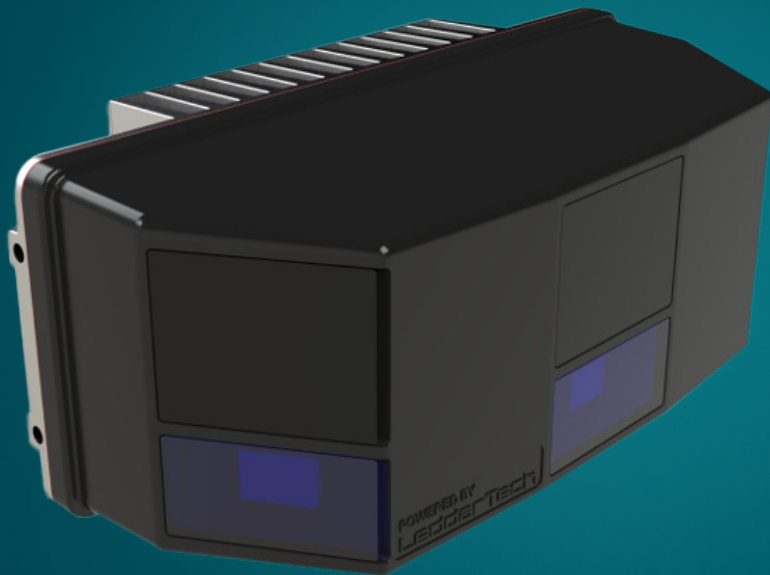


LeddarTech®

Leddar™ Pixell

Cocoon LiDAR for Autonomous Vehicles



Introducing Leddar™ Pixell, the 3D Solid-State LiDAR for Detection Cocoon Solutions in Autonomous Shuttles, Commercial Vehicles and Robotaxis

100% Solid State

Allows for superior durability and high MTBF

Optimized for Cocoon Applications

Delivers zero dead zone proximity coverage

Exceptional Durability

Road-ready IP67 enclosure and impact-resistant windows

Leddar™ Pixell

Cocoon LiDAR for Autonomous Vehicles

Overview

Introducing the Leddar Pixell, a 3D flash LiDAR with 180-degree field of view (FoV) specifically designed for ADAS and autonomous driving applications. Powered by the LCA2 LeddarEngine, the Leddar Pixell provides highly reliable detection of pedestrians, cyclists and other obstacles in the vehicle's vicinity and is optimized for use in perception platforms that are meant to ensure the safety and protection of vulnerable road users (VRU). The robust, solid-state Pixell compensates for the limitations of mechanical scanning LiDARs used for geo-positioning which generate blind areas that can reach several meters. The Pixell enables a comprehensive detection cocoon that surrounds the vehicle to provide complete blind spot coverage with no dead zones.

3D Cocoon LiDAR Technology

Using the latest in 3D Flash LiDAR technology, the Pixell provides full-surface illumination over 100% of its field of view, for comprehensive proximity coverage with no dead-zones. Thanks to the Pixell's 180° wide FoV, four sensors will cover the entire vehicle surroundings and provide redundancy coverage in its corners. Data provided by Leddar Pixell allow for object tracking and identification of possible collisions based on object position, velocity, and directionality, without overwhelming the vehicle's CPU with massive amounts of unnecessary data.

Superior Robustness and Reliability

Deployments of detection systems on road vehicles require highly durable technologies to ensure high MTBF and to minimize downtime and operational expenditures, all the while providing reliable and secure vehicle operations.

Based on a robust, 100% solid-state LiDAR design with no moving parts for superior reliability, The road-ready Leddar Pixell delivers superior lifespan which makes it ideally suited for autonomous vehicles deployments.

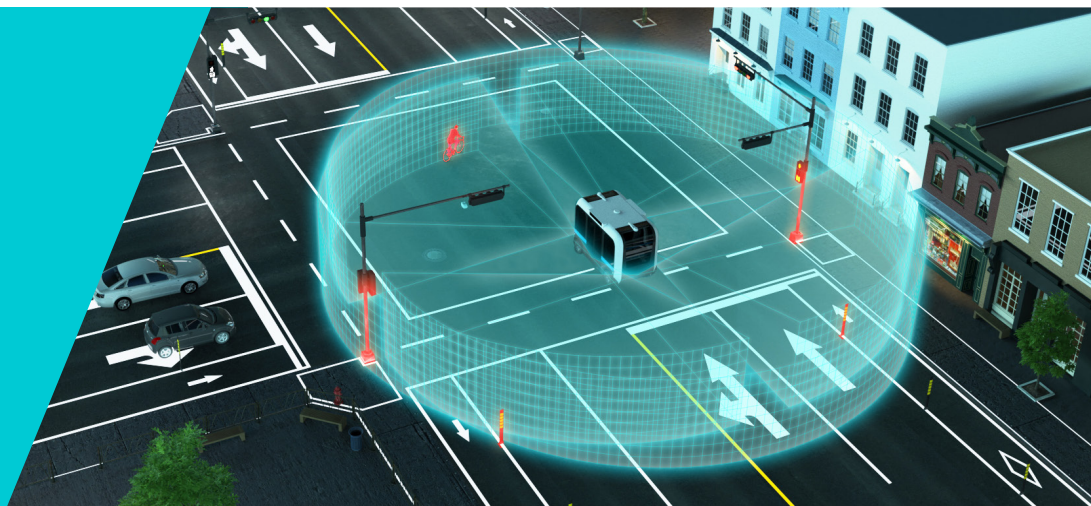
- 100% Solid State
- Vibration and Shock Resistant
- Wide Operating Temperature Range
- IP67 Enclosure
- Impact-Resistant Windows
- Automotive-Grade Connectors

LeddarEngine™ at the Core

The Pixell has been designed using the state-of-the art LCA2 LeddarEngine, the powerful LiDAR core for automotive and mobility applications, leveraging LeddarTech's patented signal acquisition and processing and highly integrated LiDAR SoC.

Leddar Pixell Detects & Protects

- Proximity Detection
- Blind Spot Coverage
- Collision Avoidance
- Navigation



✓ Features

- 96 horizontal and 8 vertical segments providing 768 independent surfaces with simultaneous acquisitions
- 3D flash illumination technology providing 100% scene coverage
- Pedestrian detection range of up to 32 meters
- 100% solid state, vibration and shock resistant
- IP67 enclosure with impact-resistant windows and automotive-grade connectors
- Wide operating temperature range

✓ Benefits

- Optimized for ADAS/AD detection cocoon applications and protection of vulnerable road users, including:
 - Detection cocoon in stop-and-go situations
 - Wide turn monitoring for large vehicles
 - Emergency braking for collision avoidance in urban settings
- Zero proximity dead zone, with no blind spots in the entire field of view
- Provides valuable sensing redundancy and compensates for limitations of other LiDAR technologies
- Robust road-ready technology translating to higher MTBF and reduced maintenance

Specifications

Field of View (°)	Horizontal: 177,5 Vertical: 16,0
Resolution (°)	Horizontal: 1,9 Vertical: 2,0
Range (m)	Pedestrian ^b : 32 10% reflectivity ^c : 23 50% reflectivity ^c : 36 80% reflectivity ^c : 41
Accuracy (cm) ^d	±5
Operating Wavelength (nm)	905
Power Input (VDC)	11 to 52
Power Consumption (W) ^e	20
Communication Interface	Automotive Ethernet
Frame Rate (Hz)	20
Operating Temperature (°C)	-30 to +65
Weight (Kg)	2,25

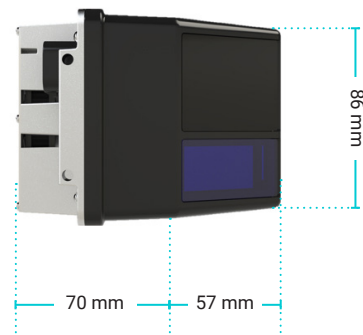
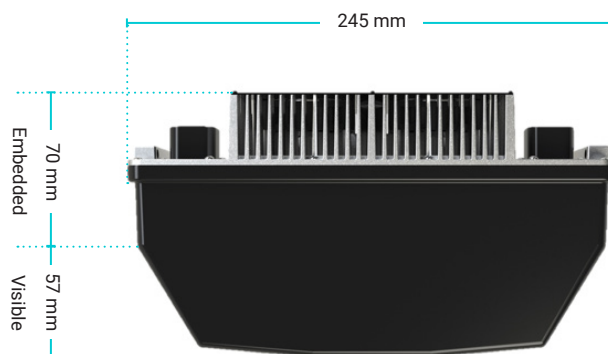
a. Typical specifications.

b. Euro NCAP Pedestrian, 50% reflectivity.

c. Full pixel coverage.

d. Non saturated signal, without crosstalk for non merged events.

e. Nominal power consumption at 20°C.



Leddar™ Pixell

Cocoon LiDAR for Autonomous Vehicles

Leddar Pixell has already been adopted by leading autonomous vehicle providers in North America and Europe and is available today for commercial deployments.

Primary Applications

Autonomous Shuttles



Robotaxis



Delivery Vehicles



Commercial Vehicles



Transit Buses



The Pixell uniquely answers the needs for comprehensive detection and ranging systems in vehicles transiting at inner-city speed and performing frequent stop-and-go such as autonomous shuttles, delivery vehicles, or robotaxis. The Pixell also provides a highly efficient detection solution to cover blind spots on large commercial vehicles such as trucks and buses.

About LeddarTech

LeddarTech is an industry leader providing the most versatile and scalable automotive LiDAR development platform based on the unique LeddarEngine™, which consists of a suite of automotive-grade, functional safety certified SoCs are working in tandem with LeddarSP™ signal processing software. The company is responsible for several innovations in cutting-edge mobility remote-sensing applications, with over 70 patented technologies (granted or pending) enhancing ADAS and autonomous driving capabilities for automobiles. LeddarTech also serves the mobility market with solid-state high-performance LiDAR module solutions for autonomous shuttles, trucks, buses, delivery vehicles, and robotaxis.

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