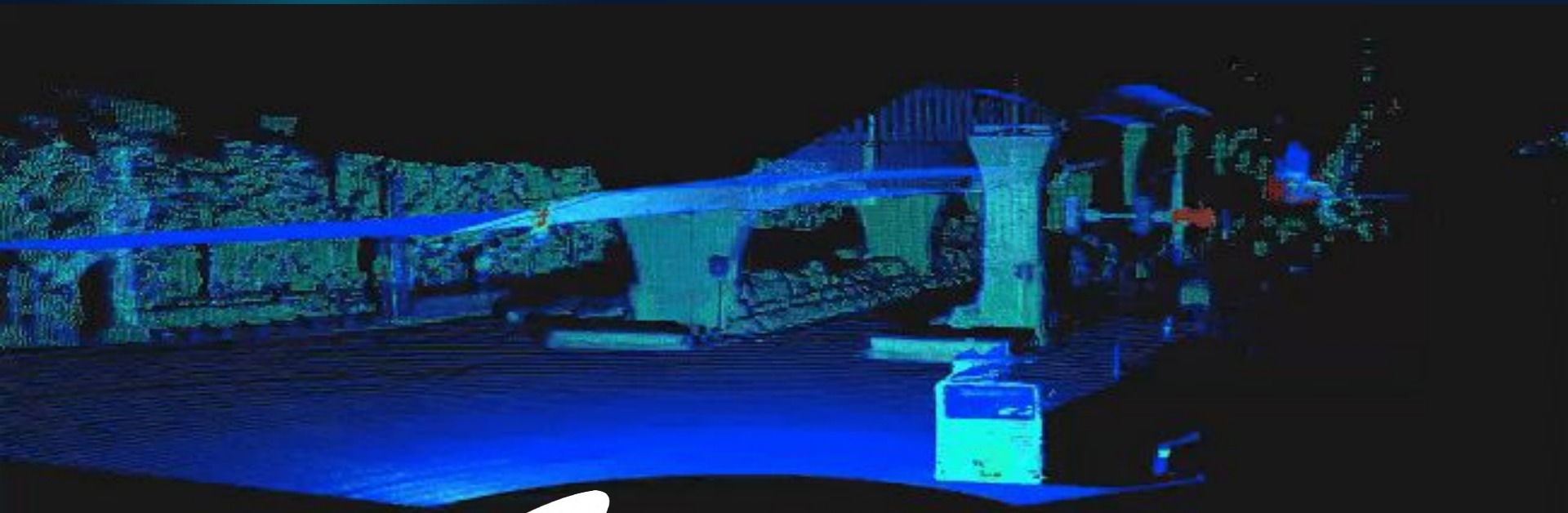


# How will VanJee LiDAR + LiDAR Perception Model Enable the automotive ADAS system?



## Content

1. VanJee Technology Introduction
2. Status quo and challenge of LiDAR in automotive industry (2025 market update)
3. What are the true values of LiDAR for vehicles?
4. VanJee LiDAR sensor
5. Algorithm of LiDAR Perception Model

# VanJee Introduction

VanJee Technology is a world leading Intelligent Transport System (ITS)+LiDAR company. **VanJee is a publicly traded company in Shenzhen Stock Exchange (SZSE:300552).** VanJee headquarters is located in Beijing and VanJee LiDAR company is located in Wuhan.

VanJee was founded in 1994 and started LiDAR business in 2012. VanJee LiDAR became an independent subsidiary in 2024. VanJee supplies four prominent products: **1. LiDAR, 2. WIM , 3. ETC, 4. V2X.**

VanJee LiDAR mission is to create vision for Robotics and Automotive to realize autonomous operation with utmost safety. We have passion to explore values of LiDAR across various industries.



VanJee LiDAR  
Company in Wuhan

**30 Years &  
12 Years**

VanJee is founded in  
1994 and started  
LiDAR R&D in 2012

**40+ Countries  
& 6 continents**

has used VanJee  
LiDAR

**100,000  
LiDAR Sensor**

Supplied

**3  
Industries**

ITS, Robotics, Automotive

VanJee headquarter in Zpark, Beijing.

# VanJee LiDAR Roadmap

VanJee supplies high-quality LiDAR sensors for three major industries which are ITS, automotive and Robotics.

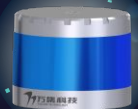
## 2011 WLR-711 for ITS

ITS LiDAR with high protection level IP68. The LiDAR can collect traffic data.



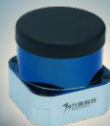
## 2017 WLR-716 for AMR

Mass production of 2D SLAM navigation robotics LiDAR.



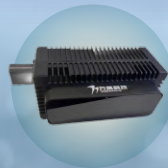
## 2021 WLR-720 for SLAM Navigation

16-line mechanical LiDAR for SLAM navigation.



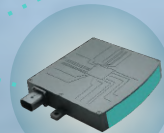
## 2021 WLR-719

The unique 4-line mechanical LiDAR is cost-effective for robotics object detection.



## 2024 WLR-750 for Vehicle

Fully Solid-State Blind Spot LiDAR WLR-750.



## 2025 WLR-760 for Vehicle

Ultra-thin Automotive-Grade Long-Range LiDAR.

## 2. Status quo of LiDAR in automotive industry and challenges

# Status quo: LiDAR application is still in early stage in Auto industry

## Where we are (late 2025)

- Passenger-car LiDAR installations doubled in 2024 to ~1.5–1.6M units.
- According to the Yole Group Report, the global passenger car LiDAR market is experiencing rapid growth, with a 68% YOY increase in 2024 and market size reaching USD 692 million.
- Chinese suppliers now dominate volume; multiple new LiDAR-equipped models launched in 2024–25.

# Key challenges

- **Perceived value.** Some OEMs still question LiDAR (“too costly / unnecessary”), influenced by vision-only narratives. Note: even Tesla **bought LiDAR** for R&D in 2024.
- **Team & integration gap.** Few OEMs have in-house LiDAR perception teams; software + validation remain bottlenecks. (Opportunity for full-stack suppliers.)
- **Cost sensitivity.** Total BoM still scrutinized in mid-tier vehicles.

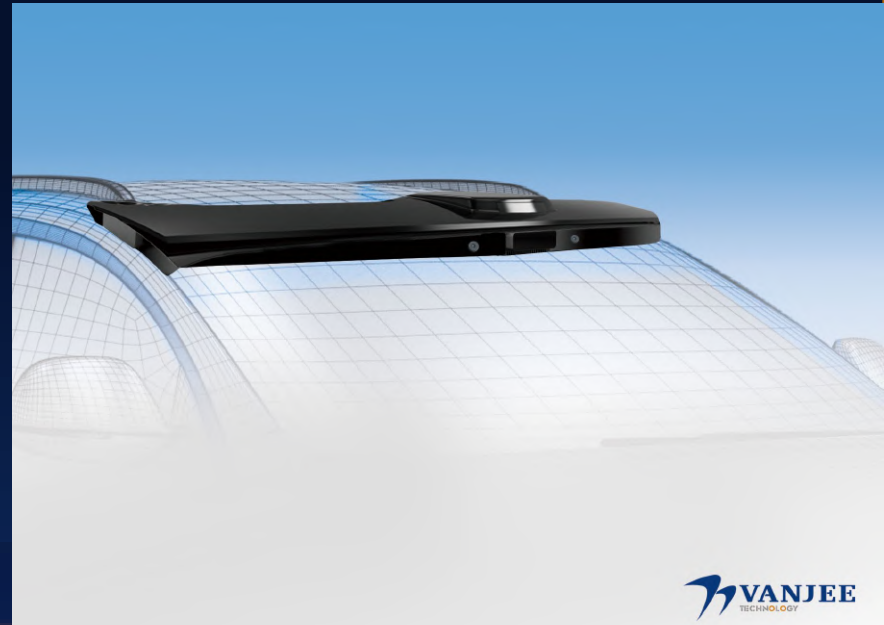
3. What are the true values of LiDAR for vehicles?

# What are the true values of LiDAR for vehicles?

LiDAR stands for Light Detection and Ranging.

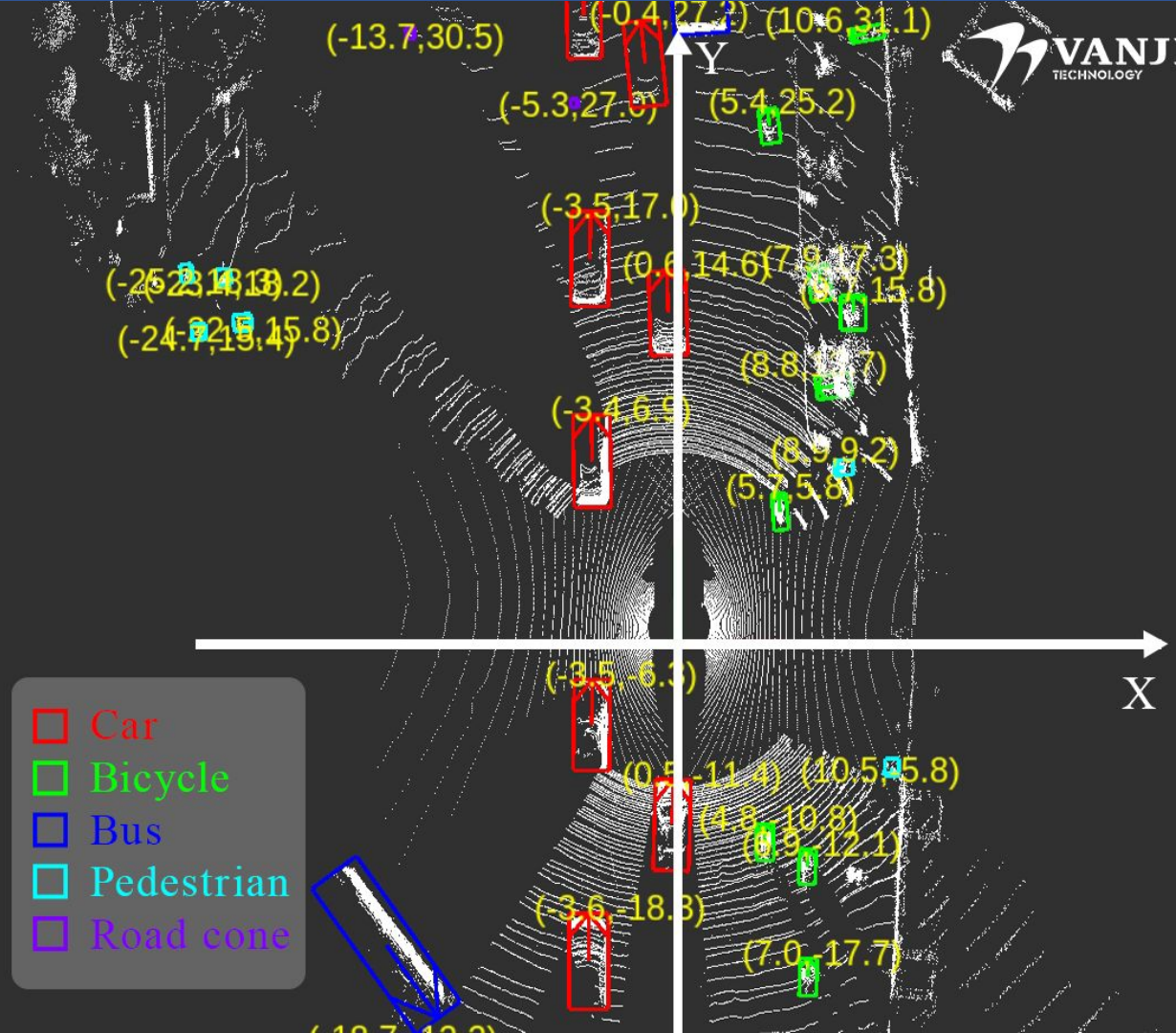
1. Powerful Object Detection and precise distance measurement for each object
2. 3D coordination system : all objects localization, classification (combine with camera) (single camera just “feel” that object is close or distant)
3. Simplified algorithms: Valid Spatial data and depth information
4. Effective operation in challenging lighting conditions, especially glare from sunset.

**In short — cameras see, but LiDAR measures.  
And that difference can literally save lives.**



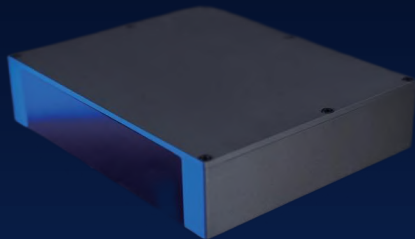
The Perception model creates coordinate system

The LiDAR Perception model constructs a coordinate system to detect objects with coordinate value)

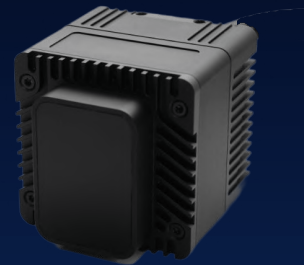


## 4. VanJee LiDAR sensors

VanJee provides a complete range of automotive LiDAR sensors — each designed for a specific role.



Long-range detection, we have the **WLR-760**



For short-range and blind spots, we have the **WLR-750**

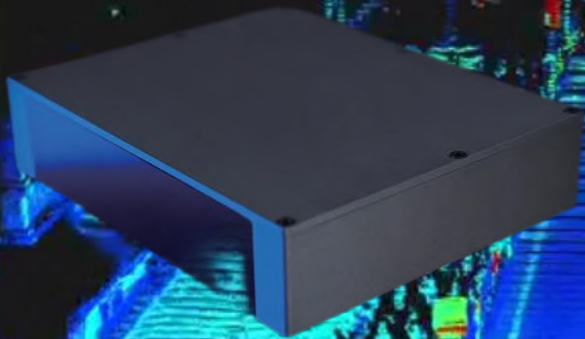
## VanJee WLR-760 LiDAR (Ultra thin Detection LiDAR )

VanJee LiDAR WLR-760 is an ultra-thin automotive-grade long-range LiDAR with VCSEL and SPAD.

The LiDAR can perform with a 300m (200m @ 10%) range, an ultra-thin of 3 cm, high frequency 1.5 million points featuring 192 scanning channels, a 120° x 25° FOV, and high resolution of 0.15° (H) x 0.13° (V).

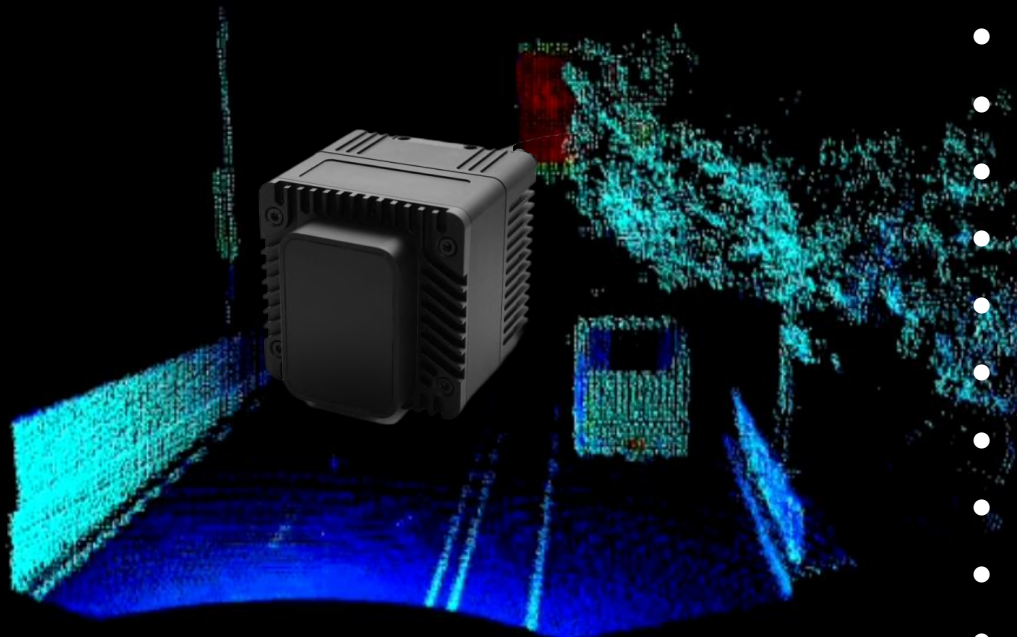
### Key Parameter

- Ranging Distance : 300m (200m@10%)
- Accuracy :  $\pm 30\text{mm}@1\sigma$
- Ingress Protection : IP67; IP6K9K
- Horizontal FOV : 120°
- Horizontal Resolution : 0.15°
- Vertical FOV : 25°
- Vertical Resolution : 0.13°
- Scan Frequency : 10Hz
- Size : 134mm×109mm×30mm
- Communication Interface : Ethernet 1000M Base T1



## VanJee WLR-750B LiDAR (Blind spot)

VanJee LiDAR WLR-750 is a solid-state flash LiDAR for vehicle blind spot. The LiDAR can be installed on two sides and rear of vehicle. The LiDAR has 30 meter range, high resolution  $0.5^\circ \times 0.5^\circ$ , wide FOV  $120^\circ$  (H)  $\times$   $70^\circ$  (V). The LiDAR provides key benefits for changing lane, turns and driving through intersection.



### Key Parameter

- Ranging Distance : 30m@10%
- Blind Spot:  $\leq 0.1\text{m}$ @10% Reflectivity
- Accuracy :  $\pm 50\text{mm}$ @ $1\sigma$
- Ingress Protection : IP67; IP6K9K
- Horizontal FOV :  $120^\circ$
- Horizontal Resolution:  $0.5^\circ$
- Vertical FOV:  $70^\circ$
- Vertical Resolution:  $0.5^\circ$
- Scan Frequency : 10Hz
- Size: 69mm $\times$ 68mm $\times$ 75mm
- Communication Interface: Ethernet 1000M Base T1

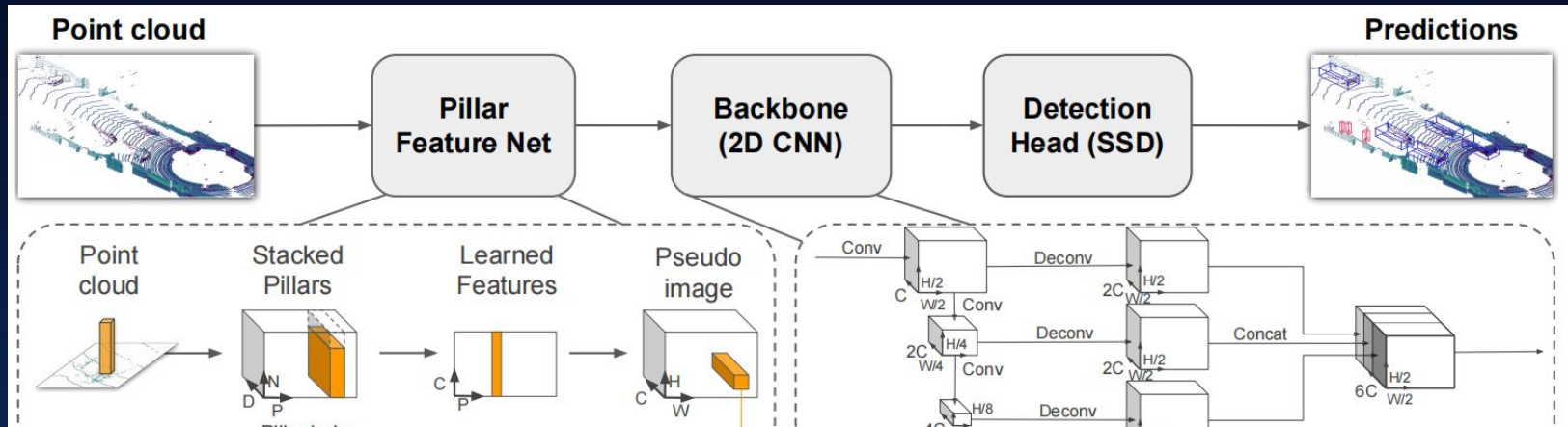
## 5. Algorithm of LiDAR Perception Model

# VanJee LiDAR Perception Model for ADAS

- VanJee LiDAR Perception only uses 90 ms from detect object to perform AEB function by using 3D information. The model consists four parts:
1. Pillar Feature Net: the Perception Model transits LiDAR point cloud to pseudo image (3D to 2D) to reduce computational complexity.
  2. Backbone (2D CNN) : The Perception only use a 2D Convolutional Neural Network (CNN-deep learning) to extract object characteristics from pseudo image
  3. Detection Head (SSD): The Perception model Transforms characteristics to key results including object distance and position, orientation angle, and category information. SSD is to detect object base on point cloud.
  4. Domain Controller: The perception model transmits information to the domain controller, which then makes decisions for autonomous driving (braking system and steering wheel).

“Now let’s see how our LiDAR Perception Model processes data in real time.

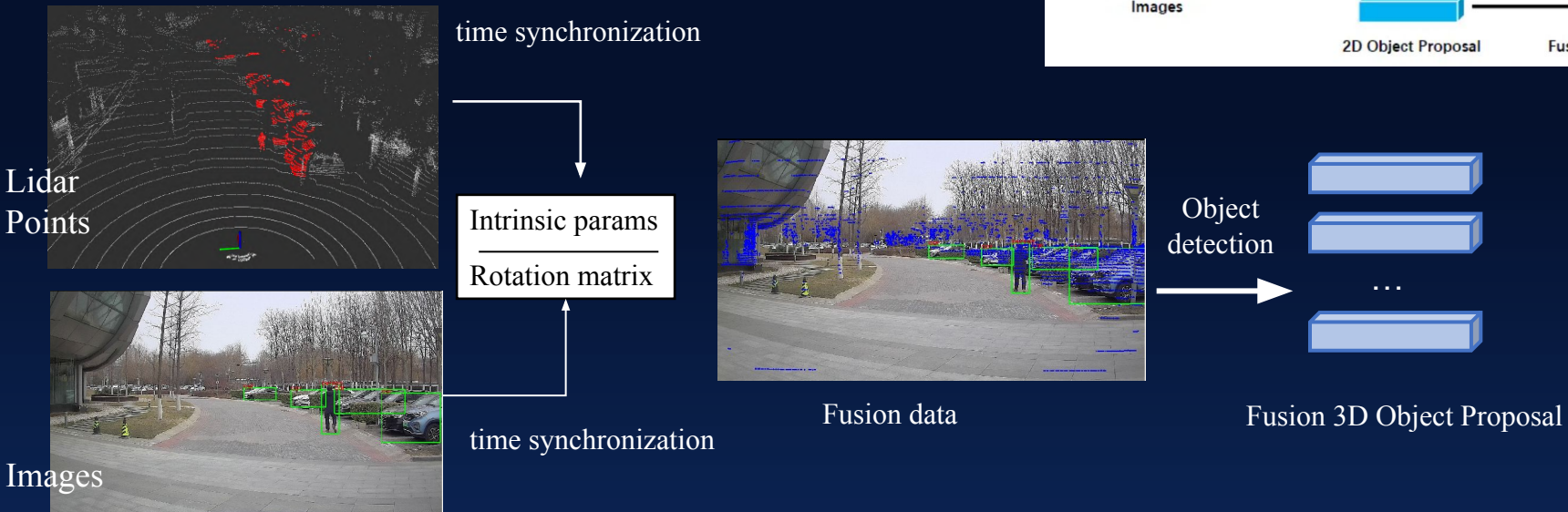
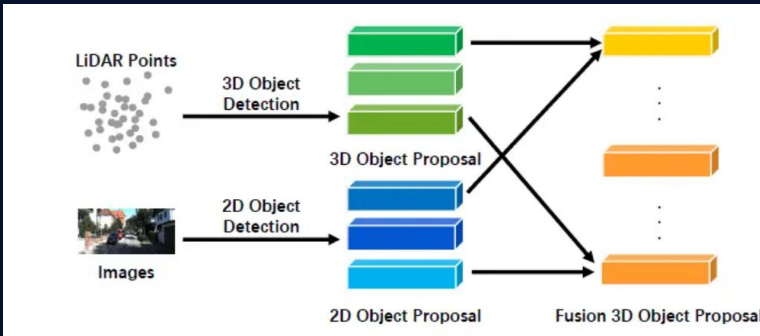
From object detection to braking decision — the entire process takes only 90 milliseconds, faster than a human blink.”



# Data Fusion in LiDAR Perception Model:

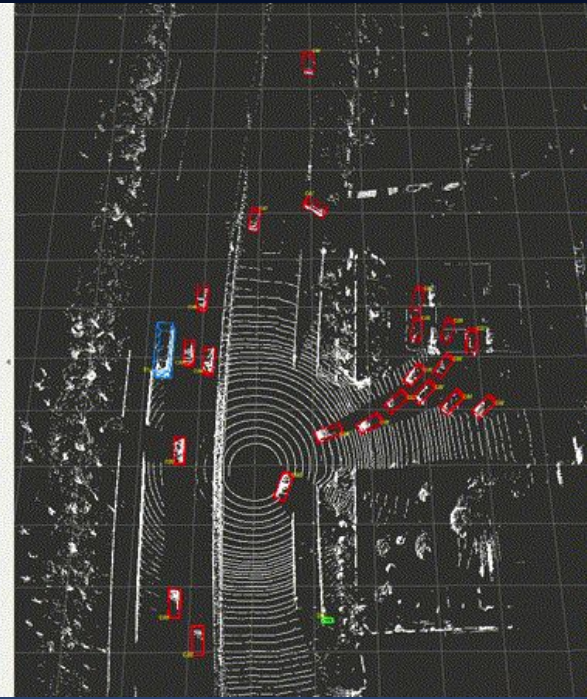
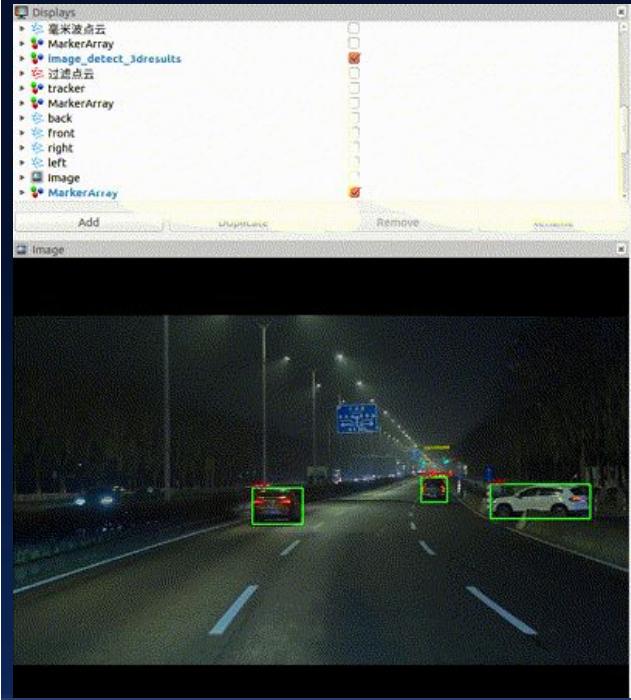
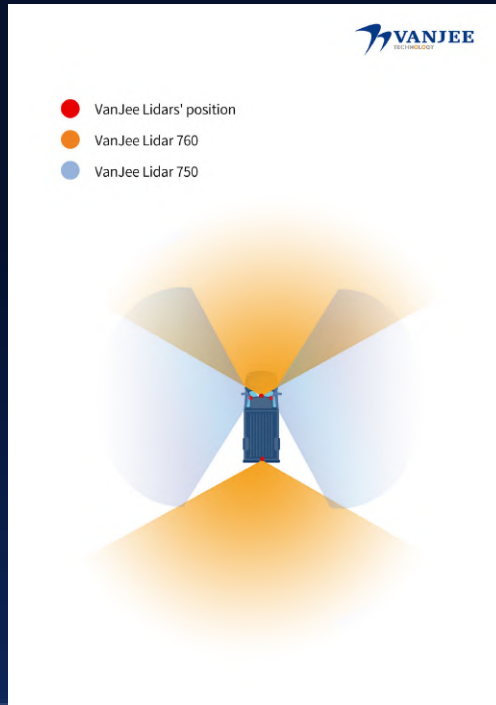
VanJee fuses LiDAR data and camera data in the Perception Model:

1. LiDAR provides coordinate system and spatial data as framework of perception model.
2. Camera provides color information and similar shape information.
3. In the perception model, we build a framework by using LiDAR point clouds and integrate image data to guarantee the model's comprehensiveness.



# Fusion Data (LiDAR, Camera, C-V2X ) for better ADAS

VanJee LiDAR perception Model fuses LiDAR, camera and V2X advantages. VanJee LiDAR Perception vehicle can handle most autonomously driving tasks.





We do valid autonomous driving project to test LiDAR and fuse LiDAR, Camera and C-V2X together. We constantly upgrade our LiDAR sensor and perception model.

## Summary – Why VanJee LiDAR Matters for Automotive ADAS

### ① Industry Reality

- **Camera-only ADAS is reaching its limit**
- **LiDAR adoption accelerating in 2025**  
(cost ↓, safety demand ↑)

### ② Market Advantage

- **Cost-effective solid-state LiDARs ready for mass production**
- **Ready for L3 / L4 driving functions**
- **Backed by 30 years of ITS experience**

### ③ VanJee's Strengths

- **Full stack: Quality Hardware + Perception Software + Fusion**
- **Proven roadmap and automotive-grade sensors (760 / 750B)**
- **Real-time 3D perception within 90 ms**

# LiDAR Toward Future

VanJee LiDAR creates vision for future vehicle.  
VanJee LiDAR enhances vehicle safety and provides a more exciting driving experience .

