

Leddar technology takes off in the drone market: new sensing offering gets strong response from UAV manufacturers

LeddarTech makes drone flights safer with cost-effective optical sensing solutions for collision avoidance and navigation

QUEBEC CITY, QC - January 6, 2016 – LeddarTech is pleased to announce that its patented Leddar technology has been selected and deployed for use in drone navigation applications, answering unmanned aerial vehicles (UAV) manufacturers' need to provide precise detection and ranging with an optimized cost-performance ratio.

LeddarTech addressed the drone market's stringent sensor requirements with the introduction of customizable Leddar optical sensing solutions that are aimed at improving spatial awareness, navigation, and collision avoidance capabilities. Leddar technology, optimized through years of R&D and deployment in various industrial and automotive applications, is rapidly gaining significant traction in the booming drone market.

Leddar altimetry solutions

Leddar's single channel module is readily available for integration in drone altimeter applications, providing precise distance-above-ground-level (AGL) measurements on ranges exceeding 30 m. The sensors' powerful signal processing provides the perfect combination of range, accuracy, and reliability for indoor and outdoor flights in a compact form factor. "Leddar technology is far superior to low-end sensors, such as ultrasound, which is used on some UAVs today. Leddar-based vertical distance measurements allow drones to safely perform smooth take-offs and landings anywhere as well as maintain a constant in-flight altitude from ground level. This enables drone operators to execute precise flight missions while protecting their equipment and making it safer for people on the ground" explained Michael Poulin, Director of Product Management at LeddarTech.

Leddar sense-and-avoid solutions

LeddarTech's multi-segment optical sensing technology is also generating significant interest from the drone industry. The multi-segment Leddar provides narrow to wide fields of view with lateral discrimination, enabling multiple object detection and distance measurements of up to 30 m. Designed with no moving parts, the sensors are ideal for UAV applications, such as structural inspection, indoor navigation, advanced landing assistance, or collision avoidance.

Leddar sensing solutions for UAVs are being optimized in a smaller, lighter, cost-effective design (based on the [LeddarCore LC-16i](#) chipset) to provide highly-efficient detection and ranging of moving and static objects and surfaces. "UAV vendors, from large-volume tier-one OEMs to specialized high-end integrators, are actively seeking to integrate on-board sensors that are capable of providing reliable spatial awareness. Leddar allows them to do just that, being a mature, highly optimized technology that is ready for deployment today and has demonstrated its unique value in other markets," indicated Charles Boulanger, CEO at LeddarTech.

A proven, patented optical sensing technology

Leddar optical detection and ranging technology works by converting returned light waveforms into a digital signal, which is processed by patented algorithms delivering unmatched detection capabilities. It

provides unique benefits for drones, with a superior range-to-power ratio that allows it to see farther and better than other optical sensing devices—all while reducing its cost, size, weight, and power consumption.

As with all Leddar-based solutions, the sensors perform flawlessly in challenging environments. It is immune to ambient lighting conditions, providing reliable measurements in bright sunlight as well as in poorly lit environments, and has no issues detecting uniform, non-textured surfaces.

New solutions to challenging market needs

Outdoor drone navigation brings a constant threat of collision with structures, objects and people. Navigating indoors—and in urban canyons or inside structures—is also very challenging, since onboard tools, such as GPS systems and barometers, become unreliable or unavailable. Besides the obvious risk of collision and related damages, the industry realizes that even a few high-profile incidents involving drones could seriously damage its public image and push regulatory bodies towards more stringent safety regulations and flight restrictions. As UAV sales and traffic take off, implementing new sense-and-avoid solutions that improve drones' awareness of its surroundings has become a priority for leading drone manufacturers.

LeddarTech's single and multi-channel optical sensing technology enables superior, versatile detection and ranging capabilities, providing the right combination of performance, cost, size, power consumption and processing power to meet the specific requirements of drone makers, fueling the development of new solutions for safer and more reliable navigation.

LeddarTech will be meeting with UAV vendors and members of the press during CES in Las Vegas, January 6-9. To schedule a meeting with our team, please send an email to: communications@leddartech.com.

About LeddarTech (www.leddartech.com)

LeddarTech® is the world's only supplier of advanced detection and ranging solutions based on the patented, leading-edge Leddar® sensing technology. Leddar performs time-of-flight measurement using light pulses processed through innovative algorithms, thus detecting a wide range of objects under various environmental conditions. LeddarTech is highly adaptable, serves multiple markets and comes in different forms, from ICs to modules, providing brand owners and OEMs with a solution optimized for their applications while ensuring quick and simple integration.

Learn more about [LeddarTech solutions for Drones/UAV](#)

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