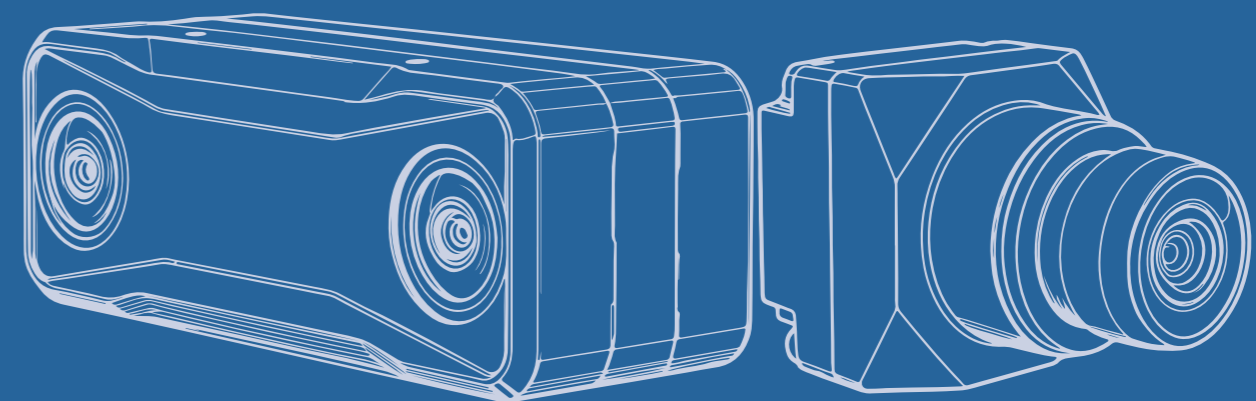




# 摄像头产品 与视觉应用方案

CAMERAS AND VISUAL APPLICATION SOLUTIONS



## 深圳市艾利光科技有限公司

SHENZHEN ALG TECHNOLOGY CO.,LTD.

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| 微信公众号 |



| 淘宝旗舰店 |

视觉领航，智驭未来  
Vision Empowers Future



10+

专利认证  
PATENT CERTIFICATION

80%+

技术研发人员  
R&D PERSONNEL

100+

企业客户  
CORPORATE CLIENT

## 企业简介 COMPANY PROFILE

### 满足汽车自动驾驶、工业自动化及机器人等视觉传感领域全流程需求

MEET THE FULL PROCESS REQUIREMENTS OF VISUAL SENSING FIELDS SUCH AS AUTOMOTIVE AUTONOMOUS DRIVING, INDUSTRIAL AUTOMATION, AND ROBOTICS.

深圳市艾利光科技有限公司成立于2020年，是一家围绕汽车自动驾驶、工业自动化及机器人等视觉传感领域，致力于传感器的设备研发、软件开发、生产制造及销售的高新技术企业。创始团队依托于多年光学开发经验积累及自研核心技术能力，艾利光科技开发了三大产品系列：GMSL摄像头、深度相机、多模态视觉，广泛应用于工业机器人、服务机器人及特种作业机器人中，赋予机器人精准的环境感知与决策能力。

Shenzhen ALG Technology Co., Ltd. was established in 2020. It is a high-tech enterprise dedicated to the research and development, software development, manufacturing, and sales of sensor equipment in the fields of automotive autonomous driving, industrial automation, and robotics. The founding team relies on years of accumulated experience in optical development and self-developed core technology capabilities. ALG-TECH has developed three major product series: GMSL cameras, depth cameras, and multimodal vision, which are widely used in industrial robots, service robots, and special operation robots, endowing robots with precise environmental perception and decision-making capabilities.

## 企业定位 CORPORATE POSITIONING

我们始终秉承以科技创新为核心、以产品质量为根本的发展思路，立足技术创新、坚守品质初心，专注研发与落地各类视觉感知应用方案，是面向全行业的专业化、综合性视觉感知解决方案提供商。

We always adhere to the development concept of technological innovation as the core and product quality as the fundamental. Based on technological innovation and adhering to the original intention of quality, we focus on researching and implementing various visual perception application solutions. We are a professional and comprehensive visual perception solution provider for the entire industry.

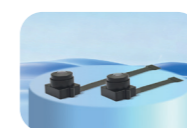
## 产品与服务 PRODUCTS AND SERVICES



GMSL摄像头  
GMSL CAMERA



双目摄像头  
STEREO CAMERA



MIPI摄像头  
MIPI CAMERA



USB摄像头  
USB CAMERA



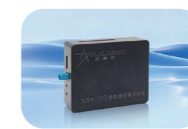
ARM平台接入方案  
ARM SOLUTION



X86架构接入方案  
X86 SOLUTION



GPS-时间/触发同步盒  
SYNCHRONIZATION BOX



USB转接盒  
USB ADAPTER BOX



具身智能  
EMBODIED  
INTELLIGENCE



低速无人车  
UNMANNED  
VEHICLE



工业自动化  
COLLABORATIVE  
ROBOT



智能配件  
SMART  
HARDWARE



自动驾驶  
AUTONOMOUS  
DRIVING



轨道交通  
RAILTRANSIT

## 合作企业 COOPERATIVE ENTERPRISE





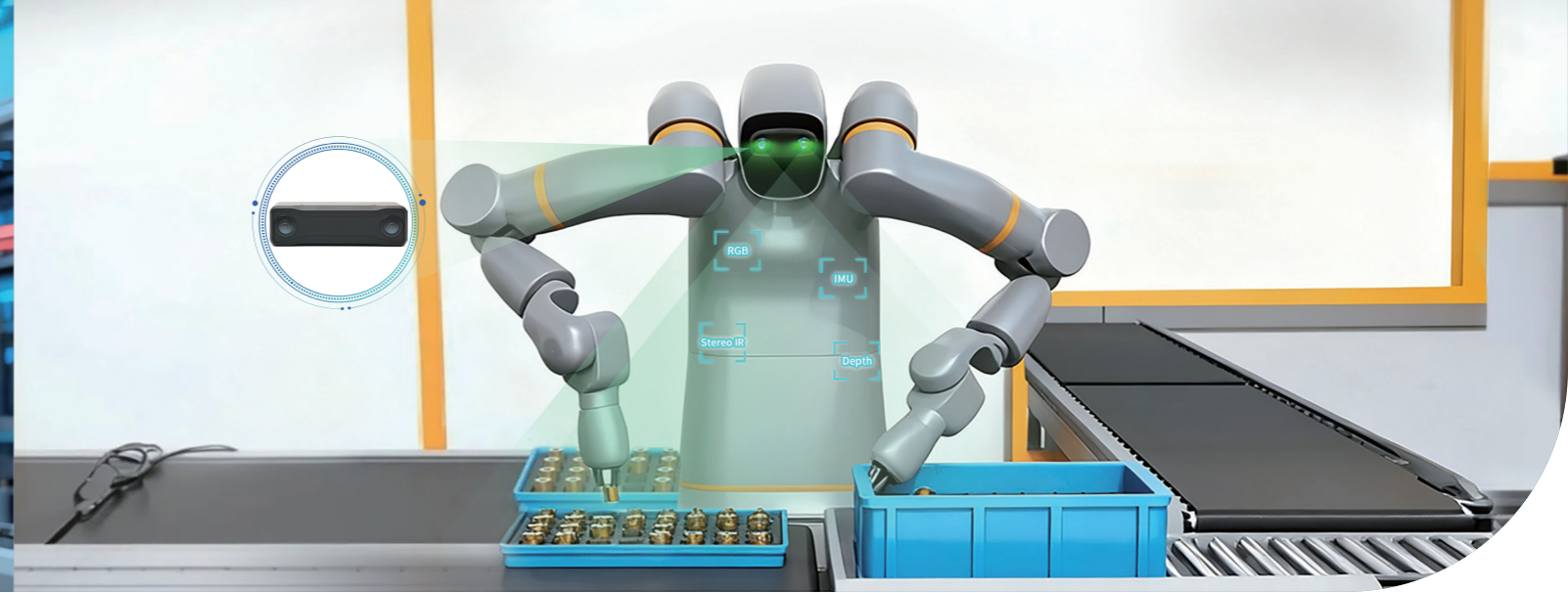
## 具身智能应用方案

### EMBODIED INTELLIGENCE APPLICATION SOLUTION

艾利光推出具身智能双目系列相机，通过双规格差异化设计，精准适配头部全局感知与腕部精细感知两大核心场景，助力机器人实现从环境建模、目标交互到精确定位与操作控制的全链路立体视觉能力，为智能作业提供可靠视觉支撑。

#### 方案特点 Features Of The Solution

- 场景化精准适配 Contextualized Precision Adaptation
- 动态环境适配 Dynamic Environment Adaptation
- 全链路立体视觉 Full-chain Stereoscopic Vision
- 易集成部署 Easy Integration Deployment



## 工业自动化应用方案

### COLLABORATIVE ROBOT APPLICATION SOLUTION

艾利光推出高性价比传感器与感知融合方案，具备高动态、低延迟、强抗干扰与易集成的特点，能有效解决传统视觉方案在传输、布线及环境适应性方面的局限，助力机器人实现稳定、精准的实时感知。

#### 方案特点 Features Of The Solution

- 低延时传输 Low Latency Transmission
- 高可靠性: High Reliability
- 高动态范围 High Dynamic Range
- 易集成部署 Easy Integration Deployment



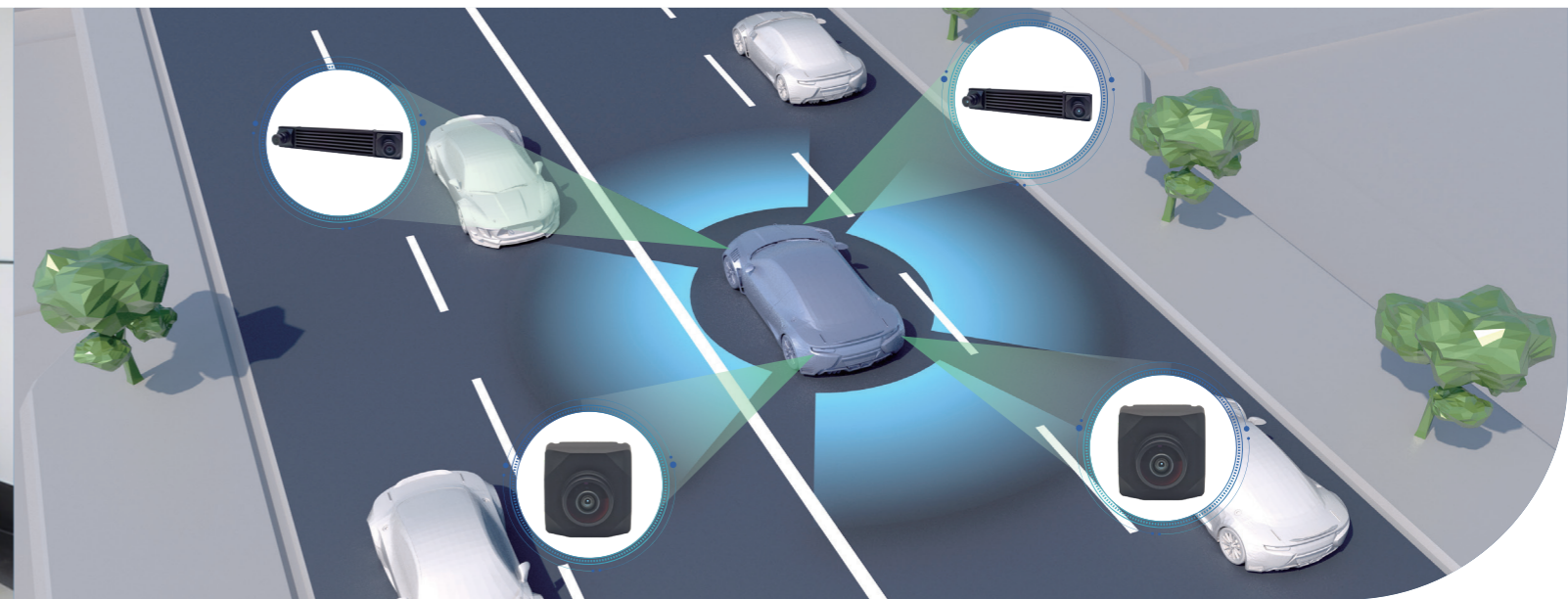
## 服务型无人车应用方案

### SERVICE ROBOT APPLICATION SOLUTION

面向园区物流、环卫、巡检等低速无人驾驶场景，艾利光推出高性价比摄像头产品及搭配方案，具备小体积、轻量化、高动态范围与超低延迟的特性，有效支持无人车在复杂环境下实现精准行驶、自主泊车与智能清扫等任务，提升作业可靠性及运行效率。

#### 方案特点 Features Of The Solution

- 轻量化设计 Lightweight Design
- 低延时传输 Low Latency Transmission
- 高动态范围 High Dynamic Range
- 多场景适配 Multi-Scenario Adaptation



## 自动驾驶应用方案

### AUTONOMOUS DRIVING APPLICATION SOLUTION

艾利光针对自动驾驶视觉传感需求，提供全方位自动驾驶L2-L4系统的摄像头产品及搭配方案，覆盖车辆各个方向实现不同距离的视觉探测，助力汽车高阶自动驾驶落地。

#### 方案特点 Features Of The Solution

- 高清大像素 High Definition Large Pixel
- 高动态范围 High Dynamic Range
- 车规级性能 Vehicle Grade Performance
- 高带宽传输 High Bandwidth Transmission
- 高防护设计 High Protection Design
- 高品质AA制程 High Quality AA Process



## 远见系列双目摄像头

### AVS SERIES GMSL CAMERA

#### 产品介绍 Product Introduction

艾利光“远见”系列双目摄像头，专为机器人、自动驾驶、工业自动化等场景提供高精度立体感知能力，具备高同步性，确保左右摄像头同步曝光，提供GMSL 2、MIPI等主流接口及多种规格型号，灵活适配各类场景需求。

ALG-TECH'S "AVS" series of stereo cameras are designed to provide high-precision stereoscopic perception capabilities for scenes such as robotics, autonomous driving, and industrial automation. They have high synchronization to ensure synchronized exposure of left and right cameras, and provide mainstream interfaces such as GMSL 2 and MIPI, as well as multiple specifications and models, to flexibly adapt to various scene needs.

#### 产品特点 Product Features

- 高性能成像  
High Performance Imaging
- 坚固结构  
Sturdy Structure
- 立体视觉  
Stereoscopic Vision
- 惯性传感  
Inertial Sensing
- 高同步性  
High Synchronization
- 便捷集成  
Convenient Integration

#### 应用场景 Application Scenarios

- 具身智能
- 协作机械臂
- 低速无人车
- 四足机器狗

远见系列 AVS SERIES产品规格					
产品型号 Model	分辨率 Resolution	基线距离 Baseline	输出帧率 Frame Rate	输出格式 Data Format	传输接口 Interface
AVS-212A	1920 (H)X1280 (V)	120mm	30 fps	YUV422-8bit	GMSL 2
AVS-213C	1920 (H)X1536 (V)	160mm	30 fps	YUV422-8bit	GMSL 2
AVS-218C	3840 (H)X2160 (V)	200mm	30 fps	YUV422-8bit	GMSL 2
AVS-111C	1280 (H)X800 (V)	50mm	30/60 fps	YUV422-8bit	GMSL 2
AVS-115D	2560 (H)X1920 (V)	65mm	60 fps	YUV422-8bit	GMSL 2

## 利见系列GMSL摄像头

### ALI SERIES GMSL CAMERA

#### 产品介绍 Product Introduction

艾利光“利见”系列GMSL摄像头，专为自动驾驶、低速无人车及智能机器人打造，基于高性能传感器，提供多种规格型号，灵活适配各类场景需求；内置ISP芯片集成实时降噪、色彩校准等图像处理技术，为智能感知系统提供稳定、高质量的视觉解决方案。

ALG-TECH'S "ALI" series GMSL cameras are specially designed for autonomous driving, low-speed unmanned vehicles, and intelligent robots. Based on high-performance sensors, they provide multiple specifications and models to flexibly adapt to various scene requirements; The built-in ISP chip integrates real-time noise reduction, color calibration and other image processing technologies, providing stable and high-quality visual solutions for intelligent perception systems.

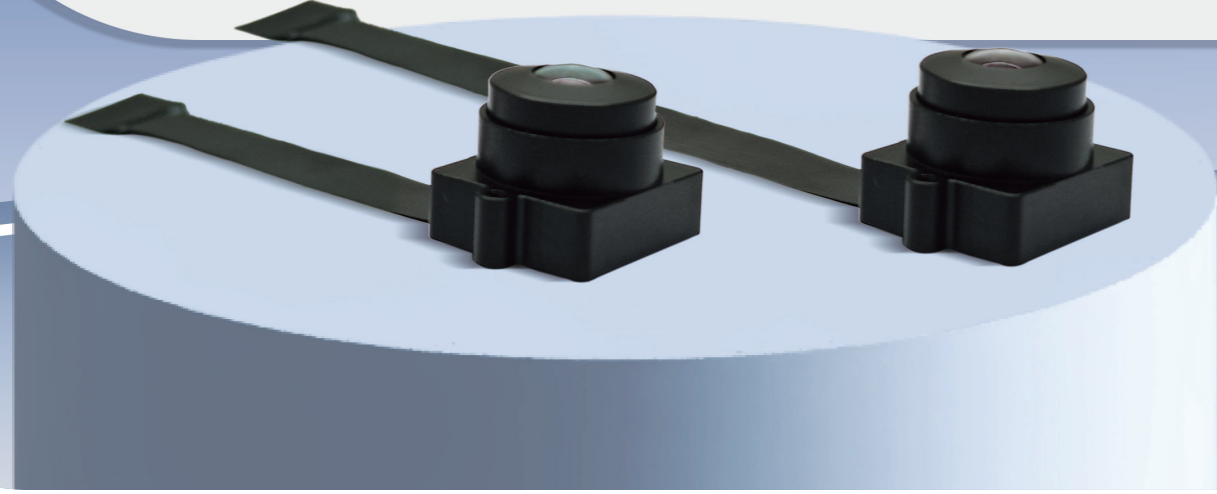
#### 产品特点 Product Features

- 高分辨率成像  
High-Resolution Imaging
- 多传感器融合感知  
Multi-Sensor Fusion Perception
- CMOS低光增强  
CMOS Low-Light Enhancement
- 宽温域运行  
Wide-Temperature Operation
- 超120dB高动态范围  
Over 120dB High Dynamic Range
- LED抗频闪功能  
LED Anti-Flicker Function

#### 应用场景 Application Scenarios

- 自动驾驶
- 具身智能
- 低速无人车
- 轨道交通

利见系列 ALI SERIES产品规格						
产品名称 Name	分辨率 Resolution	输出帧率 Frame Rate	输出格式 Data Format	感光芯片 Sensor	传输接口 Interface	防护等级 Protection
ALIX8B-Z 8M	3840 (H)X 2160 (V)	30 fps	YUV422-8bit	OX08B40	GMSL 2	IP67
ALI031-ZH 3M	1920 (H)X 1536 (V)	30 fps	YUV422-8bit	ISX031	GMSL 2	IP67
ALI360-YH 3M	1920 (H)X 1536 (V)	30 fps	YUV422-8bit	SC360AT	GMSL 2	IP67
ALIX3C-Z 2M	1920 (H)X 1080 (V)	30 fps	YUV422-8bit	OX03C10	GMSL 2	IP67
ALI234-X 2M	1920 (H)X 1200 (V)	30/60 fps	YUV422-8bit	AR0234	GMSL 2	IP67
ALI121-Y 1M	1280 (H)X 960 (V)	25 fps	YUV422-8bit	SC121AT	GMSL 2	IP67
ALI145-X 1M	1280 (H)X 800 (V)	30 fps	YUV422-8bit	AR0145	GMSL 2	IP67



## 敏见系列MIPI摄像头

### AMP SERIES MIPI CAMERA

#### 产品介绍 Product Introduction

艾利光“敏见”系列MIPI摄像头模组，是针对消费级智能设备推出的高性能嵌入式模组，具备易集成与高质量成像特性，内置ISP芯片集成曝光、白平衡、降噪及HDR合成等实时图像处理；提供多种视场角与分辨率规格，灵活适配导航避障、环境感知与广角监控等场景需求。

ALG-TECH'S "AMP" series MIPI camera module is a high-performance embedded module designed for consumer grade smart devices. It has the characteristics of easy integration and high-quality imaging, and is equipped with an ISP chip for real-time image processing such as exposure, white balance, noise reduction, and HDR synthesis; Provide multiple field of view and resolution specifications, flexibly adapting to scene requirements such as navigation obstacle avoidance, environmental perception, and wide-angle monitoring.

#### 产品特点 Product Features

- 大光圈  
Large Aperture
- 高动态  
High Dynamics
- 内置ISP  
Built In ISP
- 高兼容性  
High Compatibility

#### 应用场景 Application Scenarios

- 无人机
- 智能割草机
- 家庭服务机器人
- AIoT智能家居

敏见系列 AMP SERIES产品规格					
产品名称 Name	分辨率 Resolution	输出帧率 Frame Rate	输出格式 Data Format	传输接口 Interface	防护等级 Protection
AMP360-C 3M	1920 (H)X1536 (V)	30 fps	YUV422-8bit	MIPI CSI-2	IP67
AMP121-C 1M	1280 (H)X960 (V)	25 fps	YUV422-8bit	MIPI CSI-2	IP67



## 恒见系列USB摄像头

### AUL SERIES USB CAMERA

#### 产品介绍 Product Introduction

艾利光“恒见”系列工业视觉USB摄像头，是面向无人车、物体识别及智能感知系统的高性能工业相机模组，支持 USB3.0 / USB2.0 传输标准，具备高带宽与出色兼容性，提供多种分辨率与帧率选项，灵活适配各类场景需求。

The "AUL" series industrial vision USB camera from ALG-TECH is a high-performance industrial camera module designed for unmanned vehicles, object recognition, and intelligent perception systems. It supports USB 3.0/USB 2.0 transmission standards, has high bandwidth and excellent compatibility, provides multiple resolution and frame rate options, and flexibly adapts to various scene needs.

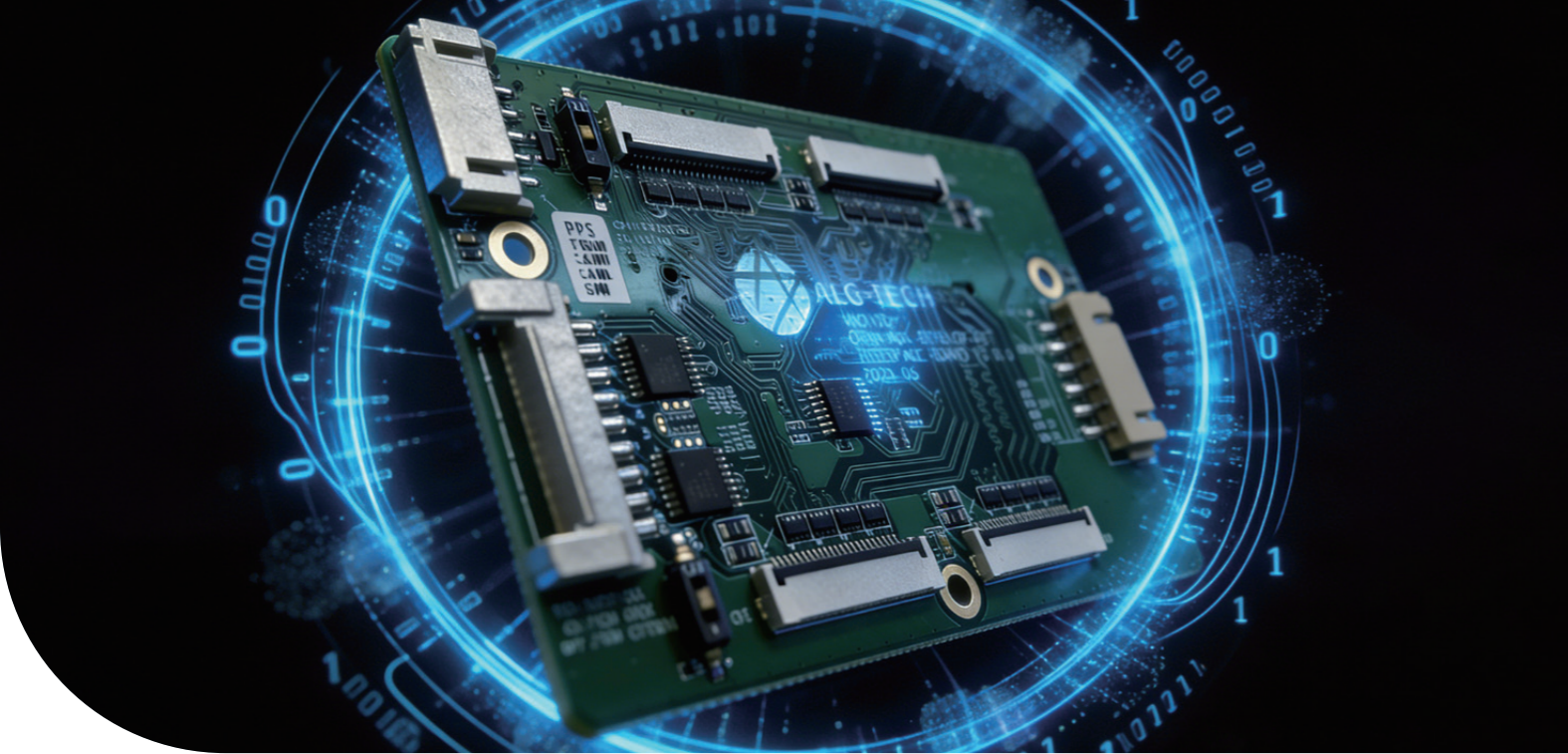
#### 产品特点 Product Features

- 工业级可靠性  
Industrial Grade Reliability
- 高兼容性  
High Compatibility
- 卓越图像质量  
Excellent Image Quality
- 宽动态范围  
Wide Dynamic Range

#### 应用场景 Application Scenarios

- 农业机械
- 货运机器人
- 四足机器人
- 安防巡检

恒见系列 AUL SERIES产品规格					
产品名称 Name	分辨率 Resolution	输出帧率 Frame Rate	输出格式 Data Format	传输接口 Interface	防护等级 Protection
AUL031-Y 3M	1920 (H)X1536 (V)	30 fps	YUV422-8bit	USB3.0	IP67
AUL268-S 2M	1920 (H)X1080 (V)	30 fps	YUV422-8bit	USB2.0	IP67



## ARM平台接入方案

### ARM PLATFORM ACCESS SOLUTION

针对ARM架构，在NVIDIA Jetson AGX Orin、树莓派5、瑞芯微RK3588以及地瓜机器人生态等平台进行深度适配，支持多路GMSL 摄像头接入，并可实现微秒级同步触发。配合艾利光摄像头，提供完整的V4L2驱动及易用SDK，帮助开发者在智能机器人、工业检测、自动驾驶、智能交通等领域快速构建高精度、高可靠的视觉感知系统。

For ARM architecture, it has been deeply adapted to platforms such as NVIDIA Jetson AGX Orin, Raspberry Pi 5, Rockchip RK3588, and the Groundhog Robotics ecosystem, supporting multi-channel GMSL camera input and enabling microsecond-level synchronous triggering. When paired with Elysian Optics cameras, it provides a complete V4L2 driver and an easy-to-use SDK, helping developers quickly build high-precision, high-reliability visual perception systems in fields like intelligent robotics, industrial inspection, autonomous driving, and smart transportation.

#### 适配设备 Adapted Equipment



Jetson AGX Thor  
视觉接入方案



Jetson AGX Orin GMSL  
视觉开发套件



Raspberry Pi 5  
开发板



瑞芯微  
RK3588开发板

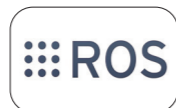


地瓜机器人  
RDK S100开发板



地瓜机器人  
RDK X5开发板

#### 支持开源生态及通用协议 Open-Source And Universal Protocols



## X86架构接入方案

### X86 PLATFORM ACCESS SOLUTION

艾利光针对 X86 架构在工控机、服务器等高性能计算场景的应用，提供以 PCIE 采集卡为核心的视觉接入方案，支持多路 GMSL 摄像头高带宽同步采集与无损传输，兼容 Windows/Linux 系统并开放二次开发接口，适配自动驾驶、工业自动化等领域的实时视觉数据需求。

ALG-TECH offers a vision access solution centered around PCIE acquisition cards for X86 architecture applications in high-performance computing scenarios such as industrial control computers and servers. It supports multi-channel GMSL cameras for high-bandwidth synchronous acquisition and lossless transmission, is compatible with Windows/Linux systems, and provides open secondary development interfaces to meet real-time vision data requirements in fields like autonomous driving and industrial automation.

#### 适配设备 Adapted Equipment



X86工控机  
Industrial PC

#### 配件 Accessories



多功能图像采集卡  
IMAGE CAPTURE CARD



GPS-时间/触发同步盒  
SYNCHRONIZATION BOX



SerDes摄像头USB转接盒  
SERDES CAMERA USB ADAPTER BOX