LeddarTech Introduces LeddarEcho LiDAR Simulation Software Running on dSPACE AURELION to Accelerate Sensor Development

PADERBORN, Germany and QUEBEC, Canada, January 5, 2022 — LeddarTech®, a global leader in providing the most flexible, robust and accurate ADAS and AD sensing technology, and dSPACE, one of the world's leading providers of simulation and validation solutions, announce the launch of LeddarEcho™ LiDAR Simulation Software for Tier-1 sensor and perception system developers. LeddarEcho uses the dSPACE sensor-realistic simulator AURELION™ to emulate the LiDAR sensor's operation in a series of phases by providing a high-fidelity automotive front LiDAR sensor model for software-in-the-loop (SiL) and hardware-in-the-loop (HiL) applications.

This unique simulation model results from the partnership between the two companies announced in December 2020 to jointly drive the development of LiDAR technologies by providing high-precision simulation tools and models to support and significantly accelerate LiDAR development.

Currently, sensing platform and perception system development requires the integration and calibration of the actual sensor hardware on a vehicle and the conventional data acquisition and annotation, which are expensive and time-consuming processes. With LeddarEcho LiDAR Simulation Software, customers will have the capability to simulate different sensor concepts and combinations and validate the sensor design requirements without the need to assemble the entire system.

Furthermore, by providing valuable data via the simulation models, LeddarEcho also supports the efficient development of perception systems, from sensor selection and platform architecture to data acquisition and annotation. Essential functionality for these tasks is provided by AURELION, the new dSPACE solution for sensor-realistic simulation, which enables sophisticated physics-based sensor models and photorealistic visualization.

By significantly accelerating the development cycle, facilitating the design process, shortening the time-to-market and reducing overall development costs, LeddarEcho brings significant benefits in developing sensing and perception solutions for automotive ADAS and AD applications that use front LiDARs.

"LeddarEcho was developed using the physics-based AURELION sensor simulation from dSPACE. The LiDAR front-end sensor model will enable our customers to efficiently develop, simulate, validate and optimize LeddarEngine-based LiDAR sensor designs using dSPACE SiL and HiL testing environments," states Christopher Wiegand, Strategic Product Manager at dSPACE. "This validation includes physically accurate simulation of the LiDAR and the vehicle environment, including moving objects, such as vehicles and pedestrians, as well as the road and other static objects, such as traffic signs or curbs," concludes Mr. Wiegand.

"Market growth in the coming years will continue at SAE levels 2 and 3 for ADAS and, before LeddarEcho, there were no solutions for simulating front LiDARs for these

systems," states Pierre Olivier, Chief Technology Officer at LeddarTech. "LeddarEcho is a highly valuable tool, developed in collaboration with dSPACE, a valued member of our Leddar™ Ecosystem, for LiDAR developers and LeddarTech customers. This tool will potentially save months of R&D for new systems by enabling simulations at the sensor or perception development levels without the need for actual hardware and data collection and annotation," Mr. Olivier concludes.

This first release of LeddarEcho is a key accelerator for ongoing LiDAR development. Additional releases planned in 2022 will further enhance LeddarEcho with high-fidelity simulations and the modeling of various LiDAR components.

LeddarEcho Simulation Software will be showcased at CES 2022, January 5-7 in Las Vegas at the dSPACE booth (#3555, LVCC West Hall).

About dSPACE

dSPACE is the world's leading provider of simulation and validation solutions used in developing connected, self-driving and electrically driven vehicles. The company's range of end-to-end solutions is used particularly by automotive manufacturers and their suppliers to test the software and hardware components in their new vehicles long before a new model is allowed on the road. Not only is dSPACE a sought-after partner in vehicle development, but engineers also rely on their know-how at dSPACE when it comes to aerospace and industrial automation. Their portfolio ranges from end-to-end solutions for simulation and validation to engineering and consulting services, as well as training and support. With approximately 1,900 employees worldwide, dSPACE is headquartered in Paderborn, Germany, has three project centers in Germany and serves customers through its regional companies in the USA, the UK, France, Japan, China, Korea and Croatia.

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About LeddarTech

LeddarTech provides the most flexible, robust and accurate sensing technology for advanced driver assistance systems (ADAS) and autonomous driving (AD). LeddarTech enables customers to solve critical environmental sensing, fusion and perception challenges across the entire value chain. The company offers cost-effective, scalable solutions such as LeddarVision™, a raw-data sensor fusion and perception platform that generates a comprehensive 3D environmental model with multi-sensor support for camera, radar and LiDAR configurations. LeddarTech supports LiDAR makers and Tier 1-2 automotive system integrators with LeddarSteer™, a digital beam steering device, and the LiDAR XLRator development solution for automotive-grade solid-state LiDAR based on the LeddarEngine™ and core components from global semiconductor partners.

LeddarTech®

dSPACE

LeddarTech is responsible for several cutting-edge remote-sensing innovations, with over 100 patented technologies (granted or pending) enhancing ADAS and autonomous driving capabilities.

Additional information about LeddarTech is accessible at www.leddartech.com and on LinkedIn, Twitter, Facebook and YouTube.

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