

# AI IN ACTION

ขับเคลื่อน [องค์กรอัจฉริยะ]  
ด้วยพลังของ  
IT และ OT



Advantech Edge AI Computing  
AI Vision Transformation in  
Manufacturing



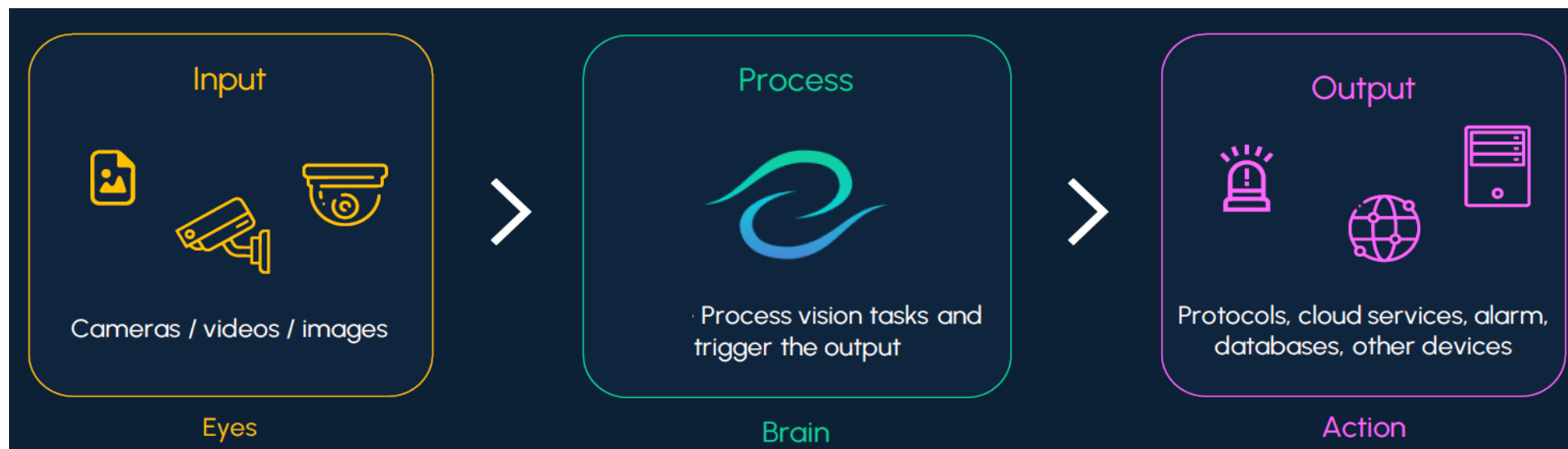
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**Simplify edge-based automation with AI Vision. No code, real-time results.**

## **Purpose :**

To receive, integrates and process visual data from the cameras then output the processed information or commands to the connected hardware or services.





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Input



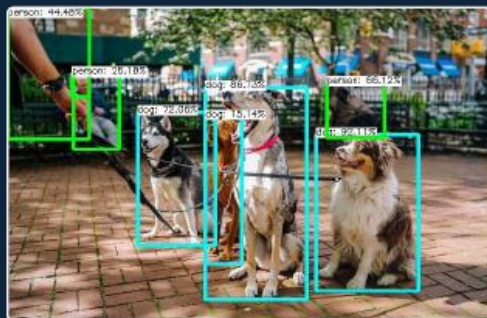
Data from the input



Read data from an image file from the Zene server local filesystem.



Process with a vision tool



Processes the image data to detect "dog" and "person" within the image.  
For this case it detects 4 dogs and 3 people.

Check conditions and triggers the outputs

Let's say we have set the following conditions:

If detected:

- $\geq 1$  dog
- $= 0$  person

Then:

- Trigger alert

Else:

- Send message

For this image, with the predefined conditions, Zene will run the "Else" box. Which will send the message as the output.

Output





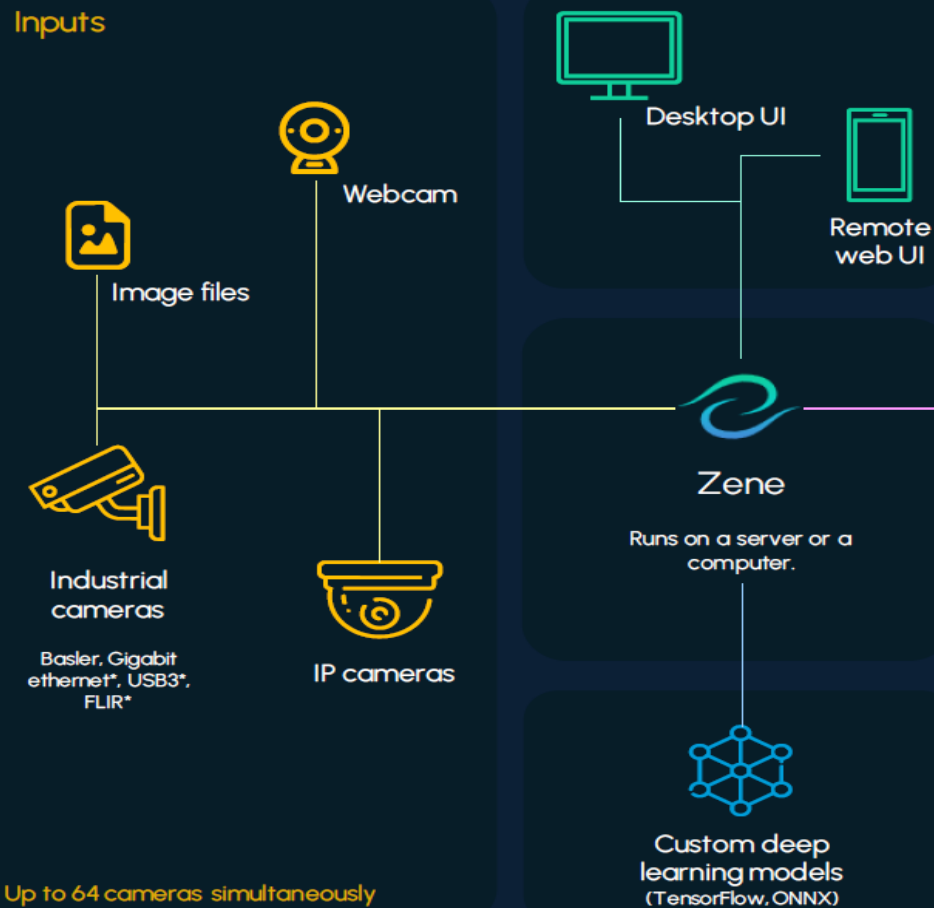


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## Connectivity

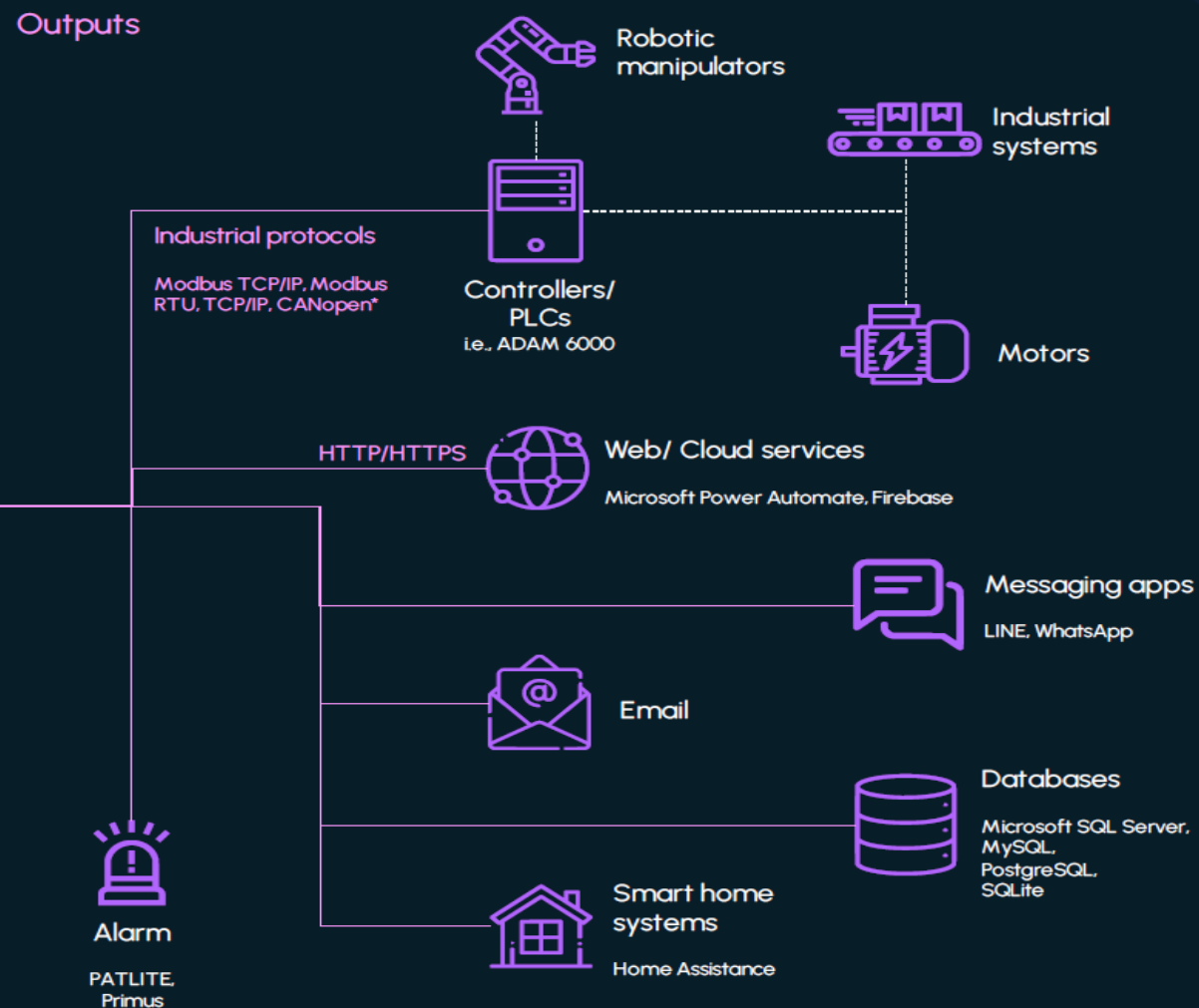
### Inputs



Up to 64 cameras simultaneously

\* To be added in future v1 updates

### Outputs





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Pellet QC + Alerting

Customer:

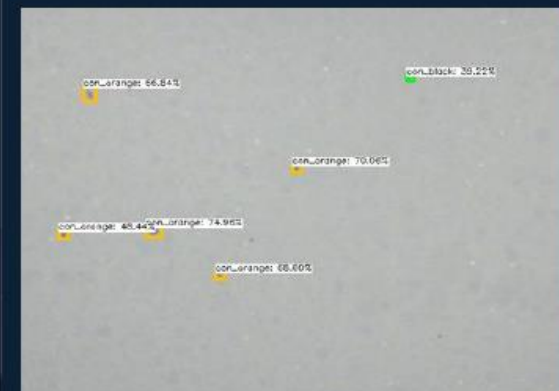
UBE Group (Thailand)

A real-time contamination detection, alerting and data collection system for white pellets fertiliser.

The system ensures the quality of 455 tons of product worth 4.7 million THB daily and has been in operation since March 2021.



Original image frame



Detected image frame



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## Vision Task Sample



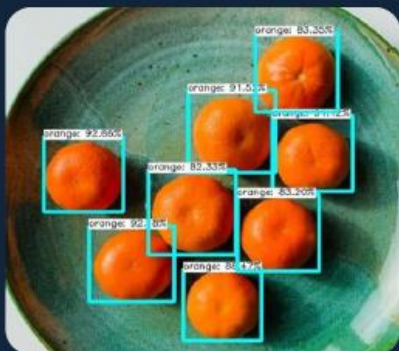
### Contamination Detection

Example products:  
Dry chemicals  
(Fertiliser, Synthetic Rubbers (BR),  
Nylon, ABS, EPS, PE, PS, PVC, PP, SBR,  
S-SBR, etc)



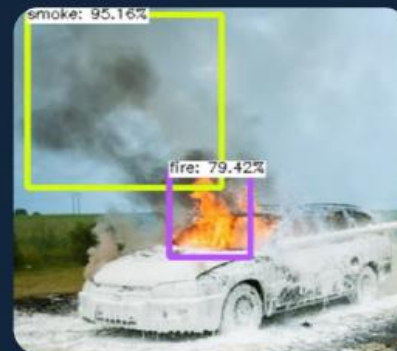
### Defect/ Anomaly/ Quality Detection

Example products:  
Food, Processed food, Beverages,  
Electronics, Machine parts, etc.



### Counting objects

Example products:  
Consumables, containers,  
machine parts, etc.



### Fire and Smoke Detection

Example uses:  
Outdoor fire detection using  
cameras





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## Reva – Overview

Your private AI lab. Label, train, export, and manage models, all without code.

Purpose:

To **manage**, **label**, **tune** and **train** machine learning model and **export** them to Zene, Nara or other 3<sup>rd</sup> party services.



Manage dataset



Label



Tune  
hyperparameters



Train model



Convert & Export



ADVANTECH

Enabling an Intelligent Planet

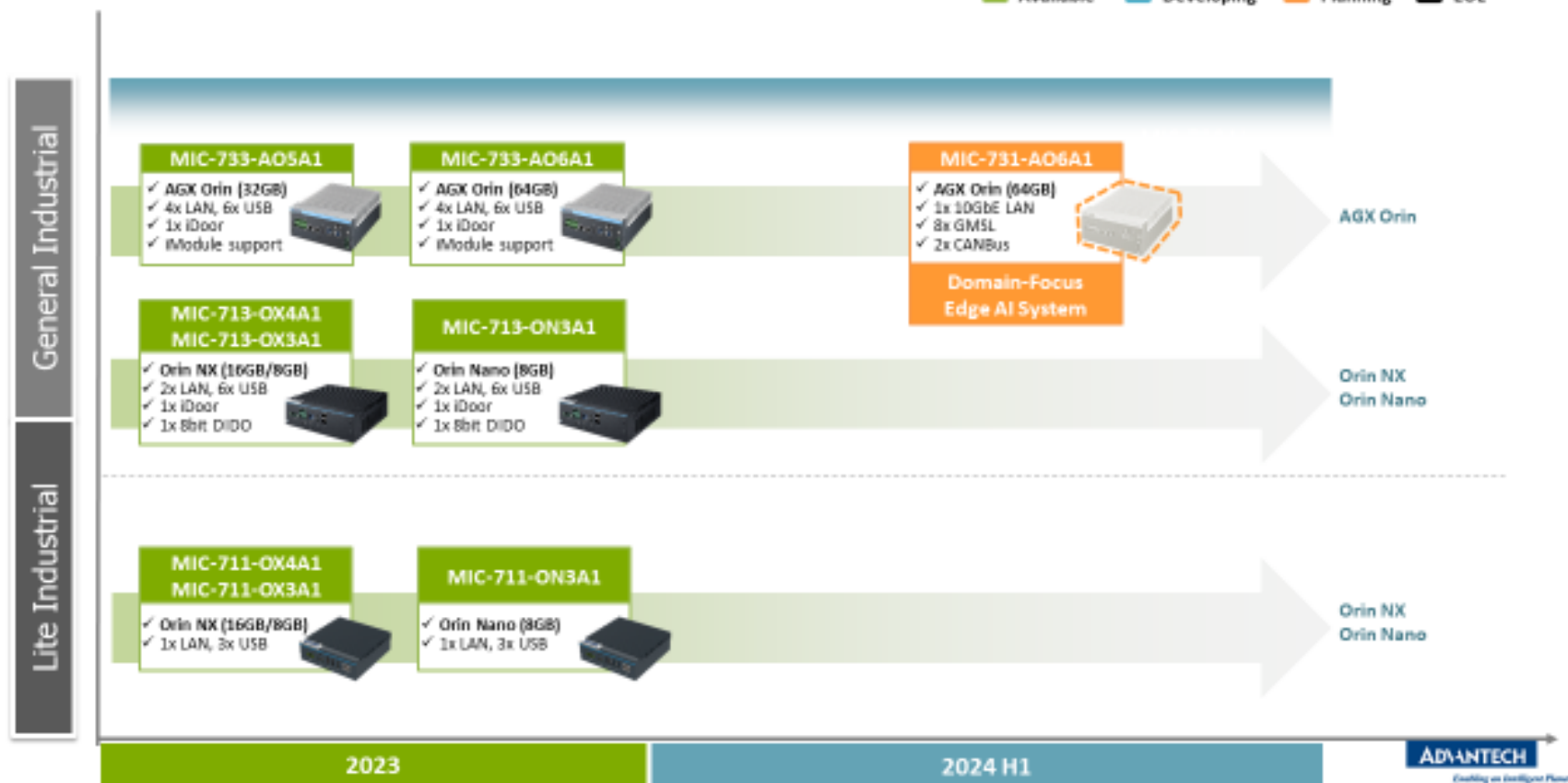


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## MIC-AI General/Lite Industrial Product Roadmap

Available Developing Planning EOL







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## EPC-R7300

*From Development to Production —  
The Industrial PC Solution Powered by  
NVIDIA Jetson Orin Nano/NX*

PHASE IN

2023, Q3

LONGEVITY

2032, Jan.



### Features

#### High-Performance AI Computing for Edge Applications

- Powered by NVIDIA Jetson Orin Nano/NX, optimized for AI inference.
- Integrated Phison aiDAPTIV Technology, enhancing AI model execution efficiency.
- Supports LLMs, VLMs, and VITs for advanced AI workloads.

#### Compact & Modular for Flexible Deployment

- Space-saving low-profile chassis: 173 × 152 × 55mm.
- Modular expansion slots allow easy customization for different workloads.
- Optimized thermal management ensures sustained high performance.

#### Extensive I/O and Expansion Options

- M.2 slots for NVMe storage and wireless connectivity (Key M, Key E, Key B).
- Diverse rear I/O configurations, including GPIO, RS-232/422/485, and 4x GbE.
- Optimized connectivity for AIoT, industrial automation, and robotics.

#### Robust Industrial Design for Harsh Environments

- Wide operating temperature range: -20 ~ 70°C, ensuring reliability.
- 9 ~ 24V wide power input, adaptable to industrial power systems.
- Vibration resistance up to 3.0 Grms, suitable for rugged applications.

#### Application-oriented software integration

- Advantech DeviceOn for remote edge device monitoring and AI lifecycle management.
- ROS2 & EdgeAI SDK support, ideal for robotic control and machine vision applications.
- Long-term JetPack OS support with regular security and feature updates.





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THANK YOU

