

Position

# Electrified Vans & Required Charging Infrastructure

Contributions and Recommendations  
of the Automotive Industry



#wirsindbereit

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## General Context

The German Association of the Automotive Industry (VDA) represents more than 600 companies in the vehicle industry – manufacturers of motor vehicles and their engines, trailers, bodies and containers, and motor vehicle parts and equipment – which produce in Germany. The automotive industry has the highest turnover of any sector in the German economy. In 2019, it generated revenue of over 435 billion euros with a workforce of around 833,000 building approx. 4.7 million passenger cars in Germany – out of more than 16 million cars worldwide. And this figure does not include commercial vehicles (trucks and buses) produced by our member companies. Together we are engaged in research and production to bring about the clean, safe, and sustainable mobility of the future.

The availability of the charging infrastructure is crucially important for the market ramp-up of electric mobility as required for decarbonizing the transport sector. The growing portfolio of models and the rapidly increasing number of registrations are driving electric mobility forward in all vehicle segments. More and more electric vehicles are appearing in the van segment (light commercial vehicles in the categories N1 and N2).

In this segment, too, the automotive industry wishes to make an active contribution to achieving the climate targets. Alongside applications in the craft trades, visits to customers, or the service sector, urban logistics is becoming increasingly important in connection with the burgeoning online business. Electrified transport is decisive in this field, and is fundamentally dependent on the availability of a precisely tailored charging infrastructure. The category N2 (for larger-volume transport between category N1 and the truck segment) also has a particular part to play, given the special demands relating to the amount of cargo space.

At present electromobility is undergoing a massive ramp-up in Germany, with almost 400,000 vehicle registrations in 2020, and nearly half that number already registered in the first four months of this year. The market is thus developing from a niche into a mass market with the associated challenges regarding the provision of an adequate charging infrastructure appropriate to vehicle segment and vehicle use.

If the van segment (light commercial vehicles in categories N1 and N2) displays similarly dynamic growth to the ramp-up of passenger cars, we expect that by 2030 vans will account for a substantial proportion – of approx. one million vehicles – of the total electrified fleet (equating to approx. 10% of registrations). A good third of the vehicles (see FAT Series 342, Fraunhofer IAO), will need to be charged close to the drivers' homes, which generally do not have a charging connection. This use case is especially relevant for vehicles deployed in the craft trades, visits to customers, the service sector and in making deliveries. For these use cases, no adequate solutions or suitable promotional programs have been established as yet.

## Background

The European Union's fleet-wide CO<sub>2</sub> emission targets and the German Federal Government's Climate Action Plan demand a considerable reduction in CO<sub>2</sub> emissions by 2030. Battery-electric vans operate with zero local CO<sub>2</sub> emissions. All the major manufacturers offer suitable series models and are continually expanding their portfolios. The specific CO<sub>2</sub> targets for vans (N1), of a 15% reduction by 2025 and a 31% reduction by 2030 result in huge pressure relating to vehicle technology, and to user acceptance in day-to-day operations.

Applying this technology in everyday operations with an available, appropriate and connected charging infrastructure, and with it the acceptance of alternative charging options, is a basic requirement for realizing the climate targets and the associated vehicle ramp-up.

It is becoming increasingly important for mobility with zero local CO<sub>2</sub> emissions to be available both in cities and in peripheral areas. Electrified local transport logistics can contribute greatly to achieving large and small municipalities' targets for improving the urban air quality. Rapid ramp-up requires the reliable and widescale provision of the necessary charging infrastructure to ensure that electricity is available when users switch to vehicles with an electric powertrain.

## VDA's Recommendations for the Charging Infrastructure

- Evaluation of user acceptance (including charging time, costs and location) through appropriate programs supporting research (initiation, management and monitoring by the Federal Ministry of Transport (BMVI) and the National Centre for Charging Infrastructure (NLL))
- Inviting tenders for, and supporting, a study to indicate and evaluate potential sites for new infrastructure
  - Overnight charging
  - High-power charging (HPC)
  - Own charging centers
  - Shared use of retail spaces (potentially connecting to an intelligent backend)
  - Reserving charging pillars
  - Shared use of existing sources of electricity (e.g. on construction sites, with intelligent payment methods)
  - Payment options for commercial charging via private household connections (e.g. for delivery and service vehicles that have to be parked and charged at the driver's home after deployment)
- Initiation of funding programs for installing charging infrastructure for vans
  - Orientation to the funding program from March 2021 to support municipal and commercial electric mobility concepts
  - Basic advice (awareness-raising), preparing concepts, and implementation for public, semi-public and private charging hubs (depots, etc.)
  - Expanding and consolidating the existing funding programs
- Creating the necessary legal frameworks to allow charging infrastructure to be offered in operative leasing, as a necessary part of the package for running the vehicle
- Determining municipal responsibility (control center/authorization, objectives, monitoring, management)
- Municipal initiatives for providing suitable sites (municipal charging hubs, possibly in combination with logistics areas and/or last mile projects with multiple uses)
- Allocation of designated municipal areas (possibly using the FlächenTOOL from the NLL)
- Making infrastructure available (AC, and HPC in the long-term) by the municipalities (including provision of sites and use concepts)

## VDA's Recommendations for Vehicle Categories

The legislator must introduce additional supporting regulations to take account of the increasing electrification of vans. This includes in particular the category B driver's licence (EU Driving Licence Directive) and definition of vehicle categories (EU Type Approval Directive).

**Directive on Driving Licences (driving licence category B):**

- For battery-powered vehicles that may be driven by holders of a category B driver's licence, the maximum gross vehicle weight has already been raised from 3.5 t to 4.25 t. However, this exception applies solely to vehicles for freight transport, and it is up to each EU Member State to decide whether to apply this exemption in its own territory or not.
- To avoid jeopardizing the ramp-up of electrified vans, driving battery-powered vehicles of up to 4.25 t must not be the exception but the rule in all Member States. Furthermore, this must also apply to vehicles for commercial passenger transport.
- The current directive's mention of a conventional reference vehicle regarding limitation of the payload will become obsolete as more and more electric vans come onto the market, which are not based on an existing model with a combustion engine.

**Type Approval Directive (vehicle categories):**

- Vans and over 90% of large transport vehicles in Europe are approved for a maximum gross vehicle weight of up to 3.5 t, i.e. they fall within vehicle category N1.
- N1 classification also for electrified vans up to a maximum of 4.25 t:  
The increased vehicle weight due to the traction battery necessitates raising the maximum gross weight for electric vans, to enable customers to carry the same payload as before.  
However, a maximum gross vehicle weight of over 3.5 t results in classification as an N2 vehicle and entails a large number of additional rules (e.g. speed limit, compulsory tachograph, payment of tolls), although the purpose and the external features of the vehicle are not changed in any way.  
For this reason, purely electric vans should be classified as N1 vehicles even if the maximum gross vehicle weight is raised to over 3.5 t owing to the mass of the battery (to a maximum of 4.25 t). This type of solution is already applied in the European CO<sub>2</sub> legislation (Regulation EU 2019/631, Article 2(1)(b)).  
Increased vehicle weight and the resulting safety requirements will be taken into account during the basic technical design of the vehicles (e.g. larger brakes).

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If you notice any errors, omissions or ambiguities in these recommendations, please contact VDA without delay so that these errors can be rectified.

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