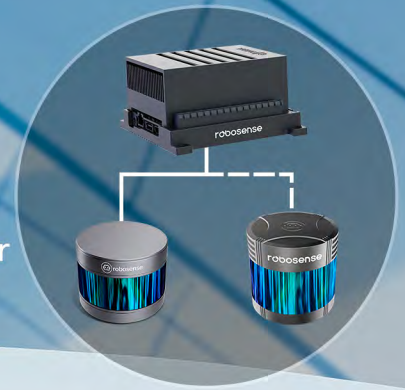




# RS-Cube

LiDAR Environment Perception Algorithms Hardware Unit for Self-driving Vehicles at Medium-Low Speed



RoboSense's latest RS-LiDAR-Algorithms is built into RS-Cube, analyzing LiDAR's point cloud data in real-time in order to produce semantic-level environmental information for self-driving cars under any scenarios.

RS-Cube is an upgraded version of the RS-Box. The performance of the algorithms has been greatly improved with continuous update and iteration by RoboSense. The hardware computing platform is upgraded to the Jetson AGX Xavier, which is more powerful and equipped with peak computing capability of up to 32 TOPS while supporting operations of two RS-LiDAR-16 plus one RS-LiDAR-32 .

RS-Cube will accelerate your autonomous driving programs with more enhanced features and outstanding performance.

## Perception Function Module



Obstacles Detection



Obstacles Classification and Recognition



Dynamic Objects Tracking



Freespace Detection



Multi-LiDAR Point Cloud Fusion\*



Support UDP (Socket)  
& ROS Node Output

Recommended height for LiDAR installation: 1m – 2.5m above the ground

Perception radius: up to 60 meters (with proper installation and suitable LiDAR models)

Application scenarios: Outdoor medium-low speed driving (recommended speed: below 40 km/h, maximum 60 km/h)

\*Users need to calibrate the LiDAR System before using the multi-LiDAR point cloud fusion function.

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# RS-Cube's Algorithms Advantages

AI + Conventional Algorithms

Optimized for NVIDIA CUDA and TensorRT

Data-driven, multi-scene, large-scale point cloud data sets

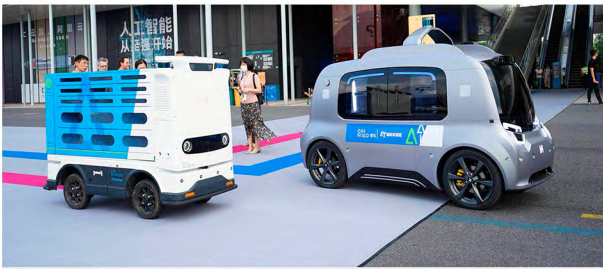
Over 10 years point cloud algorithm development experience

Verified by 100+ partners and various testing scenarios

## TECHNICAL SPECIFICATIONS

GPU	512-Core Volta GPU with 64 Tensor Cores, 11 TFLOPS (FP16), 22 TOPS (INT8)
DL Accelerator	(2x) NVIDIA Engines, 5 TFLOPS (FP16), 10 TOPS (INT8)
CPU	8-core Carmel ARM v8.2 64-Bit CPU, 8 MB L2 + 4MB L3
Memory	16GB 256-Bit LPDDR4x, 2133MHz - 137GB/s
Storage	32GB eMMC 5.1
Interface	SATA Through PCIe x1 Bridge + USB 3.0 (PD + Data for 2.5-inch SATA)
Operating voltage	9V-10A ~ 20V 4.5A
Power consumption	10W, 15W, or 30W
Dimensions	132.5mm * 110.5mm * 62.4mm (L * W * H)

## Applications



Delivery Robots



Security Robots



Sanitary Vehicles



Shuttle Buses

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