Press Release
MAN Truck & Bus

Megawatt charging for electric trucks with up to 3000 kW

NEFTON supplies charging concepts for emission-free freight transport

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MAN Truck & Bus
Dachauer Straße 667
D-80995 Munich

Should any questions arise, please contact:
Gregor Jentzsch
Phone: +49 89 1580-2001
Presse-man@man.eu
https://press.mantruckandbus.com/

- **MAN Truck & Bus, the Technical University of Munich and other partners present the results of the NEFTON charging infrastructure research project**
- **First public charging demonstration with over 1000 kW in the presence of Minister of State Hubert Aiwanger**
- **Focus already on charging capacities up to 3000 kW and bidirectional charging**
- **Public charging infrastructure expansion urgently needed**

Megawatt milestone on 19 July in Plattling, Bavaria: for the first time ever, an electric truck publicly charged its batteries with over 1000 kilowatts and 1500 amps. Enough to give the 40-tonne long-distance eTruck from MAN a driving range of around 400 kilometres in 30 minutes. The charging premiere, which was attended by the Bavarian State Minister for Economic Affairs, Regional Development and Energy, Hubert Aiwanger, the Chairwoman of the German Council of Economic Experts, Prof Monika Schnitzer, and around 200 other guests from politics, the media, business and science, was part of the presentation of the results of the NEFTON research project launched in 2021. In the project, which is funded by the German Federal Ministry for Economic Affairs and Climate Protection, MAN Truck & Bus and the Technical University of Munich (TUM) as well as five other partners from science and industry analysed the system consisting of an all-electric truck, charging station and grid connection and designed it for various application scenarios. The focus is on the Megawatt Charging System (MCS) for ultra-fast charging of electric trucks during the driver's break or when loading and unloading at the ramp.

"With NEFTON, we have succeeded in developing technologies to charge e-trucks within a very short time and with a power output of over 1000 kW. Our research focussed on practicality, costs and grid connection power. Together

with our project partners, we have clearly demonstrated that electric trucks and megawatt charging are the perfect combination for the comprehensive decarbonisation of road freight transport. The technology is there, now we need to drive forward the expansion of the charging infrastructure in the market in close cooperation with politicians, the energy industry and vehicle manufacturers," says Dr Frederik Zohm, Executive Board Member for Research and Development at MAN Truck & Bus.

With megawatt charging, electric trucks will become an emission-free alternative to today's diesel trucks in all common transport applications - including long-distance transport. Around 80% of all goods in Germany are transported by road. This means that road haulage accounts for the vast majority of greenhouse gas emissions in freight transport. Switching to zero-emission trucks is therefore a key lever for achieving the goals of the Paris Climate Agreement.

Prof Markus Lienkamp from the Chair of Automotive Engineering at TUM, who is leading the NEFTON project consortium, explained: "The scientific facts speak for themselves: battery electric trucks have an efficiency of around 75%. Fuel cell trucks with an efficiency of only 26% and eFuels with an efficiency of just 14% are miles away from this. However, the infrastructure on the main transport routes is still lacking for the actual effective use of electric trucks. Megawatt charging technology is a huge step forward in this respect."

Minister of State Hubert Aiwanger emphasised: "The research project shows: High-tech and expertise from Bavaria are shaping the mobility of the future. Such initiatives are gradually decarbonising logistics and freight transport, thereby also strengthening Bavaria as a business location. I would therefore like to thank everyone who has successfully participated in the NEFTON project. The Megawatt Charging System (MCS) in particular massively accelerates the charging times of trucks and is therefore a milestone for electromobility. MAN has already proven the practicality of this technology and played a key role in its standardisation. We are also taking MCS technology into account in our current funding programme. In the first round, we are financing 86 charging points for road freight transport, and the next funding call is due to start in late autumn. Together with our hydrogen funding, this programme stands for the Bavarian state government's openness to technology in mobility."

NEFTON confirms clear need for public charging infrastructure

Based on the analysis of real-life deployment scenarios from four haulage companies, NEFTON's research results clearly show the importance of public fast-charging infrastructure for the sustainable drive transition: While it is already possible to electrify transport in regional and distribution operations using the logistics centres' own charging infrastructure, an effective conversion of long-distance transport requires fast-charging stations with up to one megawatt of charging power every 50 km along the core routes of the motorway network. Charging capacities of up to 3000 kW, as NEFTON has also investigated, can even increase the efficiency and flexibility of electric trucks for long-distance transport use in the future. NEFTON has also already looked at bidirectional charging for possible integration of the truck as a storage unit in the power grid for more efficient utilisation of the electricity supply during the day. In addition to MAN Truck & Bus and TUM, the research consortium also includes Deggendorf Institute of Technology, Fraunhofer ISE, Forschungsstelle für Energiewirtschaft e.V. (FfE), AVL Software and Functions GmbH and Prettl Electronics Automotive.

MAN with its own strong commitment to infrastructure expansion

According to industry estimates, around 50,000 high-performance and megawatt charging stations will be needed by 2030 in order to sustainably drive forward the mobility transition for trucks in Europe. In the same year, half of all new MAN trucks registered in Europe are expected to be electric. This is why MAN is also involved in charging infrastructure projects such as NEFTON. At the beginning of July, a partnership was launched with the energy supplier E.ON to set up around 400 charging points at around 170 locations across Europe. With around 125 locations, this will also create the largest public commercial vehicle charging network in Germany to date. As part of the TRATON Group, MAN is also involved in the Milence joint venture together with Daimler Trucks and AB Volvo, which is gradually building at least 1,700 commercial vehicle charging points in Europe. MAN also has its own charging infrastructure and corresponding consulting services in its portfolio for its customers through co-operations with partners.