

Autonomous driving in harsh weather

Webasto and Canatu work on integrating LiDAR heating on Roof Sensor Module for autonomous driving

THE CHALLENGE

The effects of harsh weather conditions on LiDAR remain a key challenge on the road to fully autonomous driving. In freezing temperatures, LiDAR sensors can be covered with ice, fog, and snow, risking reliable detection of objects and distances. Integrating a fixed film heater into the Roof Sensor Module (RSM) enhances the reliability of LiDAR in harsh weather, making autonomous driving safer.

THE SOLUTION

Webasto and Canatu collaborated on integrating a fixed film heater into the RSM. The RSM offers automotive manufacturers an opportunity to integrate sensors and sensor availability functions into the roof of vehicles. The all-round view and elevated positioning at the highest point of the vehicle is ideal, especially for LiDAR as it enables optimum detection and reliable long-range 3D mapping of the environment. By incorporating the deicing and anti-fogging system from Canatu into the RSM, reliable light detection and ranging in harsh weather is ensured. The teams have tested and verified stack designs for optimal LiDAR transmittance and heating performance.

IMPACT

The Proof of Concept has been completed, and the next step will be to integrate the Canatu film heater into the Webasto -specific roof design.

CANATU

Canatu's technology is enhancing the reliability of ADAS in harsh weather by deicing and anti-fogging the sensor cover surface.

Canatu's core focus is within the automotive and semiconductor industries. Their products include film heaters for automotive LiDAR, cameras and headlamps, EUV pellicles and membranes.

CANATU

HEADQUARTERS

Finland, Vantaa

FOUNDED

2004

NO. OF EMPLOYEES

100+

WEBSITE

canatu.com

ACKNOWLEDGEMENTS

We would like to express our sincere thanks to Magnus Sviberg (Director Special Products Webasto), Silvia Fencel (Webasto) and Bernhard Schieder (Webasto) as well as Juha Kokkonen (CEO at Canatu).

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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.