



**D**eliveries of the first MAN Lion's City Electric series buses will start next autumn.

«Now that we have the conditions to test this new alternative technology» stated Rudi Kuchta Head of Business Unit Bus at MAN Truck & Bus, «we can offer our customers an electric bus, as a standard vehicle, which impresses with its sophisticated technology and a sustainable global concept. Not only is the electric motor directly manufactured by us, but we are also constantly studying developments and improvements, such as battery technology within the Group. In addition to this, we can support our customers with skilled and complete advice, in order to make their entry into the world of electric mobility as



simple as possible». «MAN's innovation and ingenuity is demonstrated by the fact that, five decades ago, we were one of the first companies to focus on electric mobility and that we have

# ELECTRIC BUSES FROM 50 YEARS

As the series production of the Lion's City E is about to start, the thought takes us back to the beginning of MAN in the battery electric bus sector. It was the year 1970

been promoting alternative drivetrains for many years» added Kuchta. It was indeed February 1970 when, in conjunction with the partner companies RWE, Bosch and Varta, MAN presented to the main representatives of the German press, after two years of development, a purely electric bus for regular service: the 750 HO- M10 E model. Eleven months later, in January 1971, MAN delivered the prototype to the transport company in the city of Koblenz so that, in one year, it carried out a series of tests in regular service operation. The bus could carry 99 passengers and had a range of 50 km. The batteries were housed in a trailer and guaranteed a driving time of 2-3

hours. A second trailer with batteries was ready for battery replacement at the depot. Two of these electric buses were used to transfer athletes during the 1972 Munich Olympics. Two years later, in October 1974, MAN delivered the first new battery electric buses to the city of Mönchengladbach which used them until 1979. In particular, the second-generation SL-E 200 model included new features such as the increased battery capacity, expanded by 50%, which allowed a range of up to 80 km and to change batteries completely automatically. Dusseldorf and Frankfurt am Main also used MAN electric buses.

## AND ABOUT HYBRID BUSES?

MAN can boast a long-standing expertise also as far as hybrid buses is concerned. In the 1980s, Hydrobus projects began with a hydraulic recovery system and hydrostatic transmission, followed by the Gyro-bus hybrid with a flywheel energy storage system. In 1994, the city low-floor hybrids NL 202 DE with Voith wheel motors,

followed in 1997 by the NL 223/263 DE powered by two Siemens electric motors. In 2001, it started the trial of hybrid buses with supercapacitors, also adopted on fuel cell hybrids in 2004. The acquisition of Neoplan in 2000 also brought to MAN all the expertise of the historic brand in the field of hybrid drivetrain, evidenced by the

diesel-electric N 416 (1989), N 4014 DE and N 4114 DES (1994), N 4121 DES (1996) and N 6108 DE (2000). Since 2011, MAN has sold over 800 Lion's City Hybrid (A37) and in the last year the Lion's City diesel has also been offered in the 'Mild Hybrid' version equipped with the MAN EfficientHybrid module.

