

In a new analysis, AVILOO confirms the assumptions of many electric car drivers: fast charging accelerates the aging of batteries - from the first fast charge onwards

## FIRST MEASUREMENT OF BATTERY DEGRADATION AS A FUNCTION OF THE FAST-CHARGING RATE

Wiener Neudorf 12. 04. 2023 – AVILOO Battery Diagnostics analyzed the correlation between the battery health (State-of-Health, SoH) of the traction batteries of electric cars and their fast-charging percentage. The analysis shows that the battery health of vehicles with a mileage of 180,000 to 200,000 kilometers decreases by **around 17 percentage points** more strongly as a function of their fast-charging share than is the case for vehicles without a fast-charging share.

To investigate this correlation also for vehicles with lower mileage, the AVILOO team took another sample of vehicles with a mileage of 80,000 to 100,000 km. The results show that even at relatively low mileages, the health of the battery decreases by **around 7.5 percentage points** more than is the case for vehicles without a fast-charging component.

The two analyses confirm a significant trend of decreasing battery health with increasing mileage and higher fast-charging share. Specifically, permanent fast charging means that a doubling of mileage can result in a doubling of degradation. If a vehicle is exclusively fast-charged, the additional aging caused by these fast charges amounts to approx. 7.5% after 100tkm, while it is already approx. 17% after 200tkm.

"We are very pleased that we can provide clarity on battery condition with our technology and thus help electric car drivers. We are carefully analyzing the collected data and continue to follow the observed trends. As electric mobility is a new and developing field, there are still many unanswered questions. That is why any information acquired is of great importance. We will continue to monitor the fast charging phenomenon to see how battery health is affected in the future. Based on our measurements, analyses and observations, we can only recommend fast charging when it is really necessary," says Nikolaus Mayerhofer, CTO.

The analysis included nearly 160 all-electric vehicles from various manufacturers. All vehicles included in the analysis contain thermal management systems and had "normal" degradation. This means that the analysis does not include any anomalies, such as vehicles that have a cell defect (the red highlighted dots in the attached graph 1).

Contact:

Radinka Danilov Sehovic, Senior  
Marketing & Communication  
Expert

AVILOO GmbH

[radinka.sehovic@aviloo.com](mailto:radinka.sehovic@aviloo.com)

Tel.: +43 676 88932 209

[WWW.AVILOO.COM](http://WWW.AVILOO.COM)



AVILOO has the most comprehensive database on battery degradation behavior of over 80% of all available electric car and plug-in hybrid models. Intensive testing processes, monitoring and data analysis have been conducted over the past three years.

\* \* \*