

From ADAS to Autonomy through Vision-AI



Vision-AI Solutions for Autonomous Vehicles and Robotics

ADAS / VSLAM / Camera / AI Model

About oToBrite

Founded in 2013, oToBrite is a pioneering technology company headquartered in Hsinchu Science Park, dedicated to advancing intelligent mobility through cutting-edge Vision-AI. Specializing in Advanced Driver Assistance Systems (ADAS), Vision-AI perception models, and high-end autonomous driving camera modules, oToBrite delivers state-of-the-art innovations across the passenger car, commercial vehicle, and unmanned vehicle/robotics markets.

Production Base

oToBrite has a clean room factory with IATF16949 certification and qualified by several car OEMs. Through advanced proprietary 5/6-axis active alignment technology, oToBrite can rapidly expand production capacity and has the flexibility to serve various customers no matter the scale of production. With manufacturing execution system (MES), oToBrite has achieved high-quality production efficiency with high first pass yield rate and low scrap rate.



Customers

Car OEM / Business Partner



AD Ecosystem Partner



Strategic Partner



3 core technology

oToBrite has full-stack technology for mass production of vision-AI product, covering optics, mechanics, electronics, firmware, software, and vision-AI model design. The three core technologies are:

● Vision-AI Model Design Technology

The vision-AI model is self-developed, and it can be sold independently according to customer needs. It has been applied to different vehicle markets including passenger cars, commercial vehicles, and two-wheelers. The vision-AI models have been low-bit cross-platform optimized and licensed on over 400K vehicles.

— Vision-AI models have shipped in following platforms



● Edge AI System Design Technology

With complete software and hardware integration and design capabilities, the processing capacity and efficiency of edge computing systems can be improved to enable the use of more than 10 heterogeneous cores to process more than 30 different types of sensors including camera modules, ultrasonic radar, millimeter-wave radar, GPS/IMU and various types of vehicle CAN signals. This enables the production of more than 200,000 AI edge computing systems with advanced vision AI models.

● Active Alignment Technology

oToBrite self-developed active alignment machine to produce high-end camera modules. It shortens production switching time and production expanding time with high production efficiency to meet various customization demands from different markets. It can produce over 60 different specifications of camera modules with a quality of 1-pixel shift.



Autonomous Robot & Unmanned Vehicle

GMSL™ / TVI Automotive Camera

Support several edge AI/Robot Platforms

NVIDIA Jetson Thor, AGX Orin™, Orin™ NX, Orin™ Nano, and Intel® Core™ Ultra 7/5 Processors, etc.

Automotive-grade passing IP67/IP69K & -40°C to +85°C testing

High reliability and manufactured in IATF16949 certified clean room factory

	<p>1MP Camera Sensor Type : ISX019 View Angle : 90° / 137° / 190° Output Format : TVI (Differential) / LVDS (Max 96705 / TI 913)</p>		<p>1MP Camera Sensor Type : OV9716 View Angle : 122.5° / 183.6° Output Format : TVI (Differential)</p>
	<p>3MP Camera Sensor Type : IMX623 View Angle : 100° / 195° Output Format : LVDS (Max 9295a)</p>		<p>3MP Camera Sensor Type : ISX031 View Angle : 60° / 120° / 200° Output Format : LVDS (TI 953 / Max 9295a)</p>
	<p>5MP Camera Sensor Type : IMX490 View Angle : 30° / 60° / 90° / 120° Output Format : LVDS (TI 953 / Max 9295a)</p>		<p>8MP Camera Sensor Type : IMX728 View Angle : 30° / 70° / 120° Output Format : LVDS (Max 9295a/ Max96717)</p>
	<p>8MP Camera Sensor Type : AR0823 View Angle : 30° / 120° Output Format : LVDS (Max 9295a)</p>		

VIO Camera

Integrate an IMU and MCU in a compact design

Deliver reliable motion data through onboard EKF processing

Vibration Compensation for Accurate Localization

The VIO camera fuses IMU and visual data to correct distortions and improve accuracy.

	<p>3MP Camera Sensor Type : ISX031 + ASM330LHH View Angle : 120° Output Format : LVDS (Max 9295a)</p>
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oToSLAM

Multi-camera Vision-AI SLAM

No costly HD maps / lidars required and working on indoor/outdoor environment

One-time mapping with mixed semantic & 3D features

High positioning accuracy of up to 1cm*



*May vary depending on environment & additional sensors



• Semantic vision-AI SLAM features from multi-camera topview • Multi-camera vision-AI 3D SLAM features

GMSL™ Camera Developer Kit for NVIDIA Jetson Platform

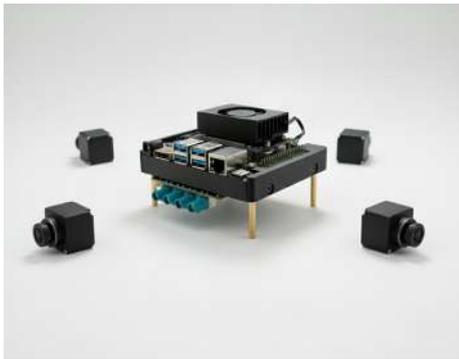
The quickest and most compatible way

Get started with NVIDIA Jetson developer kits

Plug and play

Support all oToBrite GMSL™ cameras with pre-packaged NVIDIA JetPack

GMSL™ Camera Developer Kit for NVIDIA Jetson Orin™ Nano



- Up to 4 oToCAM GMSL™ cameras
- Up to 67 TOPS of AI performance

GMSL™ Camera Developer Kit for NVIDIA Jetson AGX Orin™



- Up to 8 oToCAM GMSL™ cameras
- Up to 275 TOPS of AI performance



oToGuard 2.0 - Level 2⁺ Vision-AI All-in-one ADAS for Commercial Vehicles/ E-bus

The World's First

ADAS total solutions in one system capable of passing several UN regulations

<3ms Frame-sync

With all cameras to enable event-triggered video recording for fleet management

360 Degree Protection

With 8 cameras to eliminate blind area and monitor drivers' status

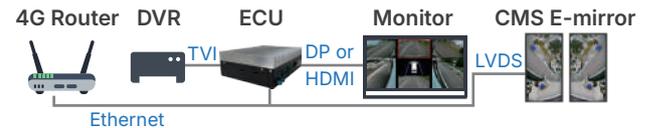
Level 2⁺ Scalability

The system is software upgradable to support Level 2⁺ ADAS

- Multiple display mode with several ADAS functions

- ✓ Level 0~2⁺ ADAS: AVM\BSIS\BSD\DMS\MOIS\FCW\LDW\LKA\LCA
- ✓ International Safety Standards: UN R130\UN R151\UN R158\UN R159\UN R79 CSF\ACSF-B1, ESF, and ACSF-C

- Flexible Architecture to Meet Real Case Scenarios



SafeZone Anti-Pinch AI Sensing System for Bus Doors

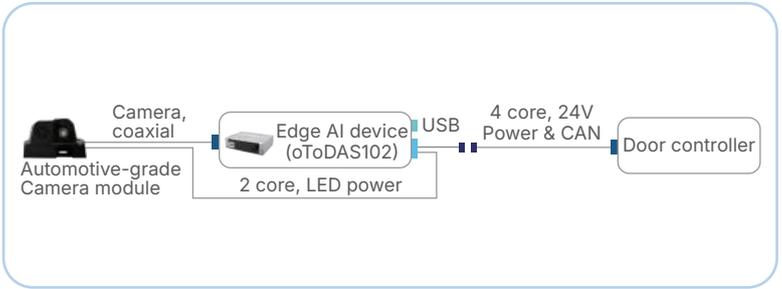
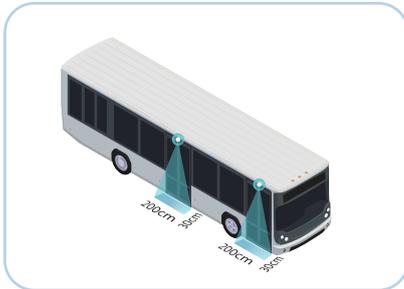
Safe anti-pinch zone

Covers a 30 × 200 cm area to enhance passenger safety.

High-accuracy vision-AI detection

Detects people to prevent injuries, even in crowded conditions or when they are holding umbrellas or partially obscured.

- Detection area: 30 × 200 cm outside the bus door
- The system consists of one sensing controller and one visual perception module, paired with a door controller.



Vision-AI Driver Monitoring System

Working at 0~120k lux

Light condition with proprietary optical system

<4.5 Degree Error

Head pose angle estimation with AI 3D face generation

Power-over-coax

With excellent power management

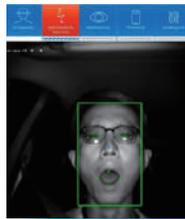
Up to Level 3 Sunglasses

Supported and coated glasses

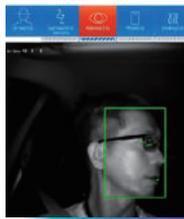
- Face ID



- Fatigue



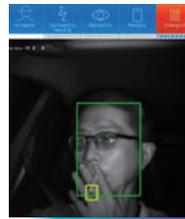
- Inattention



- Phone use



- Smoking



Passenger Cars



New Generation of AVM

Enhanced MOD* to Protect VRU**

With high accuracy & low false alarm compared with traditional MOD

More ADAS Features with Vision-AI Technology

Lead vehicle start alert, Open door alert, Rear cross traffic alert, etc.

Multiple Mode with Different Angle View



Transparent Chassis



*MOD: Moving Object Detection

**VRU: vulnerable road users including children, pedestrians and two-wheelers rider



The World's First APA Product Using Vision-AI Technology

100+ Slot Types

Identifiable parking slot types

Full Coverage

Even dead end parking space

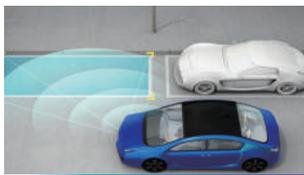
10+ Object Types

Object classification even low-height obstacles

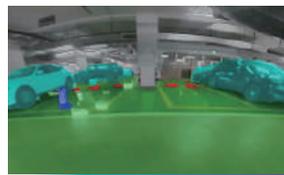
< 15cm

Detection Accuracy

Parking space detection



Object classification



From APA to 1km HPP (Home-Zone Parking Pilot)

1km

Memorized valet parking route

No Reconstruction

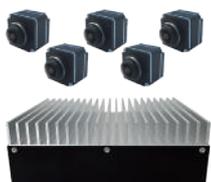
Needed for the parking lots based on vSLAM technology

<20cm

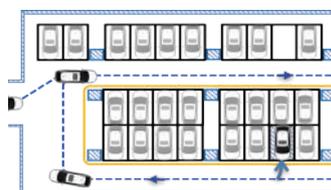
Localization accuracy

One-time Mapping

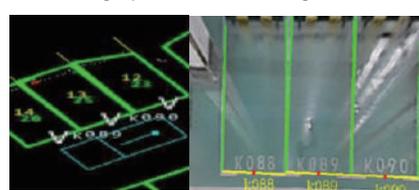
To support valet parking and summon



Autonomous circle



Parking spot number recognition



driving easier and safer



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Hsinchu, Taiwan (R.O.C.)



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