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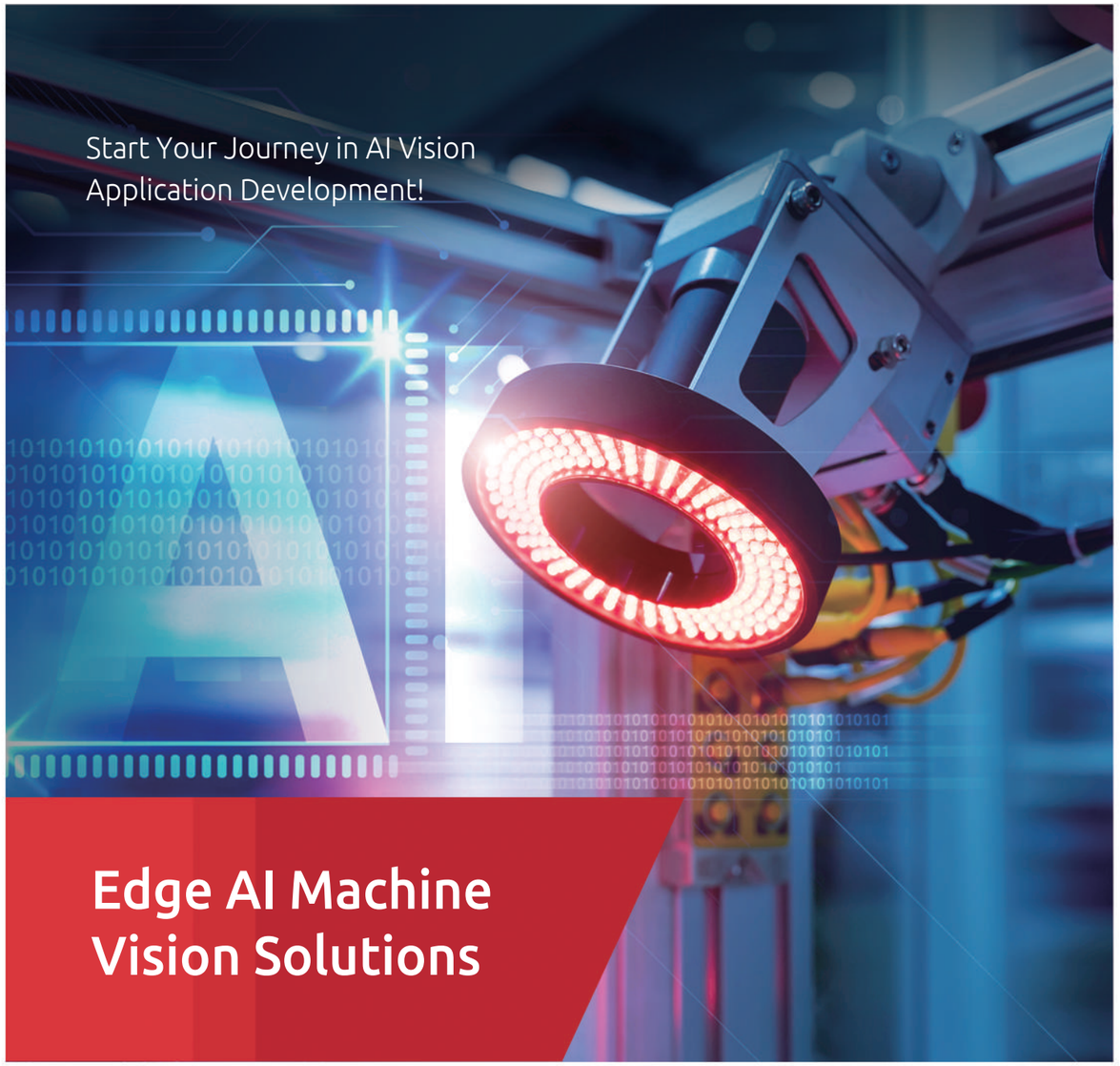
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ADLINK
LEADING EDGE COMPUTING



Edge AI Machine Vision Solutions



Product Brochure

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Start Your Journey in AI Vision Application Development !

Based on more than 25 years' experience in industrial automation and machine vision applications, ADLINK offers a complete spectrum of AI-enabled machine vision platforms with diverse computing options including AI-enabled vision platforms, smart cameras, and module to inference servers featuring highly optimized heterogeneous edge computing, built-in deep learning modules, motion control functions, and real-time connectivity to dramatically reduce AI developer efforts on time-consuming processes, including integration, validation and development. ADLINK empowers you through your journey in AI vision application development!

Powerful Alliances and Partnerships

Why ADLINK



Simplified System Integration

- Pre-installed and optimized software shortens development time
- Highly integrated design reduces compatibility and size limitation issues



Optimized for Vision Applications

- Built-in high quality camera sensor module/ interface provides advanced image quality
- Accurate FPGA based DI/O design, ideal for various machine vision applications



Worry-free Reliability

- Aligned with regulatory labs to help support necessary agency approvals
- Standards compliance for Humidity, Altitude, EMC, Temperature, Vibration, SALT spray and Shock



Capabilities

- Local access to complete set of engineering disciplines and design capabilities
- Fast AI vision customization helps you create your ideal products within 1 month

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Edge AI Vision Solutions

ADLINK offers comprehensive ready to deploy AI vision solutions to accelerate the implementation of smart manufacturing in industry



A Fab Clean SOP Compliance
- Cleaning procedure management
- Reduces dust to improve production quality

B Personal Protective Equipment Detection
- Secures staff safety
- Real-time warning for non-compliance instances

C AI AOI
- Improves inspection accuracy and quality control
- Reduce manpower cost and error rate

D Assembly SOP Compliance
- Regulatory Compliance and Quality Assurance
- Reduces downtime and maximizes efficiency

E Robot hazard prevention
- Unauthorized access detection
- Fast and flexible virtual fence deployment

F Smart Pallet
- Improves order accuracy
- Connects conventional pallets

G Robot Collaboration
- Increased Human & Robot Efficiency
- End-to-end communication

H Hazmat offload safety management
- Protective equipment detection
- Sends alert when non-compliance protocol is triggered

Product Solutions

Edge Vision Analytics Software \ page 11

AI Vision System \ page 13

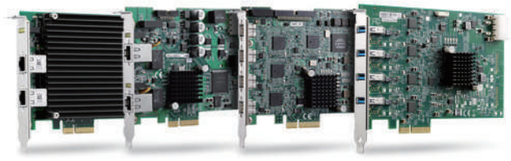
AI Smart Camera \ page 17

Frame Grabber \ page 25

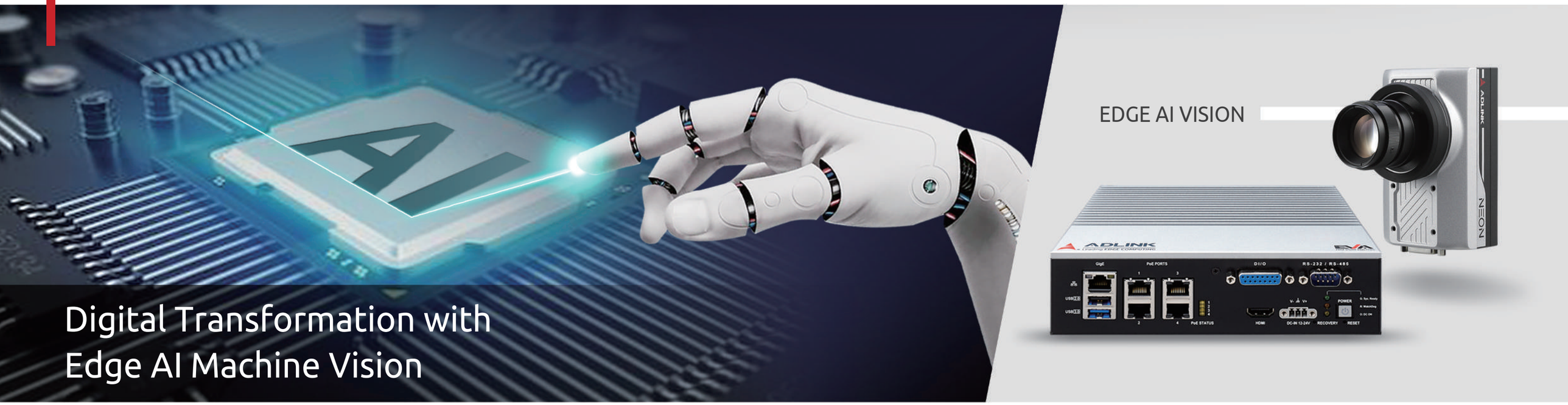






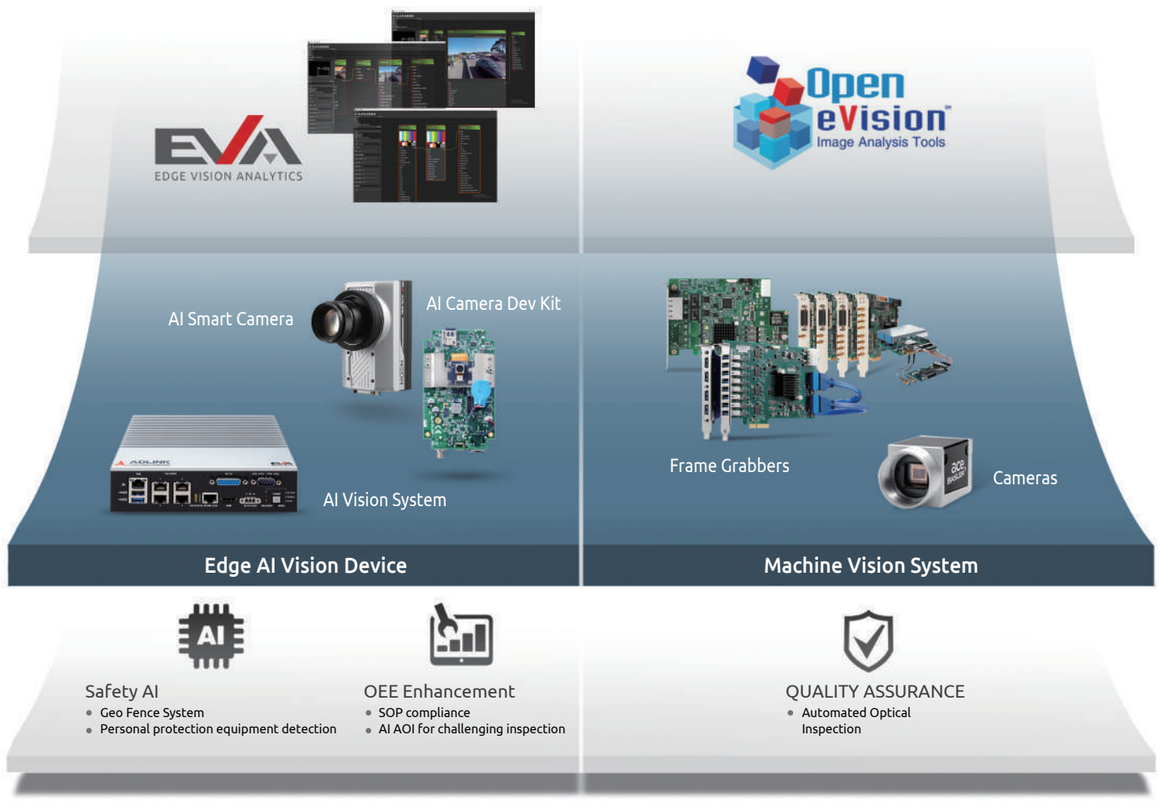


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Digital Transformation with Edge AI Machine Vision

Comprehensive Machine Vision Solutions



Targeting a Wide Range of Industries

ADLINK AI Vision Solution is ideal for visual inspection, object detection, automatic number plate recognition, and behavior monitoring, with all the intensive processing done on the device. Labor-intensive industries such as food sorting, logistics, packaging, and farming can all benefit. The various AI Vision Solution performs product sorting and classification tasks, and quality assurance.





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Application Stories

*Ready-to-use edge solution kits for above applications are available on ADLINK's website:



AI-based Robot Hazard Prevention

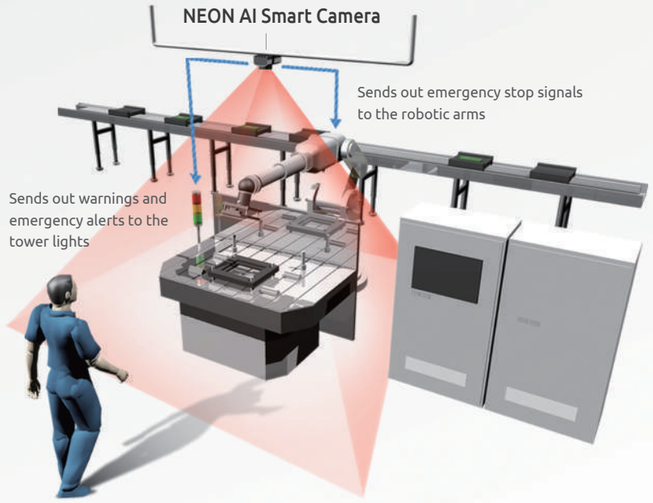
Machine vision-based robot hazard protection with IP surveillance and AI NVR prevents hazards better than traditional large safety light curtains. Now, industrial smart cameras along with mature AI algorithms simplify the complex cabling and quality network bandwidth requirements.

Solution Features

- Easy cabling, only requires a cable to connect NEON AI smart camera and robot arms.
- Low space and bandwidth requirements
- Minimal delays with easy integration

Customer Benefits

- Hazard zone indication markings on the floor free floor space for production
- Image analysis done on the NEON smart camera triggers robot arms to stop upon zone intrusion
- Simple deployment and moderate network quality requirements allow for easy maintenance.





Fab Clean SOP Compliance

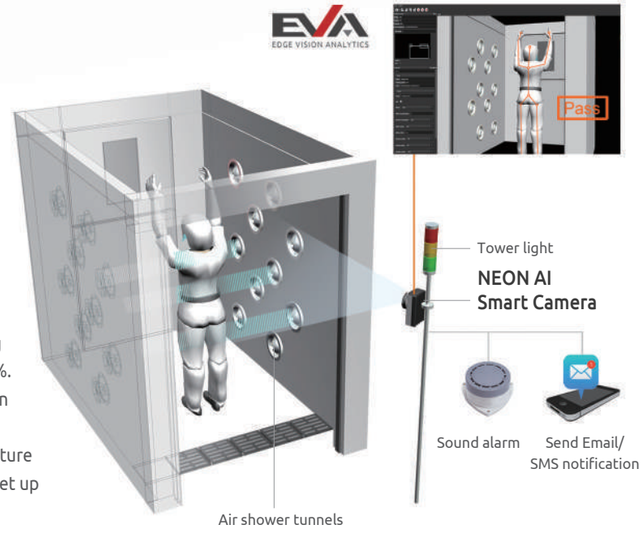
High-precision semiconductor factories use air showers to remove surface-deposited particles from personnel prior to them entering a cleanroom. Using AI to detect whether an employee's behavior complies with SOP can reduce the amount of dust by 80% and improve production quality.

Solution Features

- All-in-one device integrating camera and computer simplifies cabling and minimizes space requirements.
- Easy installation with VESA mounting interface eliminates the need to drill holes.
- Passing rigorous environmental certifications proves the high reliability of a fanless design.

Customer Benefits

- Increased compliance with cleaning regulations and preventing dust from entering cleanrooms, decreasing dust volume by 80%.
- Real-time three-color warning indicators and voice warnings can immediately correct staff who do not adhere to SOPs.
- Users can complete all preliminary procedures, from image capture and verification to adding algorithms, in two weeks to rapidly set up and launch systems.





AI-Enabled Cargo Tank Hazmat Offload Safety Management

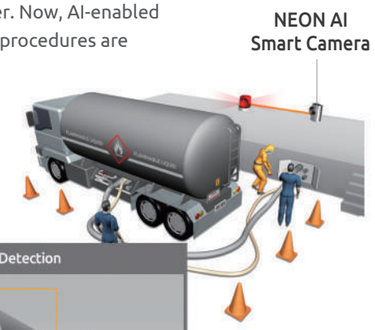
Offloading hazardous chemicals for semiconductor production is dangerous. Safety precautions make that process smoother and safer. Now, AI-enabled smart cameras can ensure cargo tank hazmat offloading procedures are followed and protect against potential dangers.

Solution Features

- All-in-one standalone AI smart camera with integrated NVIDIA® Jetson Xavier NX, image sensor, and optimized software environment
- Industrial-grade DIO for frictionless hardware installation, enabling the addition of visual and audio warning devices.
- Included EVA SDK provides a no-code/low-code visual interface for creating an AI pipeline and includes a suite of plugins that can cut development time to just two weeks.

Customer Benefits

- Flexibly define restricted or dangerous areas and detect unauthorized personnel access to define restricted areas without hardware replacement
- Real-time visual or audio alarm if personnel enter dangerous areas without protective equipment
- Flexible and customized AI detection capabilities including safety perimeter, safety gear, vehicle stability, and more.





Personal Protective Equipment Detection

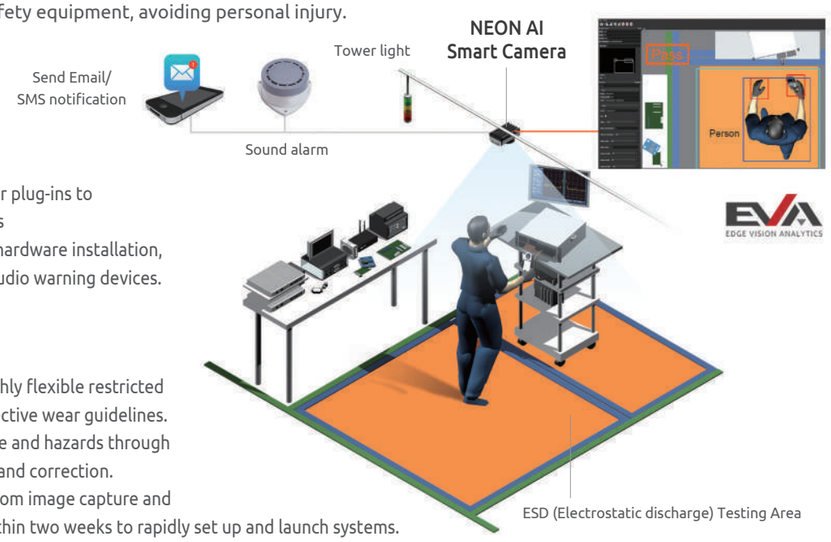
In order to protect personnel in the field who need to access and operate high-voltage equipment, a foolproof safety system is necessary. In this use case, you can learn how EVA uses AI vision to immediately detect whether an operator is wearing the correct safety equipment, avoiding personal injury.

Solution Features

- All-in-one device minimizes cabling, integration and installation effort
- GUI-based EVA SDK provides modular plug-ins to accelerate AI development schedules
- Industrial-grade DIO for frictionless hardware installation, enabling the addition of visual and audio warning devices.

Customer Benefits

- Improved testing processes with highly flexible restricted areas and more clearly defined protective wear guidelines.
- Reduced instances of non-compliance and hazards through real-time warning, violation analysis and correction.
- Fast and trouble-free deployment, from image capture and verification to adding algorithms, within two weeks to rapidly set up and launch systems.



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Application Stories

*Ready-to-use edge solution kits for above applications are available on ADLINK's website:



Fast Cookie Defect Inspection

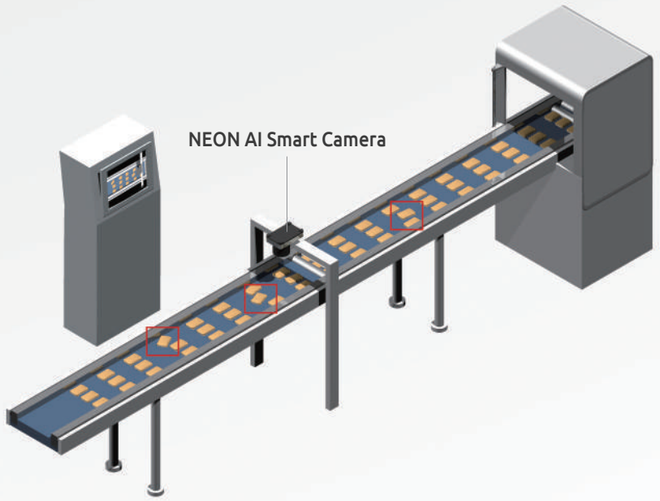
This solution uses a deep learning approach to automatically detect cookie surface defects using the NEON-2000-JNX with EVA SDK. Compared to traditional human inspectors, the ADLINK edge AI vision solution can lower error rates, leading to a large increase in productivity as well as a greater improvement in defect detection accuracy.

Solution Features

- Easy cabling—requires only a single cable to connect a NEON AI smart camera
- Up to 6 types of defects can be detected: skew, offset, touch, twist, spillage and topless
- Instant inspection of up to hundreds of product areas

Customer Benefits

- Minimal changes to existing architecture
- Increased productivity and defect detection accuracy
- Reduced labor costs and error rates





Easily Maintained AI-enabled Traffic Light Control System

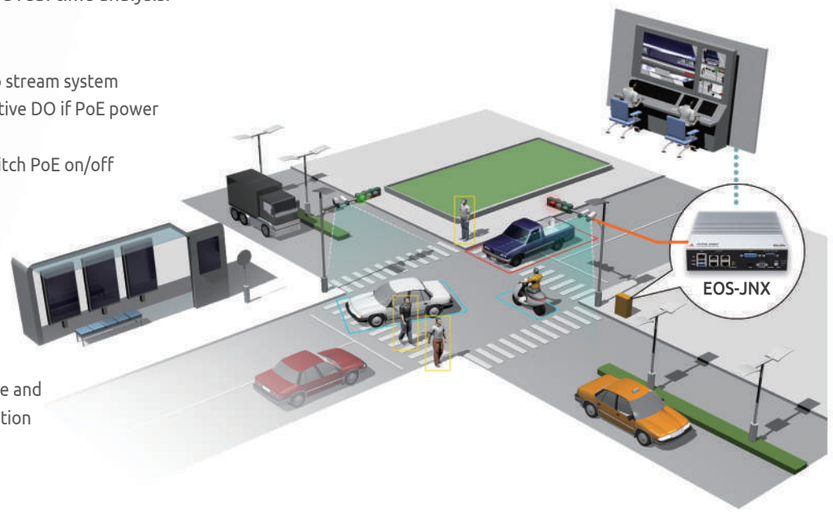
This solution added edge AI capabilities to existing traffic monitoring systems with minimal changes to the existing architecture. In cooperation with a smart transportation solution provider, the traffic sign recognition AI algorithm combined with pedestrian and vehicle detection at intersections leveraged ADLINK's EOS-JNX-I vision system for edge inference, and real-time analysis.

Solution Features

- No interruption to the existing video stream system
- Provides proactive alerts through active DO if PoE power is unexpectedly cut off
- Smart PoE function can remotely switch PoE on/off

Customer Benefits

- Minimal changes to the existing architecture
- Non-stop monitoring with minimal downtime
- Lowered inconvenience, maintenance and eliminated the risks of manual operation





Smart Pallets for Smart Warehouses

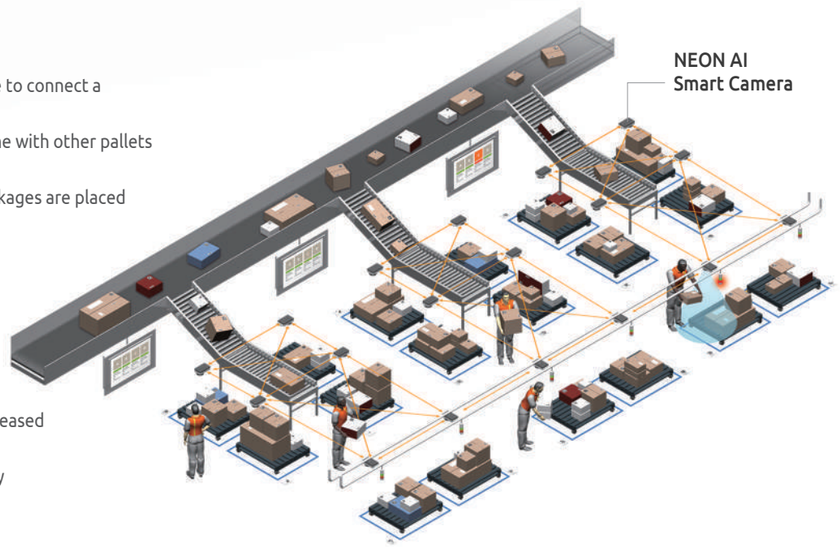
ADLINK Edge™ Smart Pallet transforms warehouse logistics in a non-disruptive way by replacing manual barcode scanning and traditional quality assurance with a machine vision AI system to optimize and automate warehouse fulfillment and logistics, improving accuracy and efficiency without costly disruption to existing operations.

Solution Features

- Easy cabling—requires only a single cable to connect a NEON AI smart camera and robot arms.
- Allows pallets to communicate in real-time with other pallets and employees in the warehouse.
- Real-time visual or audio alerts when packages are placed on the wrong pallet

Customer Benefits

- Reduced spoilage and product replacement costs and increased productivity
- Created safer work environment and increased pallet profitability
- Autonomous mobility increases efficiency





Robotic Welding Defect Detection

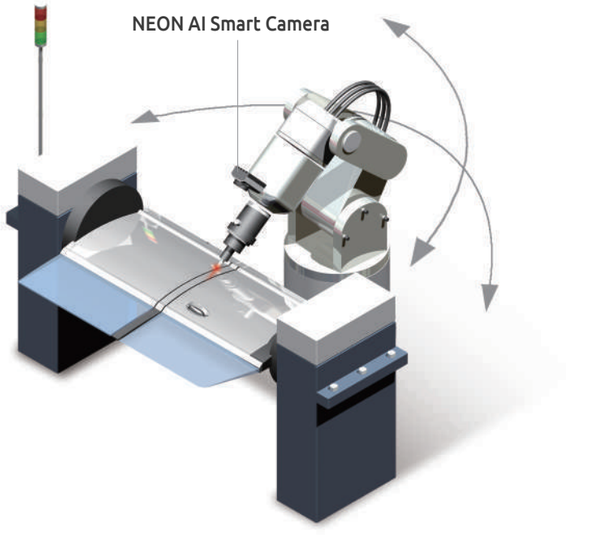
The automated defect-detection solution for robotic welding in heavy equipment manufacturing uses machine vision AI to increase output, improve quality and reduce costs. The system detects welding porosity defects and stops the welding process performed by the robot when a defect is identified in real-time at the edge and has proven 97% accurate in detecting defects.

Solution Features

- Automated defect detection to alleviate skilled-workforce shortages
- Uses edge computing for fast decision making and reduced latency
- Seamless software integration with the Intel® Distribution of OpenVINO™

Customer Benefits

- Automated QA processes to improve quality, reduce costs and increase output
- Weld porosity detection with up to 97% accuracy halts bad welds in real-time
- Reduced delays, waste, and costs, and increased production uptime



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Make Edge AI Vision Easy for Your Business



Facilitating AI-Enabled Factories

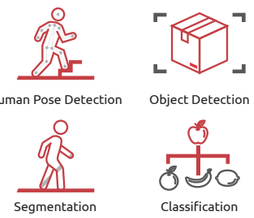
Fast and Intuitive

EVA SDK is edge computing visual analysis software supporting single source AI machine vision project deployment across different hardware platforms. EVA SDK is embedded in ADLINK leading edge AI devices to accelerate edge AI application development in smart manufacturing.

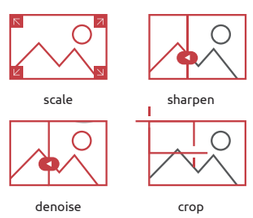
Leverage the Benefits of an All-in-One Edge AI Vision Platform



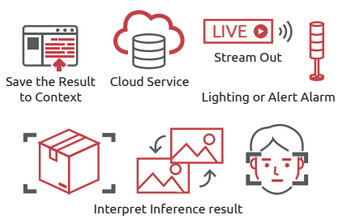
01 Extensive image acquisition capability reduces integration effort



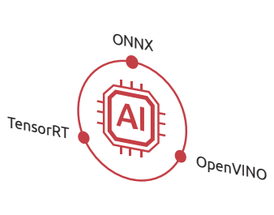
02 Optimized AI inference models reduce development TCO.



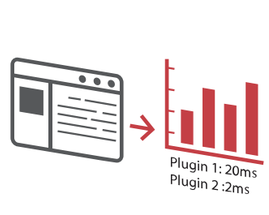
03 Multiple image pre-processing plug-ins enhance image quality quickly and easily.



04 High connectivity from edge to cloud with rich output.



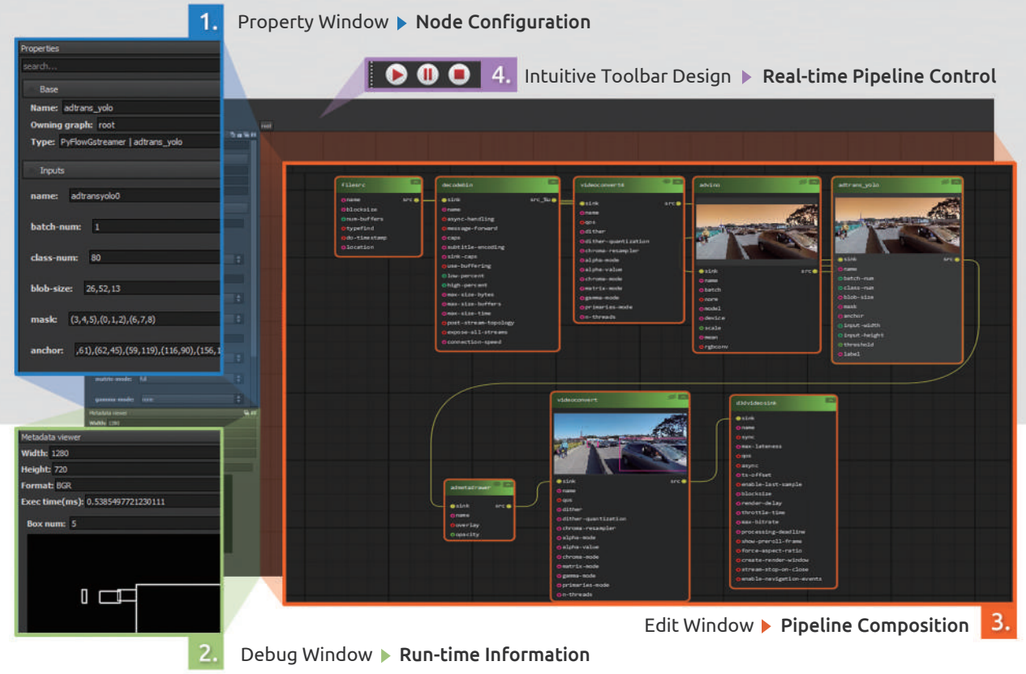
05 Supports hybrid AI inference engines simultaneously in a pipeline.



06 Real-time pipeline execution result visualization makes editing and debugging easier.

Low-code/no-code EVA SDK Simplifies Edge AI Vision PoC

- Allows developers to select from more than 10 cameras, with no effort required to learn camera APIs
- Simplifies integration with drag-and-drop GUI, allowing easy switching of image sources, image processing adjustment, and AI models, shortening the development time
- Supports review function of each step from image capturing, image pre-processing to AI inference, so that users can easily verify and debug if necessary, shorting the time to deployment



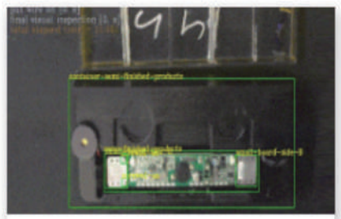
Targeted Applications



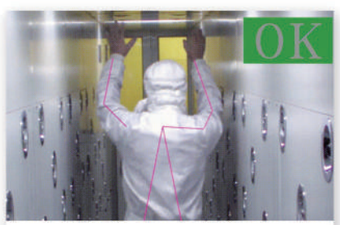
Hazmat offload safety management



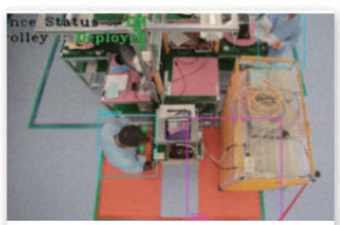
Robot Hazard Prevention



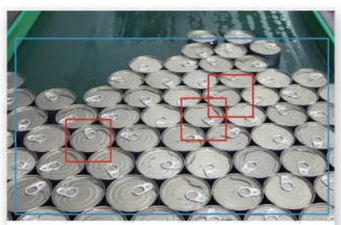
Assembly SOP Compliance



Fab Clean SOP Compliance



Personal Protective Equipment Detection



Quality control in Food & Beverage/FMCG Industry

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Ultra Reliable AI Vision System Designed for edge AI Applications



intel partner Titanium

NVIDIA PREFERRED PARTNER

Why Smart PoE AI Vision System

The EOS-JNX series is a hassle-free, compact, reliable, and fully integrated vision system for all Edge AI applications, processing real-time visual intelligence at the edge with outstanding hardware design and ready-to-deploy software tools.

Smart PoE Management

API provided for switching PoE on/off to reset the camera remotely, lower the inconvenient and risky of manual operation

PoE Loss Detection

Provides proactive alerts through active DO if PoE power is unexpectedly cut off, reducing downtime.

Edge AI Computing

Empowering AI at the Edge for various AI vision applications with NVIDIA Jetson Xavier NX

Fast Edge AI PoC Deployment

GUI based no-code platform EVA SDK supported for fast kick-starting AI vision applications.

Born for AI Surveillance

EOS-JNX-I

ONVIF®



Dedicated bandwidth of 1Gb per channel with 100m cable validation for high accuracy, high speed AI Vision applications

Active DO provides real-time alerts via trigger connected visual or audio warning device

100% ONVIF compliance and 1Gb uplink port for high NVR/Camera connectivity and reduced cabling

Special power design makes the video stream and PoE work continuously even if the EOS-JNX-I crashes or reboots.



Optimized for AI AOI

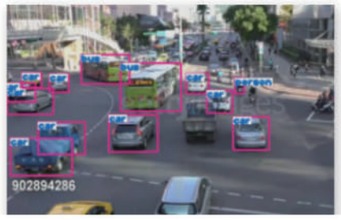
EOS-JNX-G

GiGE VISION

Targeted Applications



AI Surveillance and Security



AI Traffic Management and Vehicle Parking



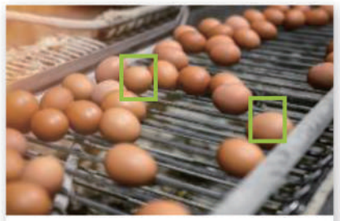
AI Face Detection



Aerial Monitoring



AI Waste Collection and Waste Disposal Management



Challenging AOI

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EOS AI Vision System Selection Guide

NVIDIA Based



Model Name	EOS-JNX-I
System Core	
Platform	Nvidia® Jetson Xavier™ NX
Processor	6-core NVIDIA Carmel ARM® v8.2 64-bit CPU 6 MB L2 + 4 MB L3
GPU	NVIDIA Volta architecture with 384 NVIDIA CUDA® cores and 48 Tensor cores
Memory	8 GB 128-bit LPDDR4
eMM	16G
Front Panel I/O Interface	
Ethernet	1x GigE w/o PoE
PoE Port 1~4 (Total 60W)	4x PoE ports (30W max. per channel, 802.3at) for IP Camera (10M/100M)
Uplink Port	1Gb NVR connection
USB Port	1x USB2.0, 1x USB3.0
Graphics Output	1x HDMI 1.4
Serial Port	1x RS-232 / RS-485
Digital I/O	D-sub 15-pin (expandable to 37-pin DIO board) 4-ch D I/O with isolation
Rear Panel I/O Interface	
microSD Slot	1x microSD slot (OS boot from microSD card, pre-installed 64G)
Micro USB	1x Micro USB (to flash Jetson NX)
Wafer Connector	For System Flash with Jumper
Internal I/O Interface	
M.2 2280 slot	M key, and support for B+M key PCIe (Gen2 x1) SSD
M.2 2230 slot	E key, and support for A+E key PCIe or USB devices
Internal USB	1x USB2.0 (for license protection)
Power	
DC Input	DC Input DC 12~24V
Fail Reset	Reset and Recovery Buttons
PoE Switch	PoE initial mode setup
Mechanical	
Dimensions	187.5(W) x 149.5(D) x 55.25(H) mm
Weight	1.85kg
Mount	Supports Wall Mount & Din Rail Mount
Environmental	
Operating Temperature	-20°C to 70°C (w/ 0.6m/s airflow) PoE full load and Xavier NX @ max. 20W: max. 50°C PoE full load and Xavier NX @ max. 15W: max. 60°C PoE full load and Xavier NX @ max. 10W: max. 70°C
Storage Temperature	-40°C to 85°C
Humidity	40% to 95% (non-condensing)
Vibration	Operating, 5-500 Hz, 5 Grms, 3 axes
Shock	Operating, 11ms duration, 30G, half sine, 3 axes
ESD	Contact ± 4kV, Air ± 8kV
EMC	CE and FCC Class A (EN61000-6-4/ 6-2 EN61000-6-3/ 6-1)
Safety	UL(62368) and CB



Model Name	EOS-JNX-G
System Core	
Platform	Nvidia® Jetson Xavier™ NX
Processor	6-core NVIDIA Carmel ARM® v8.2 64-bit CPU 6 MB L2 + 4 MB L3
GPU	NVIDIA Volta architecture with 384 NVIDIA CUDA® cores and 48 Tensor cores
Memory	8 GB 128-bit LPDDR4
eMM	16G
Front Panel I/O Interface	
Ethernet	1x GigE w/o PoE
PoE Port 1~4 (Total 60W)	4x PoE ports (30W max. per channel, 802.3at) for GigE Camera (1Gb)
Uplink Port	No
USB Port	1x USB2.0, 1x USB3.0
Graphics Output	1x HDMI 1.4
Serial Port	1x RS-232 / RS-485
Digital I/O	D-sub 15-pin (expandable to 37-pin DIO board) 4-ch D I/O with isolation
Rear Panel I/O Interface	
microSD Slot	1x microSD slot (OS boot from microSD card, pre-installed 64G)
Micro USB	1x Micro USB (to flash Jetson NX)
Wafer Connector	For System Flash with Jumper
Internal I/O Interface	
M.2 2280 slot	M key, and support for B+M key PCIe (Gen2 x1) SSD
M.2 2230 slot	E key, and support for A+E key PCIe or USB devices
Internal USB	1x USB2.0 (for license protection)
Power	
DC Input	DC Input DC 12~24V
Fail Reset	Reset and Recovery Buttons
PoE Switch	PoE initial mode setup
Mechanical	
Dimensions	187.5(W) x 149.5(D) x 55.25(H) mm
Weight	1.85kg
Mount	Supports Wall Mount & Din Rail Mount
Environmental	
Operating Temperature	-20°C to 70°C (w/ 0.6m/s airflow) PoE full load and Xavier NX @ max. 20W: max. 50°C PoE full load and Xavier NX @ max. 15W: max. 60°C PoE full load and Xavier NX @ max. 10W: max. 70°C
Storage Temperature	-40°C to 85°C
Humidity	40% to 95% (non-condensing)
Vibration	Operating, 5-500 Hz, 5 Grms, 3 axes
Shock	Operating, 11ms duration, 30G, half sine, 3 axes
ESD	Contact ± 4kV, Air ± 8kV
EMC	CE and FCC Class A (EN61000-6-4/ 6-2 EN61000-6-3/ 6-1)
Safety	UL(62368) and CB

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All-in-One AI Industrial Smart Camera for the Edge

Simplified System Integration

A MIPI sensor and NVIDIA® Jetson AI Box is a complex solution. The camera lens requires a large enclosure, and cables create compatibility and reliability issues. The NEON combines all the necessary parts into an all-in-one package with pre-installed and optimized software environment, eliminating compatibility issues, speeding up installation, and reducing maintenance.



OpenCV | pylon | ubuntu | NVIDIA JetPack™

8GB LPDDR4/32GB eMMC

6 Leading image sensor options

700g

123.3 X 77.5 X 66.81 mm

Compact and Powerful

Similar size to an smartphone, designed for edge vision applications



Worry-free for Reliability Issues

By solving the issues of EMC/EDS/vibration/thermal, compatibility of various interfaces, image drops caused by fault camera settings, and the space limit, NEON Series AI smart camera can provide the high reliability and optimized performance compare to other AI solution on the market. By using the compact and ready-to-use NEON smart cameras, AI developers can avoid those hassles and speed up the time to market.

Hardware verified

Storage Temperature
-20°C to 70°C

Operating Temperature
0°C to 45°C

ESD
Contact ± 4kV,
Air ± 8kV

EMC
CE and FCC Class A
(EN61000-4/-2)

Vibration
Operating, 5-500 Hz,
5 Grms, 3 axes

Shock
Operating, 11ms duration,
30G, half sine, 3 axes

Safety
UL and cB

Mode Name	Op. Temp (°C) w/o air flow	Op. Temp (°C) w 0.6m/s air flow
Max-N	35	45
Max-Q	45	50
Max-PÂ Core-All	40	50
Max-P ARM	40	50
Max-P Denver	45	50

NEON

Optimized for Vision Application

By supporting leading camera manufacturer Basler's 4 type image sensors, NEON series AI Smart Camera can widely cover various AI vision application with high image quality. With FPGA based DI/O design, NEON series AI Smart Camera provides accurate H/W triggering and USB Type-C hub reduces cable connections, ideally suited for machine vision applications in automated manufacturing.

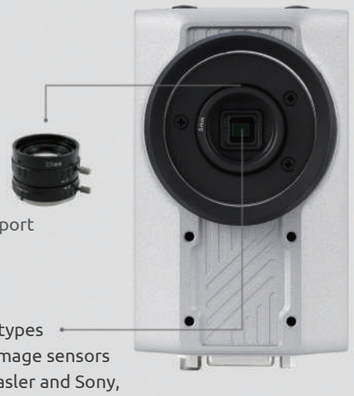
microSD slot for external storage

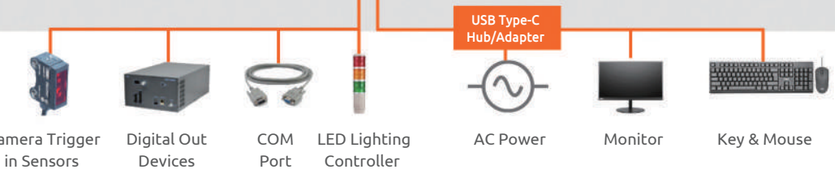
Friendly design for flashing the system



C-mount flexible support of lenses

Supports 6 types of leading image sensors including Basler and Sony, delivering easy system expansion





Optimized Heterogeneous Computing Solutions

With AI's extremely diverse nature, system architects are applying AI to a wide variety of tasks such as image processing, character recognition, and object classification. As particular combinations of neural networks and frameworks, running on specialized computing cores, are ideal for specific tasks, heterogeneous computing is the ideal strategy for deploying AI.
To accommodate application-specific needs, ADLINK provide various edge AI Smart Camera based on GPU/VPU modules catered to individual project requirements.

intel partner Titanium

NVIDIA PREFERRED PARTNER

aws qualified device internet of things

Supports EVA SDK

NEON AI smart cameras support EVA, ADLINK's edge vision analytics software, which serves as a unified platform for streamlining AI vision project deployment in a heterogeneous computing environment.

EVA EDGE VISION ANALYTICS

Start Your AI Vision with the NEON Starter Kit

NEON series kits are available in two configurations with the required accessories for users to either test in the lab or quickly deploy in the field.

Contents:
(1) NEON AI Smart Camera
(2) USB Type-C Adapter/Hub
(3) 1.8m USB Type-C cable w/ screw lock
(4) Power Cord
(5) Lens
(6) DI/O Cable
(7) DIN37 I/O extension board
(8) 30cm USB Type-C Cable



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Affordable, fast, and infinitely expandable AI prototyping

To address the AI Vision market and help developers with rapid testing and prototyping, ADLINK announced the AI Camera Development Kit, designed to provide engineers an industrial-ready prototyping platform to streamline AI vision application development.





Low Cost and Integration Effort

Integrated MIPI camera module & drivers save integration effort, reducing cost

Simple and Rapid Prototyping

Pre-installed EVA software with two AI models, sample code and SOP for training & inference makes it easy to build new applications

Rich Resources and High Extensibility

V4L2 video interface makes it easy to leverage open-source support that seamlessly transfers to ADLINK AI devices.

NVIDIA PREFERRED PARTNER

AI Camera Dev Kit for Rapid Prototyping



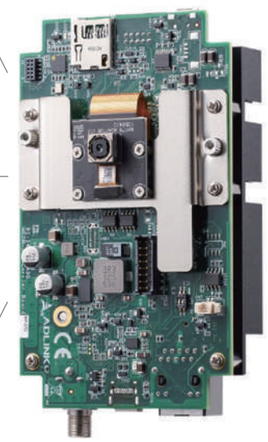
8MP MIPI camera module with integrated lens



NVIDIA Jetson Nano module and carrier board



I/O ports including DI/O, COM, LAN, USB Type-C



Pre-loaded with OS, drivers, no-code EVA GUI, sample code, test models

Support for V4L2 interface, OpenCV, G-streamer, models from NVIDIA TAO, NGC Catalog

Accessories options including power source and cabling



Get started quickly with AI Vision Application Sample code

Robot Hazard Prevention and Fab Clean SOP Compliance AI vision applications installed with sample code including image capture, AI inference and logical judgement that is easy to learn and modify.



Robot Hazard Prevention

Detect whether people enter a specific/restricted area by YoloV4-Tiny model and then decides to send an alert signal (functions as a virtual fence).



Fab Clean SOP Compliance

Detect whether people raise their hands by *Pose detection model (Posenet)* then decide whether to open the door.

Intuitive GUI for Fast and Easy AI Inference Pipeline Development

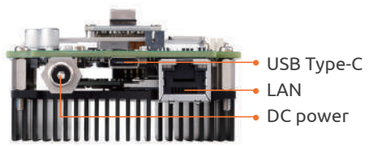
No/Low-Code EVA SDK is embedded in AI Camera Dev Kit to accelerate edge AI application development in smart manufacturing.

EDGE VISION ANALYTICS

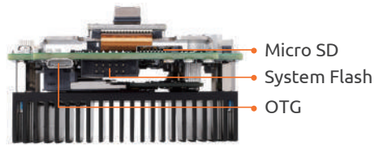


Compact Size and Rich Connectivity

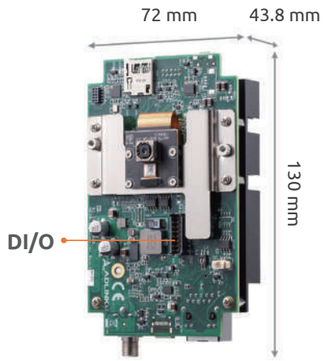
DI/O, COM, and LAN ports make the AI Camera Dev kit ideal for building an AI vision proof of concept quickly and easily. USB Type-C port for video, power, and USB simplifies connectivity.



Front View



Back View



Diversified Accessories with Easy Set Up

We provide everything you need to quickly start your AI vision applications.



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Smart Camera Selection Guide

NVIDIA Based : NEON-2000-JNX Series

Model Name	NEON-201B-JNX	NEON-202B-JNX	NEON-203B-JNX	NEON-204B-JNX	NEON-201A-JNX	NEON-202A-JNX
						
Image Sensor						
Resolution (HxV)	1280 x 960	1600 x 1200	1920 x 1080	2592 x 1944	1920 x 1200	3840 x 2160
Resolution	1.2M	1.9M	2M	5M	2M	8M
Frame Rate (fps)	54	60	30	14	60	30
Color/Mono	Color	Color	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling	Global	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"	1/2.6"	1/1.8"
Pixel Size (μm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2	3 x 3	2.0 x 2.0
Sensor Vendor	onsemi	e2v	onsemi	onsemi	AR0234	SONY
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031	MT9P031	IMX334
Image Sensor SDK	Basler pylon				V4L2 & Gstreamer	
Image Sensor Trigger Mode	External H/W trigger, S/W trigger, free run					S/W trigger, free run
Lens Mount	C Mount					
System						
Computing Platform	NVIDIA Jetson Xavier NX					
CPU	6-core NVIDIA Carmel ARM® v8.2 64-bit CPU 6 MB L2 + 4 MB L3					
Supported OS	Ubuntu 18.04					
GPU	NVIDIA Volta architecture with 384 NVIDIA CUDA® cores and 48 Tensor cores					
Storage	16 GB eMMC (built-in NX module) and pre-installed 32 GB microSD card (camera boots from the microSD card)					
Memory	Memory 8 GB 128-bit LPDDR4 / 16 GB eMMC (built-in NX module)					
Connectors and Functions						
Ethernet	Support 10/100/1000 Mb					
Type C	Video output (DisplayPort), 1920 x 1080 @ 30fps					
	1xUSB3 and 1xUSB2					
	Power supply for the camera (when connect to the Type C charger or adaptor)					
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)					
D-Sub	4xDI and 4xDO					
	1xUART (TXD, RXD, GND)					
Micro-USB	USB OTG (for system flash)					
Wafer Connector	For the system flash					
Mechanical & Power						
Dimensions	123.3 x 77.5 x 66.81 mm					
Weight	700 g					
Power Input[2]	DC Jack (DC12~24V) or Type C(DC15V)					
Power Consumption	<40W (camera only)					
Environmental & Certification						
Operating Temperature	0°C to 45°C				0°C to 55°C	
Storage Temperature	-20°C to 70°C					
Humidity	40% to 75% (non-condensing)					
Vibration	Operating, 5-500 Hz, 5 Grms, 3 axes					
Shock	Operating, 11ms duration, 30G, half sine, 3 axes					
ESD	Contact ± 4kV, Air ± 8kV					
EMC	CE and FCC Class A (EN61000-4/-2)					
Safety	UL and cB					

Note : The DC power source can be either from the DC jack or from the USB Type-C port.

NVIDIA Based : NEON-2000-JNO Series

Model Name	NEON-201A-JNO	NEON-202A-JNO
		
Image Sensor Spec.		
Resolution (HxV)	1920 x 1200	3840 x 2160
Resolution	2M	8M
Frame Rate (fps)	60	30
Color/Mono	Color	Color
Shutter	Global	Rolling
Sensor Size	1/2.6"	1/1.8"
Pixel Size (μm)	3 x 3	2.0 x 2.0
Sensor Vendor	onsemi	SONY
Sensor Model	AR0234	IMX334
Image Sensor SDK	V4L2 & Gstreamer	
Image Sensor Trigger Mode	External H/W trigger, S/W trigger, free run	External H/W trigger, S/W trigger, free run
Lens Mount	C Mount	
System Spec..		
Computing Platform	NVIDIA Jetson Nano	
CPU	Quad-core ARM Cortex-A57 MPCore processor	
Supported OS	Ubuntu 18.04	
GPU	NVIDIA Maxwell architecture with 128 NVIDIA CUDA® cores	
Storage	16 GB eMMC (built-in Nano module) and pre-installed 32 GB microSD card (camera boots from the microSD card)	
Memory	4 GB 64-bit LPDDR4, 1600MHz 25.6 GB/s (built-in Nano module)	
Connectors & Functions		
Ethernet	Support 10/100/1000 Mb	
Type C	Video output (DisplayPort), 1920 x 1080 @ 30fps	
	1xUSB3 and 1xUSB2	
	Power supply for the camera (when connect to the Type C charger or adaptor)	
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)	
D-Sub	4xDI and 4xDO	
	1xUART (TXD, RXD, GND)	
Micro USB	USB OTG (for system flash)	
Wafer Connector	For system flash	
Mechanical & Power		
Dimension	123.3 x 77.5 x 66.81 mm	
Weight	700 g	
Power Input	DC Jack (DC12~24V) or Type C (DC15V)	
Power Consumption	<40W (camera only)	
Environmental & Certification		
Operating Temperature	0°C to 55°C	
Storage Temperature	-20°C to 70°C	
Humidity	40% to 75% (non-condensing)	
Vibration	Operating, 5-500 Hz, 5 Grms, 3 axes	
Shock	Operating, 11ms duration, 30G, half sine, 3 axes	
ESD	Contact ± 4kV, Air ± 8kV	
EMC	CE and FCC Class A (EN61000-4/-2)	
Safety	UL and cB	

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Smart Camera Selection Guide

NVIDIA Based : NEON-2000-JT2-X Series

Model Name	NEON-201B-JT2-X	NEON-202B-JT2-X	NEON-203B-JT2-X	NEON-204B-JT2-X
				
Image Sensor				
Resolution (HxV)	1280x960	1600x1200	1920x1080	2592x1944
Resolution	1.2M	1.9M	2M	5M
Frame Rate (fps)	54	60	30	14
Color/Mono	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"
Pixel Size (µm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2
Sensor Vendor	onsemi	e2v	onsemi	onsemi
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031
Lens Mount	C-Mount			
Image Sensor Trigger Mode	External H/W trigger, S/W trigger, free run			
Protection				
Ingress Protection	IP67			
System				
Computing Platform	NVIDIA® Jetson™ TX2			
Processor	ARM Cortex-A57 and NVIDIA Denver 2			
Supported OS	Ubuntu 18.04			
GPU	256-core NVIDIA Pascal GPU			
Memory/Storage	8GB LPDDR4/32G eMMC (integrated on TX2 module)/64G from internal microSD card			
Connectors and Functions				
M12 8-pin FML for Ethernet	Support 10/100/1000 Mb			
M12 USB Type-C FML for Video, USB and Power	Video output (Display Port), 1920x1080 @ 30fps			
	1x USB 3 and 1x USB 2			
	Power supply for the camera (when connect to the Type C charger or adaptor, DC 15V/2A)			
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)			
M12 17-pin FML for I/O and power	2x DI and 2x DO			
	1x UART (TXD, RXD, GND)			
	USB port & I/O for flashing the TX2			
	DC 24V power input			
Mechanical & Power				
Dimensions	137.3 x79.55x 74.85 mm			
Weight	900g			
Power Consumption	<30W (camera only)			
Environmental & Certification				
Operating Temperature	0°C to 45°C			
Storage Temperature	-20°C to 70°C			
Humidity	40% to 75% (non-condensing)			
Vibration	Operating, 5-500 Hz, 5 Grms, 3 axes			
Shock	Operating, 11ms duration, 30G, half sine, 3 axes			
ESD	Contact ± 4kV, Air ± 8kV			
EMC	CE and FCC Class A (EN61000-4/-2)			
Safety	UL and cB			

Note: The DC power source can be either from the M12 17-pin or M12 USB Type-C connector

NVIDIA Based : AI Camera Dev Kit

Model Name	AI Camera Dev Kit
	
Image Sensor	
Resolution (HxV)	3280 x 2464
Resolution	8M
Frame Rate (fps)	3280 x 2464 @ 15fps / 1920 x 1080 @ 30fps
Color/Mono	Color
Shutter	Rolling
Sensor Size	1/3.2"
Pixel Size(µm)	1.4 x 1.4
Sensor Vendor	Sony
Sensor Model	IMX179
Image Capture	V4L2 & Gstreamer
FOV	72.9°
System	
Computing Platform	NVIDIA Jetson NANO
CPU	Quad-core ARM Cortex-A57 MPCore processor
Supported OS	Ubuntu 18.04
GPU	NVIDIA Maxwell architecture with 128 NVIDIA CUDA® cores
Storage	16 GB eMMC
Memory	4 GB 64-bit LPDDR4
Connectors	
Ethernet	10/100/1000 Mb
USB Type-C	Video output (DisplayPort), 1920 x 1080 @ 30fps
	1x USB3 and 1x USB2
	Power supply for the camera (when connect to the Type-C charger or adaptor)
D-sub	4x DI and 4x DO
	1x UART (TXD, RXD, GND)
Micro USB	USB OTG (for system flash)
Wafer Connector	For system flash
Mechanical & Power	
Dimensions	130.0(L) x 72(W) x 43.8(T) mm
Power Input	DC Jack (12-24V DC) or USB Type-C (15V DC)
Power Consumption	<40W
Environmental	
Operating Temperature	0°C to 30°C
Storage Temperature	-20°C to 70°C

Note: the DC power source can be either from the DC jack or from the USB Type-C connector

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High-Speed Image Processing 10 GigE Vision Frame Grabber PCIe-10GPoE

ADLINK PCIe-10GPoE 2-channel PCI Express® 10 GigE Vision PoE+ Frame Grabber provides exceptional reliability with exclusive PoE power asset protection, guaranteed non-drop frame capture, and smart PoE management. Improved quality and bandwidth with high accuracy makes it ideal for demanding imaging applications such as image-guided surgical/diagnostic systems, printing, logistics, goal-line technology, AI surveillance or even flat panel and wafer inspection in the electronics and semiconductor industry.



Features

- PCI Express® x4 Compliant Gen 3
- Intel® server-grade X550-AT2 10GbE MAC+PHY Ethernet Controller
- 2-port independent 10 Gigabit LAN, up to 10Gbps data rate per port
- Supports NBASE-T technology (2.5 and 5.0 Gbps)
- IEEE 802.3at for PoE+ (Power over Ethernet Plus)
- Powered Device (PD) auto detection and classification
- Up to 20W/60W PoE power from PCIe bus/4-pin Molex connector
- PoE protection for enhanced asset protection
- PoE Power Management and PoE Hardware switch
- Wide operating temperature range from 0°C to +60°C
- ToE, Trigger over Ethernet



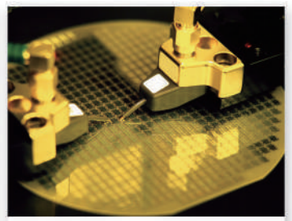
Medical Imaging



Goal-line Technology



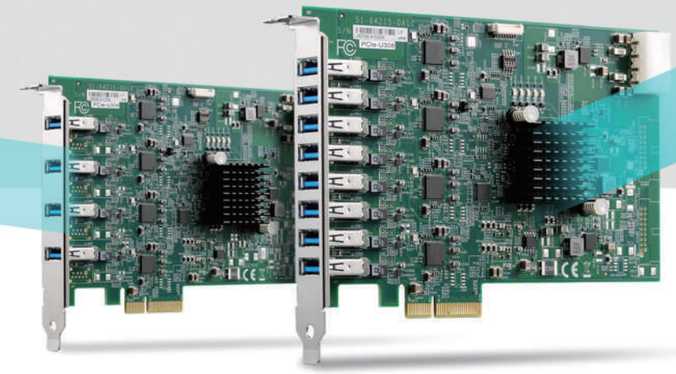
AI Surveillance



Ultra-high Resolution Inspection

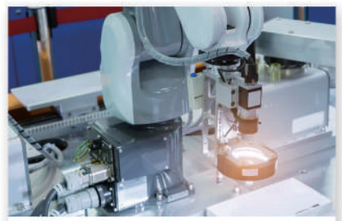
Top Performing USB3 Vision Frame Grabber PCIe-U300 Series

ADLINK's PCIe-U300 Series is a PCI Express x4 Gen2 USB3 Vision frame grabber supporting 4/8/12 USB 3.1 Gen 1 ports for multiple USB3 Vision device connections with data transfer up to 5 Gb/s per port. It provides excellent capability to interface with USB 3.0 devices for machine vision, factory automation, quality assurance, logistics, medicine, and security and traffic surveillance applications.



Features

- PCI Express x4 Gen2 compliant
- Compliant with USB 3.1 Gen 1 (identical to USB 3.0), Host Controller, Fresco FL1100
- 4/8 USB Type-A external ports (PCIe-U304/U308)
- 4 additional internal USB 3.0 ports by pin headers (PCIe-U312 only)
- Up to 20W USB power from PCIe bus (default), Up to 60W USB power supported by 4-pin Molex power connector
- Up to 1500mA max. current per port
- Multiple cards, multiple cameras in a single system
- Easy-to-use API provided for software-programmable per-port power on/off



Measurement, Identification and Alignment



Real-time Inspection



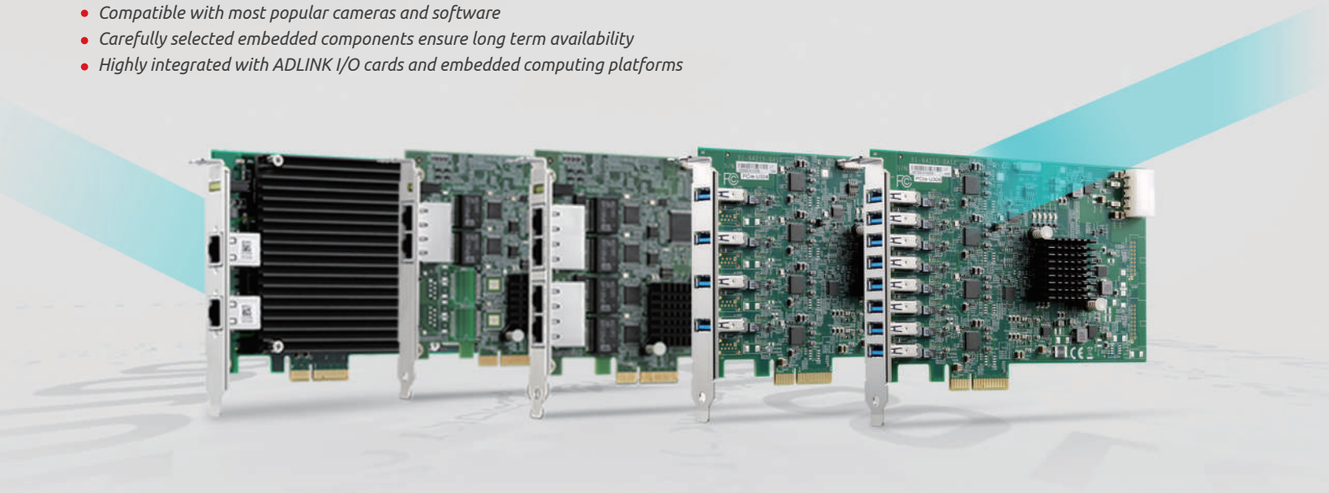
Logistics

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ADLINK Solutions for Machine Vision

Why ADLINK?

- *Full product line support, including USB3 , GigE Vision, Camera Link, and CoaXPress*
- *Compatible with most popular cameras and software*
- *Carefully selected embedded components ensure long term availability*
- *Highly integrated with ADLINK I/O cards and embedded computing platforms*



Note: Driver installation is required for frame grabbers or cameras.

	10 GigE Vision	CoaXPress	GigE Vision	CamerLink	USB3
Max. Cable length (Meter)	100	Up to 100	100	Up to 15M (Depending on the Bandwidth)	5
Bandwidth (Mbps per Channel)	10000	6500-25000	1000	2400-4800	5000
Realtime Signaling	-	v	-	v	-
Power over cable	v	v	v	v	v
Plug & Play	v	v	v	-	v
Real time trigger	-	v	-	v	-
Standards	AIA GigE Vision	CoaXPress standard	AIA GigE Vision	AIA Camera Link	AIA USB3 Vision

* Full 100 m transmission can only be reached using Cat 6A cable.

Frame Grabber Selection Guide

Model Name	PCIe-10GPoE	PCIe-GIE74P PRO	PCIe-GIE74P/ GIE72P	PCIe-U304/ PCIe-U308/U312
				
Standard	Power over Ethernet	Power over Ethernet	Power over Ethernet	USB3 Vision
Configuration	10/5/2.5/1 Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet	-
Connector	RJ45 x 2	RJ45 x 4	RJ45 x 4 / RJ45 x 2	USB3 x 4/USB3 x 8/USB3 x12
Resolution	depends on camera specification	depends on camera specification	depends on camera specification	depends on camera specification
Interface	PCIe x4	PCIe x4	PCIe x4	PCIe x4
Max. Video Input	2	4	4 / 2	4 to 12*
Max. Frame Rate	depends on camera specification	depends on camera specification	depends on camera specification	depends on camera specification
Audio Input	-	-	-	-
TTL I/O	-	-	-	-
Area Scan Camera	V	V	V	√
Line Scan Camera	V	V	V	-
Interlaced Scan	V	V	V	√
Progressive Scan	V	V	V	√
Camera Tap	-	-	-	-
Pixel Depth	depends on camera specification	depends on camera specification	depends on camera specification	depends on camera specification
Max. Clock Frequency	-	-	-	-
On-board memory	-	-	-	-
ToE and Software License Protection	V	V	-	-

Embedded Vision Systems Selection Guide

	EOS-1300	
CPU	Intel® Core™i7-6700 / Intel® Core™ i5-6500 / Intel® Core™ i3-6100 / Intel® Celeron® G3900	**Embedded Vision Systems**
Chipset	Intel® H110	
Operating System	Windows 7/10 64 bit	
System Memory	Up to 32 GB DDR4 at 2133MHz	
Video	2 display ports with resolution ,up to 4096 x 2160	
Audio	7.1 channel audio via 5 jacks and S/PDIF output	
Ethernet	2x GbE port	
USB	4x USB 2.0 and 4x USB 3.0 ports (internal 1x USB 2.0)	
COM Ports	1x RS-232/422/485 and 1x RS-232	
Keyboard/Mouse	USB type	
Camera Interface	4CH Gigabit PoE IEEE 802.3af compliant, total max. power output 32W	
Digital I/O	12x isolated DI; 2x Encoder input; 16x isolated DO	
Trigger I/O	4x Trigger I/O (Configurable)	
Weight	3 kg(6.6 lbs)	
Mounting	Wall and DIN rail mounting (optional)	
Power Supply	DC 24V, ATX mode	
Operating Temp.	0˚C to +55˚C (32˚F to 131˚F)	
Humidity	0% to 90%	
Dimensions	232W x 180.8D x 82.8H mm (9.1 x 7.1 x 3.2 in)	
Power Consumption	Up to 165W	
Storage	1x 2.5" SATA interface	
Random Vibration	Operating 0.5 Grms, 5-500 Hz, 3 axes w/ HDD	
Safety Compliance	CE/FCC, UL, RoHS	

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