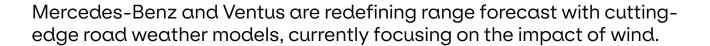


VENTUS TECHNOLOGIES | MERCEDES-BENZ

# High-Resolution Road Weather for the Automotive Industry



# THE CHALLENGE

Mercedes-Benz and Ventus integrated high-resolution wind forecasts into the Electric Vehicle (EV) range estimation, recognizing that wind can account for up to 20% of total battery consumption. Traditional weather models, with their rough resolution, fall short in accurately predicting near-surface winds.

# THE SOLUTION

The solution integrated advanced wind forecasting technology with detailed topographical and vegetation data to refine near-surface wind predictions. This collaboration led to the development of a sophisticated model that provides precise range estimations for EV drivers. The project was a collaborative effort of Mercedes-Benz's R&D and Ventus's meteorological team, overcoming challenges through iterative testing and data integration to ensure the model's accuracy and reliability.

## THE OUTCOME

The project successfully delivered a solution that enhances wind forecasting accuracy by up to 50% and significantly enhances the EV range predictions. Mercedes-Benz uses range predictions in their customer-facing trip planning system to plan charging stops.



#### **VENTUS TECHNOLOGIES**

website ventus-tech.de

FOUNDED 2022

HEADQUARTERS
Stuttgart, Germany

NO. OF EMPLOYEES 1–10



# Ventus Technologies achieves precise EV range estimations with advanced weather models.

Ventus Technologies's service enhances range forecast for EVs and autonomous driving through advanced road weather models.

#### **ABOUT STARTUP AUTOBAHN**

STARTUP AUTOBAHN powered by Plug and Play is an open innovation platform that provides an interface between innovative tech companies and industry-leading corporations. The basis of the program is the partnership that develops between startups and the corporate business units. The two entities hold an equal footing from the get-go: together they evaluate the potential for a joint venture, move forward to pilot the technology, and work to achieve the ultimate goal - a successful production-ready implementation. Designed with the intention to exceed startup acceleration, STARTUP AUTOBAHN powered by Plug and Play moderates a community for collaboration with a focus on implementable results. Over the years, the platform has successfully cultivated over 400 projects with more than 300 startups since its founding in 2016.

#### **ACKNOWLEDGEMENTS**

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