



MAN Truck & Bus starts series production of the all-electric Lion's City E

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At MAN's plant in Starachowice, Poland, series production of battery-powered city buses was successfully launched at the beginning of October. The first customer vehicle to come off the assembly line is the 12 metre solo version of the Lion's City E. These will be heading off to the Hamburg-Holstein public transportation company (VHH). The all-electric Lion's City E in the articulated bus version will follow approximately six months later, and should go into series production in the first half of 2021.

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- **Series production of the Lion's City 12 E successfully launched, all-electric articulated bus to follow in first half of 2021**
- **The Lion's City E will be fully integrated into the existing city bus production setup at the plant in Starachowice, Poland**
- **Comprehensive trial and testing programme completed: The MAN electric bus is ready for series production**

Electrifying Europe: That's exactly what the MAN Lion's City E does. Day after day, the all-electric city bus shows what it is capable of and inspires bus operators, bus drivers and experts alike. Since the first two vehicles were handed over for everyday use in Hamburg at the end of 2019, the MAN eBus demo fleet has been cruising around the streets of Europe – negotiating extensive field trials in scheduled service operation and spending time with numerous customers in countries such as Germany, Spain, Belgium, the Netherlands and France. With series production successfully launched at the beginning of October, these electric buses will now be accelerating away from the assembly line as standard. The Lion's City E will be manufactured at MAN's plant in Starachowice, Poland – the 12 metre solo version will be manufactured during the initial series production launch; the electric

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers and transport solution providers, with an annual revenue of some 11 billion euros (2019). The company's product portfolio includes vans, trucks, buses/coaches and diesel and gas engines along with services related to passenger and cargo transport. MAN Truck & Bus is a company of TRATON SE and employs more than 37,000 people worldwide.



articulated bus Lion's City 18 E will go into production around six months later.

"I am delighted that we are now able to supply the innovative and multi-award-winning Lion's City E as a series-produced vehicle. The start of series production is an important milestone on the e-mobility roadmap for MAN Truck & Bus and for the site in Starachowice. In doing so, we are expanding our production portfolio and taking another strategic step towards sustainable mobility," says Michael Kobriger, Executive Board Member for Production & Logistics at MAN Truck & Bus and Board Mentor for the Business Unit Bus. Over the last few years, the company has been preparing the bus production setup and its employees for the challenges of e-mobility with the utmost care. "Now that series production has been launched, I would like to express my gratitude to the entire team, who have worked tirelessly and in collaboration with different departments to develop a reliable electric bus and successfully integrate it into the production system," says Kobriger.

Flexible bus production:

The eBus will be fully integrated into the existing production setup

The all-electric MAN Lion's City E will be built in a flexible manner in the same production sequence as the other models in the new city bus generation, on a single production line and without any bridging facilities. A great deal of thought went into finding ways to fully integrate the production sequence into the existing setup. After all, on the electric bus, around 30 to 40% of the body shell alone is different to that of its conventional counterpart. Then there is the electric driveline, the batteries and other high-voltage components. As part of the production preparation process in Starachowice, new systems had to be purchased or existing ones upgraded, processes had to be re-engineered and around 3,500 employees had to go through extensive training. All of this in the aid of an overarching objective: To start integrated series production of the Lion's City 12 E by the start of the fourth quarter of 2020 – with the entire process carried out on a single production line together with the conventional city bus types. And it's been a rip-roaring success! The very first all-electric, series-produced solo vehicles are now coming off the assembly line to fulfil customer orders. 17 new electric buses are to be handed over to the Hamburg-Holstein public transportation company (VHH)



by the end of the year. For MAN, this is the first major delivery to a customer off the back of a tender process. Other cities have followed Hamburg's suit by ordering the Lion's City E and introducing zero-emission vehicles into their public transport network. One of these orders has come from Malmö in Sweden: Nobina Sverige AB, Scandinavia's largest bus operator, has placed an order for 22 MAN Lion's City E buses. Residents in and around Malmö can now look forward to experiencing these clean and quiet vehicles from the series production plant in Starachowice.

Acid test passed, ready for series production

The engineers from MAN's development department spared no effort in ensuring that the Lion's City E could be easily integrated into customers' operational activities. After all, MAN trucks and buses have been sent to northern Sweden for winter testing for more than 30 years now. No surprise then that the new electric bus also showed off its ability to withstand icy temperatures of minus 30 degrees and below at the Arctic Circle. A trip to the intense heat of the Sierra Nevada in Spain last summer posed another challenge in the comprehensive trial and testing programme. In addition to the traditional winter and summer testing programme, the Lion's City E also had to cope with extreme conditions in the climatic wind tunnel in order to produce results in a far quicker and more comprehensive manner. Needless to say, it also passed this test with flying colours.

Due to the coronavirus situation, this year's testing trip to Andalucia in Spain was cancelled. Instead, MAN bus testing took place in Freiburg in southern Germany, where the Lion's City E was put through its paces once again. "The results of summer testing show that our electric bus clearly meets the ambitious targets we have set for important issues such as heating and air conditioning. The longitudinal dynamics of the bus have also undergone extensive testing to ensure that passengers always have a safe and comfortable journey, even in the event of significant inclination and power requests," says Jörg Junginger, Head of Engineering Bus Vehicle Testing, who then says in summary: "We can proudly announce that our Lion's City E is ready for series production!" The MAN electric bus provided proof of this in a customer test in Badajoz, Spain. In challenging temperatures of over 35 degrees, the Lion's City E completed a full 16-hour shift and covered the



entire route: an impressive distance of 284 km. These results highlight the reliability of the vehicle and even dwarf assertions by MAN that the Lion's City E reliably ensures a range of 200 km and up to 270 km in favourable conditions over the entire service life of the batteries.

About bus manufacturing at MAN Bus Sp. z o. o.

The MAN site in Starachowice, Poland is the competence centre for the production of low-floor city buses and bus chassis. More than 2,300 complete buses and around 1,400 bus chassis were manufactured at the plant last year. Despite the challenges posed by the coronavirus pandemic, production continues to run at full speed thanks to the stable city bus market. To ensure the highest level of product quality, MAN has invested in state-of-the-art production systems for its Starachowice site and extremely well-trained specialist personnel. The plant has its own welding training centre, as well as extensively equipped measurement and chemistry laboratories – many of the parts required for production are manufactured at the plant. MAN in Starachowice is the only bus manufacturer in Poland to have a cathodic dip coating system that meets the most stringent requirements regarding corrosion resistance and paint adhesion properties. All of the buses that are built in Starachowice leave the factory with a cathodic dip coating and therefore have optimum protection against corrosion. In recent years, MAN has continued to push ahead with the modernisation of its business premises, consistently and meticulously preparing the production site and its employees for e-mobility. This will provide MAN Truck & Bus with the fundamental basis it requires to supply electric buses that meet the levels of quality that its customers have come to expect.