Results of the First Build Zero Test event

BUILD ZERO

1 Standardization of Protocols Crucial for Smart Charging on Construction Sites

The first test event shows that standardizing charging protocols is essential for effective smart charging on construction sites. Due to varying protocols, not every vehicle can be optimally controlled, affecting charging reliability when grid capacity is limited. Smart charging based on available grid capacity can improve this. ElaadNL therefore recommends equipping vehicles with the advanced ISO 15118-2 protocol instead of the basic DIN 70121 protocol. This prevents limitations in smart charging functions and ensures a more efficient charging infrastructure.

2 More Standardization Needed for Charging Ports, LED Status Colors, and Emergency Buttons

To improve the efficiency and safety of charging, more standardization is needed in the positioning of charging ports, the meaning of LED status colors, and the location and function of the emergency button. A uniform color coding for LED indicators is recommended: green for "ready to charge," blue for "charging," and red for "error."

Clear guidelines and consistency in these aspects can significantly enhance the usability and safety of charging infrastructure on construction sites.

3 Testing for Reliable and Stable Charging Infrastructure on Construction Sites Is Essential

Due to potential voltage issues on construction sites, it is crucial that DC charging stations are tested for their immunity to power fluctuations. ElaadNL provides testing facilities to evaluate these charging stations for voltage immunity and other power quality phenomena.

Therefore, all DC charger manufacturers are invited to have their charging stations tested at ElaadNL to ensure a reliable and stable charging infrastructure on construction sites.

Interoperability Testing

- November 25–27, 2024
- ENI, BMWT and ElaadNL
- ElaadNL Testlab, Arnhem

- 23 engineers
- 3 charging stations
- 4 Construction Vehicles
- 1 Battery System

- 8 Test Rounds of 1.5 Hours
- 3 Knowledge Sessions
- 9 Networking Moments