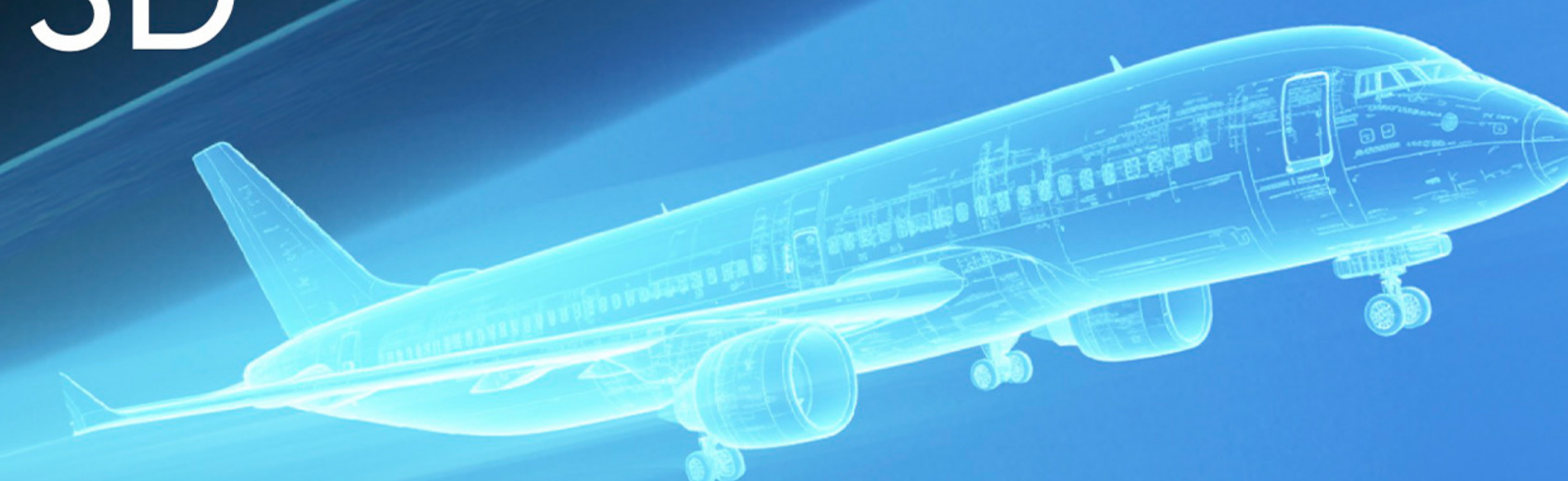




Benewake

AD2-S-X3

High-performance 3D
256 Lines LiDAR



Benewake (Beijing) Co., Ltd.

E-mail: bw@benewake.com Web: en.benewake.com

Copyright © Benewake (Beijing) Co., Ltd. All Rights Reserved.

AD2-S-X3

High-performance LiDAR

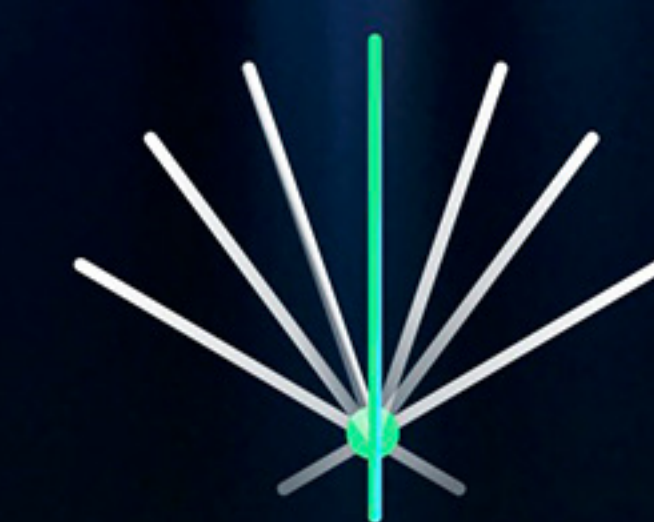
AD2-S-X3 LiDAR is a high-performance LiDAR independently developed by Benewake. It has an equivalent 256 lines and a maximum ultra-high resolution of $0.1^{\circ} \times 0.1^{\circ}$, which enables it to achieve high-definition target detection capability in the entire field of view ($120^{\circ} \times 25.6^{\circ}$) and accurately detect various targets.

AD2-S-X3 adopts a 2D scanning system and an array-based transceiver design, which supports continuous upgrades and iterations of product performance. It meets the application requirements of enhancing environment perception.

AD2-S-X3 adopts 905nm active light source perception with the ability to sense at all times. It has extremely strong environmental adaptability, unaffected by severe cold and heat. It can be widely used in intelligent transportation scenarios such as highways, railways, civil aviation, water transportation, and mining trucks.



Product Advantages



Ultra-high point cloud lines

Capable of capturing richer scene details, providing higher safety redundancy



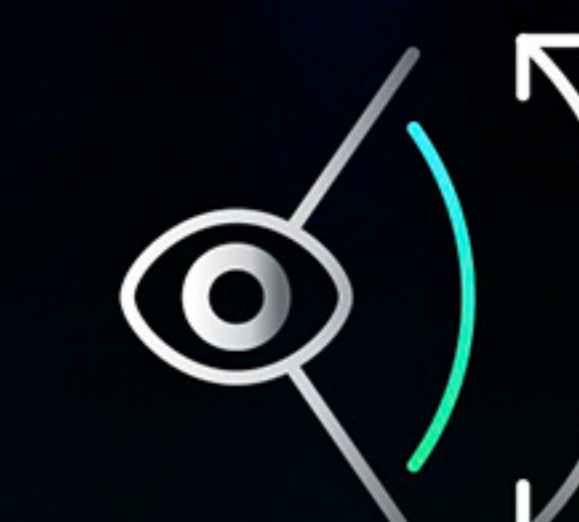
Long-range detection

$\geq 350\text{m}+$ target detection and tracking, advanced perception



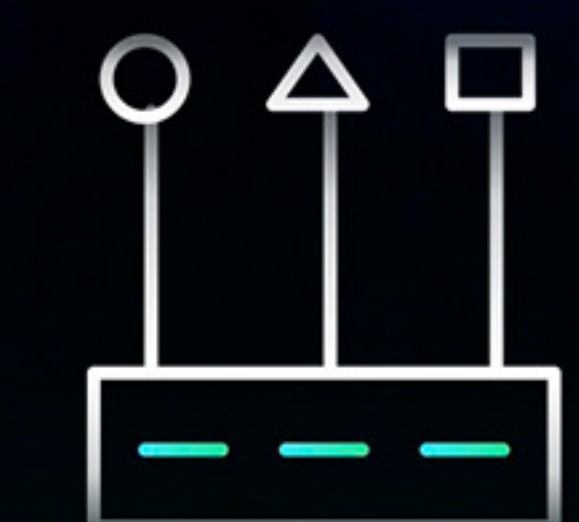
High resolution

Reducing the false detection/missed detection rate in the perception environment



Wide FoV

Achieving a wide range of target detection, tracking, and improved safety performance



Custom ROI

The area is dynamically adjustable, which can effectively improve the detection accuracy of target area



905nm wavelength

Better performance and safer laser light source at the same class



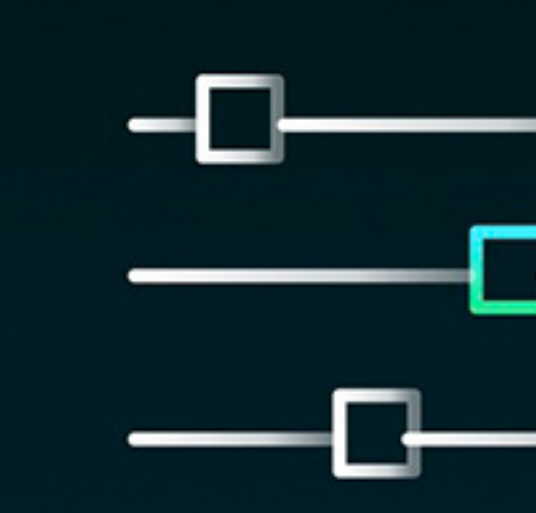
Low power consumption

Effectively reduce the cost of equipment maintenance and replacement



Continuous operation

Can be operated 24-hours a day, not affected by external lighting conditions



SDK based development

SDK is open source for easy secondary development

Application Areas

Vehicle-road Coordination

01



3D point-cloud provides real-time perception of traffic, including pedestrians, identifies high-precision and high-accuracy information such as target type, speed, and location.

Rail Transit

02



During the operation of rail transit carriers, it can accurately distinguish the position, speed, direction, size of obstacles and invading personnel in the area and issue warnings or take corresponding control measures in advance for abnormal conditions.

Maritime Transport Safety

03



The ultra-wide-angle FoV is suitable for monitoring larger scenes on the water surface. The equipment has detection capabilities throughout the day, providing accurate positioning information for ship targets.

Civil Aviation Berth Guidance

04





Provide more accurate and safe parking guidance information for aircraft to improve airport safety operations, equipment level, labor efficiency, management level, and service quality.



Mining Truck Intelligent Driving


05



High-precision and long-range detection capabilities can output high-quality structured point cloud data, providing powerful data support for algorithms; early detection of various risks and ensuring operational safety.







Product Certifications

Sensor Parameters

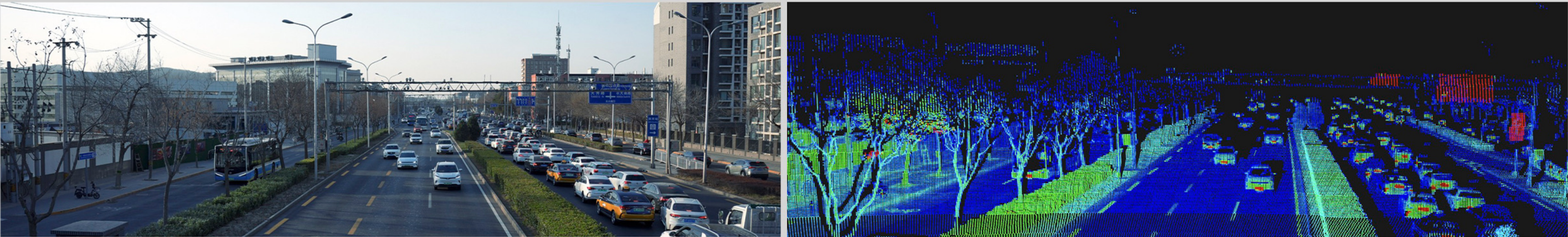
Measuring range ^①	FoV
200m@10%	120°*25.6°(H*V)
Number of point-clouds	Resolution
2.016M	ROI 0.1°*0.1°
Frame rate	Ranging accuracy ^②
10Hz	5cm@1σ

Other Parameters

Communication protocol	Input voltage
UDP	9-32V
Power consumption	Time synchronization protocol
≤15W	gPTP PTP NTP
Protection level	Working temperature
IP67/ IP6K9K	-40°-85°C

Remarks

- ^① The detection range is based on outdoor 100Klux ambient light conditions, and any changes in environmental conditions may cause changes in the measurement results.
- ^② The ranging accuracy is based on the environmental temperature of 25°C and may change due to various factors such as ranging, reflectivity, and other environmental conditions.



*The above image shows a comparison between urban road cameras and LiDAR point cloud imaging