



AVL Center for Mobility and Sensor Testing Roding

ADAS & AD sensor performance in adverse weather

THE CHALLENGE

The sensor technology of future automated driving functions and advanced driver assistance systems must operate safely in all weather conditions. Despite their proven relevance, challenging scenarios such as rain, fog and glistening light are not currently included in certification testing due to the difficulty of accurately reproducing and realistically replicating them in both outdoor and indoor environments.

THE SOLUTION

At our Center for Mobility and Sensor Testing in Roding, Germany, we artificially generate specific weather scenarios to validate and verify your ADAS and AD sensor systems.

The unique indoor laboratory provides 1,600 m² for adverse weather sensor testing, including a 1,000 m² rain and fog facility to create the exact weather conditions required for your certification or performance test cycle.

A sophisticated water recycling system ensures environmental protection and a significant reduction in waste water. Critical lighting conditions such as dusk and dawn can be simulated by continuously varying the illuminance and colour of the background lighting.





BENEFITS

Reproducible ADAS/AD sensor validation in adverse weather conditions



Naturalistic illuminance
"From Dusk till Dawn"

Realistic rain intensity and drop size distribution



Virtual sensor model validation with
"Digital Twin" of the sensor hall

MAIN FEATURES

- Indoor asphalt street (84 m x 19.25 m)
- Variable design of road boundary lines and road layout
- Holistic automation of the complete testbench
- Control center for end-to-end monitoring and documentation of all calibration parameters

ILLUMINANCE

- Maximum day illuminance derived from NCAP: 2,000 lux (10 cm above asphalt/street)
- Diffuse indirect background lighting
- Possibility to adjust color temperature and light intensity to recreate dusk and dawn
- No unrealistic reflection on wet street

RAIN FACILITY

- Rain intensity: from 5 mm/h up to 98 mm/h
- Realistic drop size distribution and falling velocity
- Water recycling for environmental protection
- Air-ventilation and heating system
- Sophisticated control system to modulate rain



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