consists of four to eight battery packs, each containing 30 interchangeable independent modules. If required, a smaller number of battery packs can be specified and thus the equipment individually adapted to your application*. In addition, the extremely economical air conditioning system is operated with the environmentally friendly refrigerant CO₂ as standard. Good for efficiency and good for the environment.

In addition, all batteries are located outside the crash-prone rear area on the roof and are therefore easily accessible. Due to the high level of recuperation, the MAN Lion's City E is highly efficient. In the articulated bus, thanks to the installed battery capacity of 640 kWh and the two driven axles, the maximum energy recovery during braking increases and raises efficiency even further. And yet: Despite a very high maximum battery life, the capacity of the batteries decreases in the course of the vehicle's life and eventually makes a battery replacement necessary. In this case, too, we aim to develop sustainable solutions for recycling used batteries. If the

batteries need to be replaced, 90 percent of them can be disposed of ecologically using a mechanical, thermodynamic and hydrometallurgical recycling process. Although the batteries are no longer powerful enough to power the electric bus at the end of their life cycle, they have good prospects for a second life - they can, for example, be connected with other batteries to form a large energy storage unit and used as a stationary power storage unit to balance peak loads in an electricity grid. **For you, this means: efficiency right down to the last cell.**



* Minimum number is four battery packs. For each removed battery pack, the range decreases by approx. 16 percent (MAN Lion's City 12 E) or 12 percent (MAN Lion's City 18 E).

** As an option, you can choose between four other positions for the charging socket.

DESIGNED FOR MORE.

The MAN Lion's City E is in excellent shape.

The electrifying and award-winning exterior design already lets you know that the ride in the MAN Lion's City E will be a very special experience. While the electric bus follows its timetable emission-free and quietly, the extremely comfortable, spacious and light-flooded interior invites its passengers to sit back and relax. Driver comfort is also a top priority in the MAN Lion's City E. That's why we have redesigned the driver's workplace in such a way that it relieves the drivers as much as possible and allows them to control the numerous assistance and comfort functions intuitively, comfortably and safely.

The new extremely comfortable cockpit has a large digital display and can be easily adapted to a wide range of requirements. For example, the steering wheel with the clearly arranged instrument panel can be adjusted in height and inclination and ensures a perfectly ergonomic workplace. In addition, all controls are arranged in such a way that they do not distract the driver's attention from the traffic. The display and control levels are arranged separately, while the controls are to reach from a comfortable seating position.



YOUR INTRODUCTION TO DIGITALISATION. WITH MAN DIGITALSERVICES.

MAN DigitalServices make your e-bus fleet more efficient, help you reduce energy consumption as well as wear of your buses and create reliable timetables through optimum route planning for your passengers. In addition, with MAN DigitalServices you can easily meet legal requirements for passenger transport with regard to the monitoring of driving and rest times for your drivers.

With MAN ServiceCare, your MAN service centre proactively coordinates your maintenance appointments, because after all, you have enough to do. In addition, thanks to remote vehicle diagnostics, the nearest MAN service centre can view relevant vehicle details and support you even better in the event of a breakdown.

This results in a well maintained fleet and optimum vehicle availability while you can focus on your core business.

MAN DigitalServices* support you in the efficient management of your fleet in the following areas:

- Basic equipment (Perform**)
- Vehicle tracking (Geo)
- Tachograph and time management (Compliant, Timed)
- Maintenance and repair management (MAN ServiceCare)
- Battery management (MAN eManager)
- Driver support (MAN Driver App)



* Try MAN DigitalServices for your entire fleet for three months free of charge if you have not yet booked any of our chargeable services. The trial period ends automatically. .

** In full available only for MAN Lion's Coach and NEOPLAN.





CHARGE MANAGING MADE EASY. MAN eMANAGER.

With the MAN eManager, you can easily and efficiently control the charge management and preconditioning for your MAN Lion's City E. Using the timer mode, you can decide when your vehicle needs to be fully charged, and then monitor the battery status and charge level conveniently via the RIO platform. This saves you a lot of time in fleet planning and, above all, valuable battery energy in order to maximise the range.

The basic MAN eManager S package makes it easy to control battery charging and air conditioning for your vehicle or fleet. Using the timer mode, you determine when your vehicle has to be fully charged. The MAN eManager takes care of the rest. You can also set up automatic air conditioning for the passenger area. Thanks to preconditioning in the depot, the valuable energy from the battery is then used exclusively to power the drive after leaving the depot. Additional safety features monitor the battery temperature for safe driving at all times and through interactive fleet event widgets you can receive notifications of critical events. Plus, you can see the current State of Health (SOH).

In addition to the features of the basic package, the MAN eManager M provides additional functionality to efficiently manage your fleet. You can get a detailed insight into your daily charging and discharge processes, air conditioning, outside temperature and energy consumption. Furthermore, the remaining battery capacity in terms of distance or kWh can be called up along with the battery charge level as a percentage at the beginning of the charging/discharge process. You can also easily identify which vehicles are on the road, driving or stopped. Thus, you can monitor your entire fleet at all times.



OUR DRIVE FOR YOUR eMOBILITY.

Our drive knows only one alternative: to ensure the unrestricted mobility of your electric buses with individually tailored financing solutions, flexible service products and digital fleet services, professional driver trainings and a Europe-wide breakdown service.

Our comprehensive services offer you numerous alternatives to reduce the administrative effort and increase the efficiency of your electric fleet. Depending on your needs, MAN can take care of the entire process from maintenance and invoice control to clarifying warranty and goodwill issues. Our extended warranties for the driveline or the entire vehicle provide more planning security in the event of unforeseen repair costs. With our comprehensive services, you reduce the effort of maintenance and repair and benefit from full cost transparency, maximum protection and minimum effort.

MAN | Financial Services

MAN Financial Services* help you to stay financially mobile.

- **Financing**
Acquisition of property through flexible financing solutions
- **Insurance**
Insurance solutions for commercial vehicles
- **Leasing**
Budget-friendly leasing models
- **MAN Card**
Europe-wide non-cash payments

*The services offered as part of the joint business relationship "MAN Financial Services" (financing, leasing and insurance products) vary from country market to country market. They are provided or brokered by various subsidiaries of Volkswagen Financial Services AG.

MAN Service

Higher quality, more time: Two years Warranty on MAN service and parts.



- **MAN Genuine Parts:** top quality, long service life and availability ensured
- **MAN Genuine Parts ecoline:** save a lot and protect the environment in the process with reconditioned MAN Genuine Parts from MAN, the manufacturer or external service providers
- **MAN Mobile24:** Europe-wide breakdown service
- **MAN Uptime Guarantee:** a flexible way of assuring mobility in many European countries
- **MAN Extended Warranty:** for the powertrain incl. high-voltage components, the high-voltage battery and the complete vehicle
- **MAN Service Contracts:** service agreements covering service and inspection tasks in accordance with the maintenance schedule. Additional scopes such as complete vehicle and wear-and-tear repairs can be combined

MAN TopUsed

- **Top used vehicles:** large selection of high-quality used vehicles of all coach types
- **Service promise:** top quality, top advisory service, top selection, top financing, top service
- **Top services:** including used vehicle guarantee, financing

MAN ProfiDrive®

The MAN ProfiDrive® driver training programmes and corporate coaching modules bring you up to speed, making day-to-day driving safe. The support and training programmes on offer give you additional opportunities to optimise your commercial environment.

HIGH VOLTAGE. HIGHEST SERVICE QUALITY.

Sometimes, it just cannot be prevented: From time to time, our electric buses are no longer roadworthy have to be taken to the workshop. In such cases you are in best hands at our MAN service centres.

From diagnosis, maintenance and repair of your electric bus to recycling of the high-voltage batteries, we are the strong partner at your side.

Are you planning maintenance and repair in your own workshop instead? In this case, too, we can support you by training your service staff in the professional and safe handling of high-voltage vehicles.

We electrify our MAN service centres so that you benefit from maximum service quality.





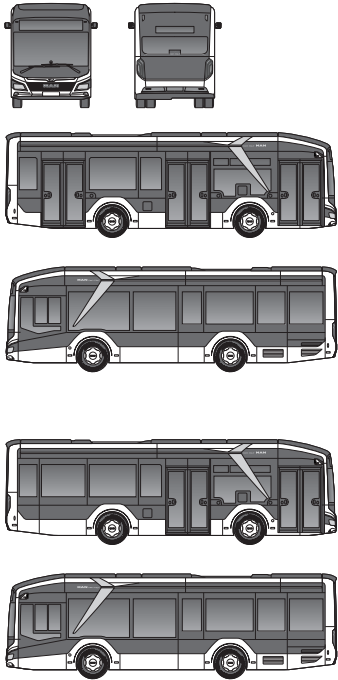
YOUR ELECTRIC BUS IN SAFE HANDS.

Our MAN service centres are optimally equipped for the professional maintenance and repair of your electric bus. Special tools, a well-conceived quarantine concept, a special high-voltage workplace and qualified service technicians will put your electric bus safely back onto the road.

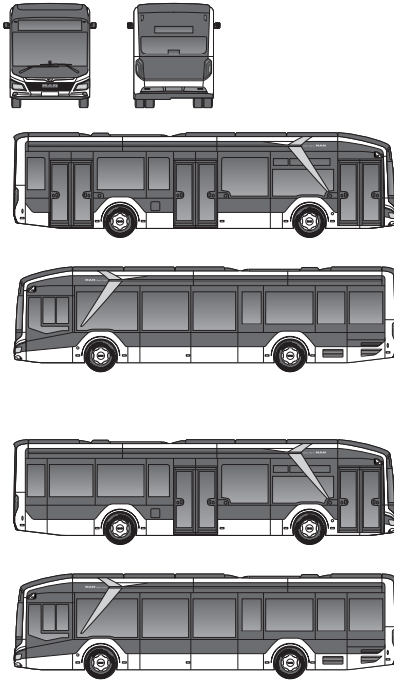
- **Competence:** Our employees are highly trained in the professional handling of high-voltage vehicles. Their expertise is based on a multi-stage training programme for qualified and safe work on vehicles with high-voltage technology and their components.
- **High-voltage workplace:** Working in a high-voltage environment requires appropriate safety measures. Our special high-voltage workstation is subject to strict cleanliness requirements, it is secured by access restrictions and equipped with special warning signs.
- **Special tools:** Our workshop staff perform service work on your electric bus exclusively with special tools and aids designed for this purpose. From diagnosis and defect analysis to the installation and removal of high-voltage components and the solution of your problem, our service technicians use vehicle-specific tools to ensure that the bus is in a voltage-free condition.
- **Quarantine concept:** For vehicle damage with potential danger, our MAN service centres have a separate and well thought-out quarantine area. From there, optimum access to the defective vehicle and repair under maximum safety conditions is guaranteed.

TECHNICAL DATA.

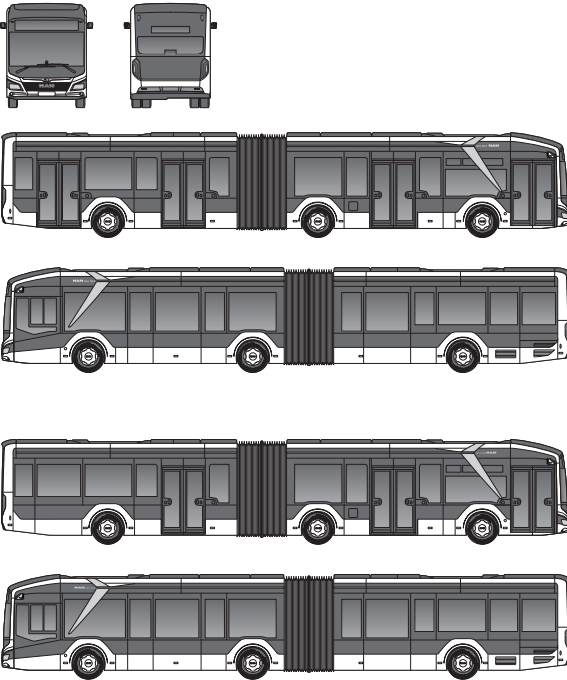
MAN Lion's City 10 E



MAN Lion's City 12 E



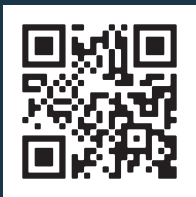
MAN Lion's City 18 E



	MAN Lion's City 10 E	MAN Lion's City 12 E	MAN Lion's City 18 E
Dimensions/weights			
Length	10,575 mm	12,200 mm	18,100 mm
Width	2,550 mm	2,550 mm	2,550 mm
Height	3,320 mm	3,320 mm	3,320 mm
Techn. permissible gross weight	20,000 kg	20,000 kg	30,000 kg
Max. passenger capacity (seated)**	Max. 33	Max. 45	Max. 60
Battery and charging concept			
Battery capacity	320 kWh or 400 kWh	320 kWh, 400 kWh or 480 kWh	480 kWh, 560 kWh or 640 kWh
Installation location of batteries	Roof	Roof	Roof
Battery technology	NMC	NMC	NMC
Range Year-round	Up to 300 km (Maximum Range battery usage strategy)	Up to 270 km (Reliable Range battery usage strategy) Up to 350 km (Maximum Range battery usage strategy)	
Charging strategy	Depot charging (overnight)	Depot charging (overnight)	Depot charging (overnight)
Charging system	Plug charging (CCS)	Plug charging (CCS)	Plug charging (CCS)
Charging power	Up to 150 kW (DC)	Up to 150 kW (DC)	Up to 150 kW (DC)
Charging time	< 3h	< 3h	< 4h
Drive and running gear			
Motor	Electric central motor	Electric central motor	Two driven axles, two electric central motors
Continuous power	160 kW	160 kW	267 kW
Maximum performance	240 kW	240 kW	320 kW
Gearbox	Single-stage adapter gearbox	Single-stage adapter gearbox	Single-stage adapter gearbox for each axle, electronic synchronisation between the two driven axles
Running gear	Adaptive PCV shock absorbers Front axle: low-floor axle with independent wheel suspension; rear axle: low-floor drop centre axle with stabiliser.		
Air conditioning	Automatically controlled all-year concept: electric roof air conditioning system using heat pump and electric heater elements, auxiliary heater using alternative fuels (biodiesel, HVO etc.)		

* Available with CO₂ refrigerant

** Without air conditioning system



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www.man.eu/lionscity-e

D112.596/e · pe07232 · Printed in Germany

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Some vehicles depicted in this brochure show equipment available on extra charge.

The vehicle's air conditioning system contains fluorinated greenhouse gases (R134a / GWP 1430 with up to 1.15 kg; 1.6445 t CO₂ accordingly).

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