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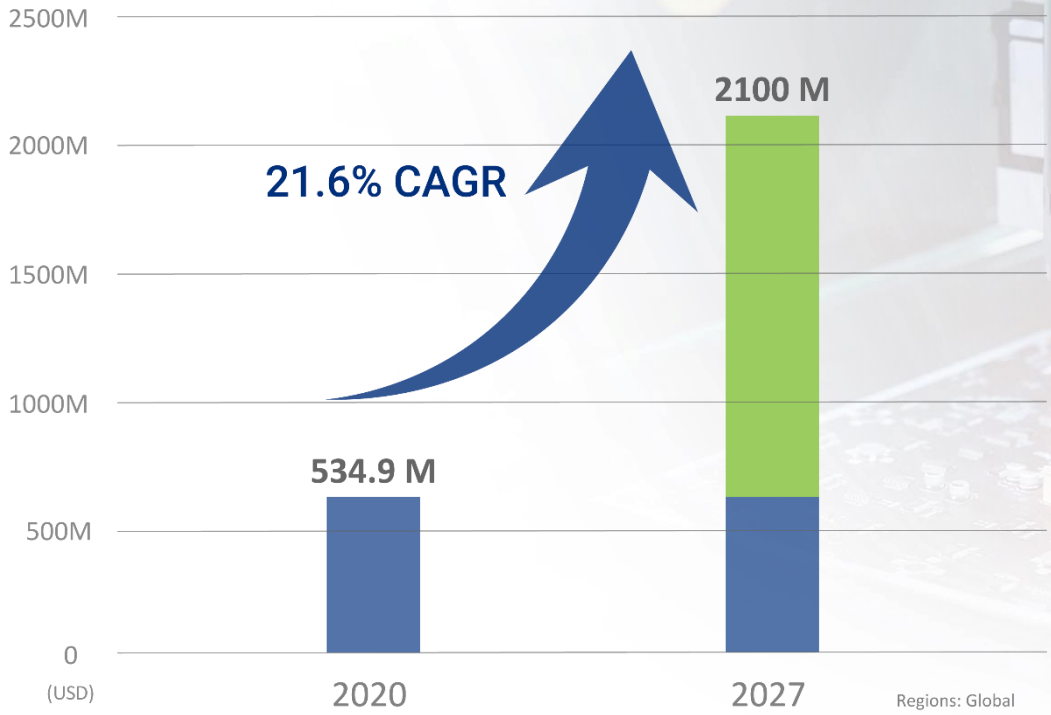
COCREATE AN INTELLIGENT WORLD

ASRock Industrial IPC equipped with Intel EII and Microsoft EFLOW for AI AOI workload consolidation

Global Market Trend

Automated Optical Inspection Systems Global Market



Source:https://www.researchandmarkets.com/reports/4804449/automated-optical-inspection-aoi-systems

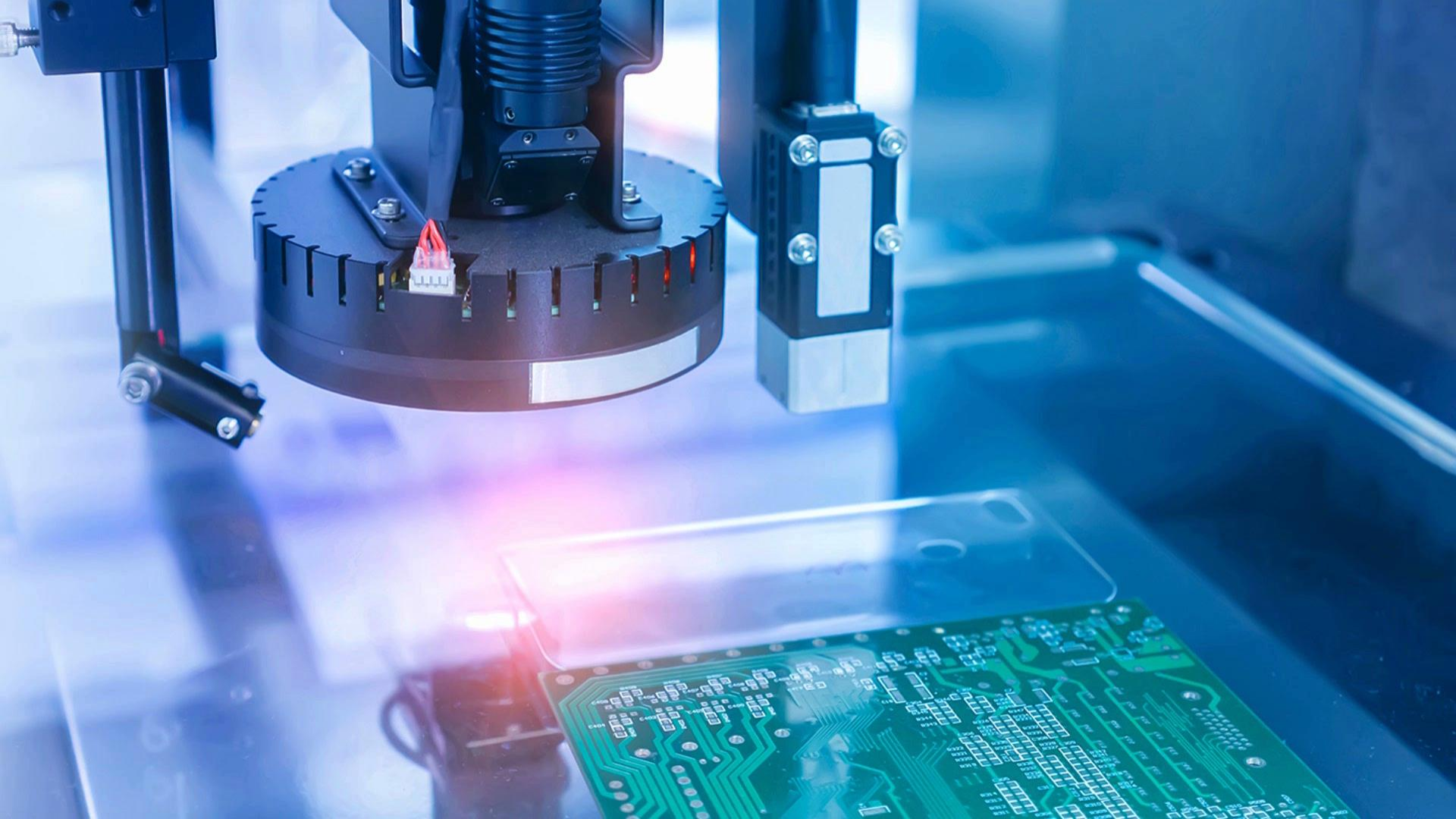
Industry Challenge

Labor Shortages

Complex Process

Inconsistency of
Inspection Accuracy

Low Effectiveness



Architecture

Windows Enterprise

Motion Control App

DIO Control App

Windows App

HMI App

Windows Kernel

Windows 10

Linux(CBL Mariner)

intel EII

OpenVINO

Intel® Edge Insights for Industrial (Intel® EII)

Simple Subscriber

Web visualizer Service

AI Inferencing Algo

OpenVINO

ETCD Config UI

EII Azure Bridge

Azure IoT Edge

Docker

Microsoft Azure

EFLOW

Linux Kernel

Hyper-V

13th Gen Intel® Core™ Processor

Windows 10 IoT Enterprise LTSC

All the power of Windows

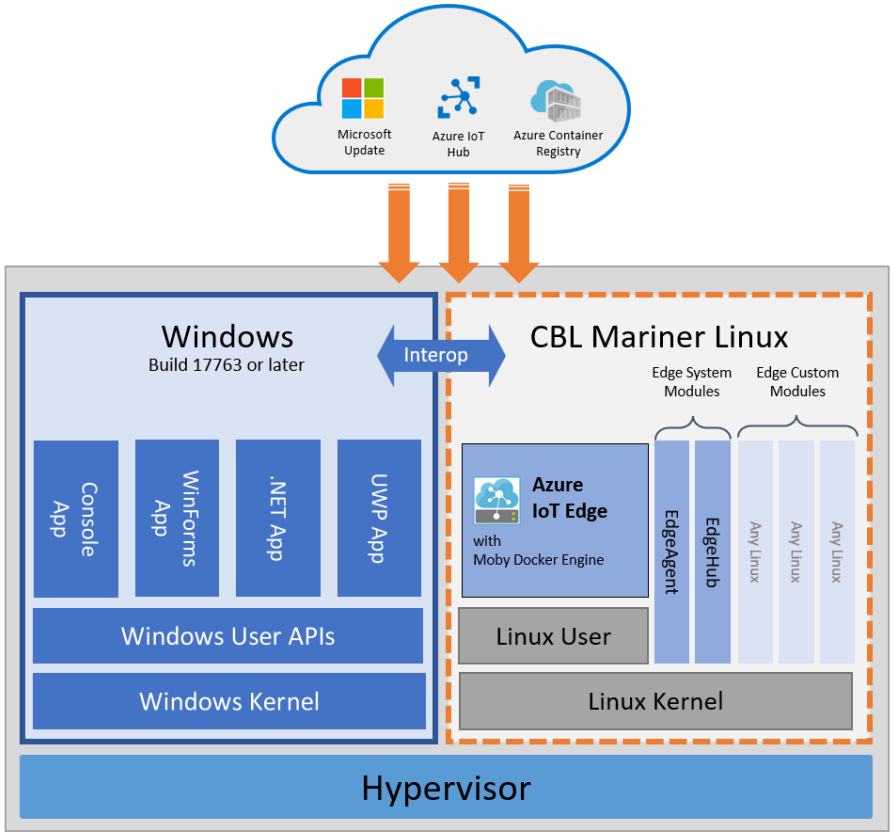
Specialized features for dedicated devices

Longevity

Windows 10 security in its DNA

Microsoft

Microsoft EFLOW

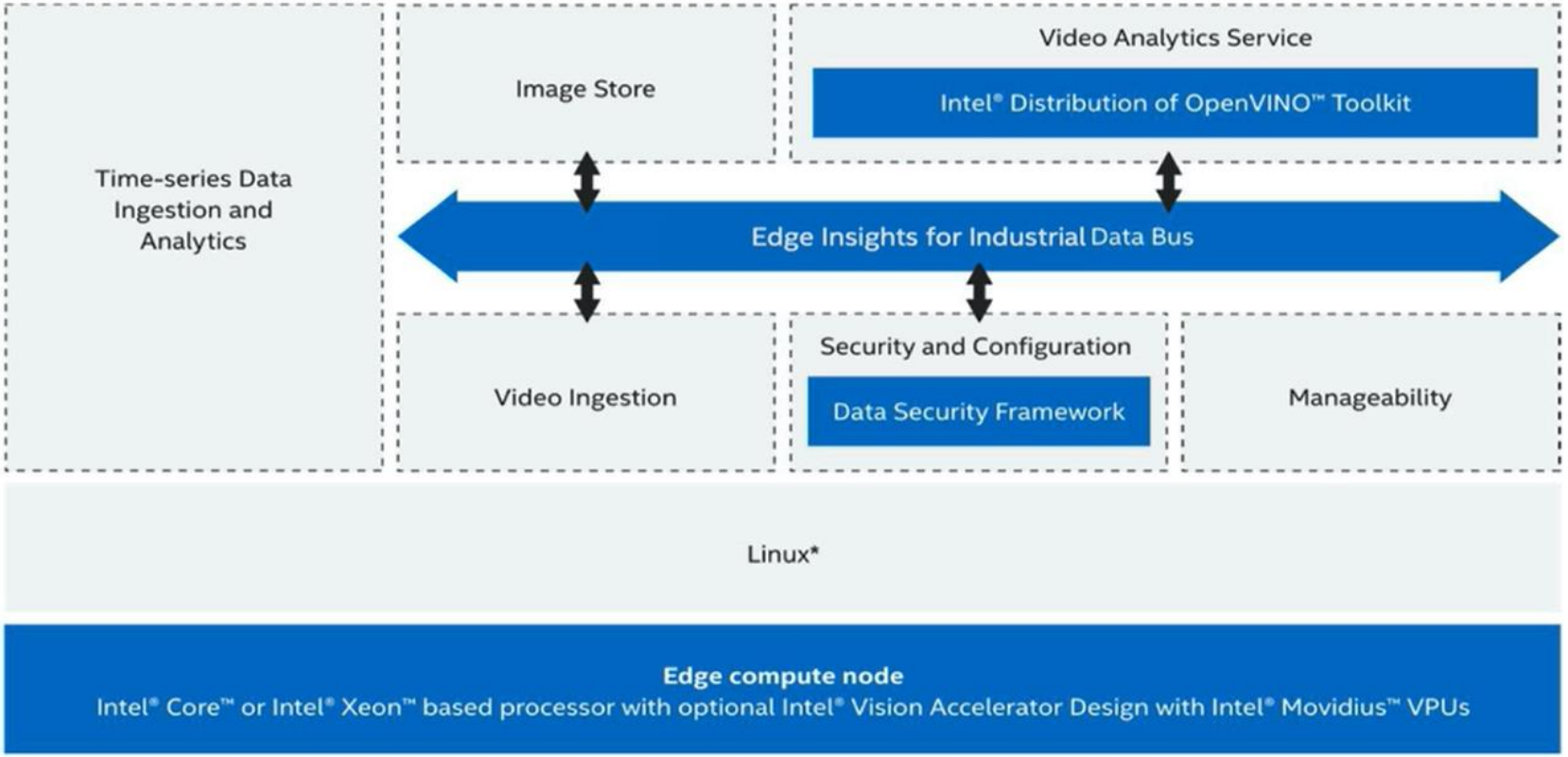


Source:https://docs.microsoft.com/en-us/azure/iot-edge/iot-edge-for-linux-on-windows?view=iotedge-1.4

Azure IoT Edge for Linux on Windows (EFLOW)

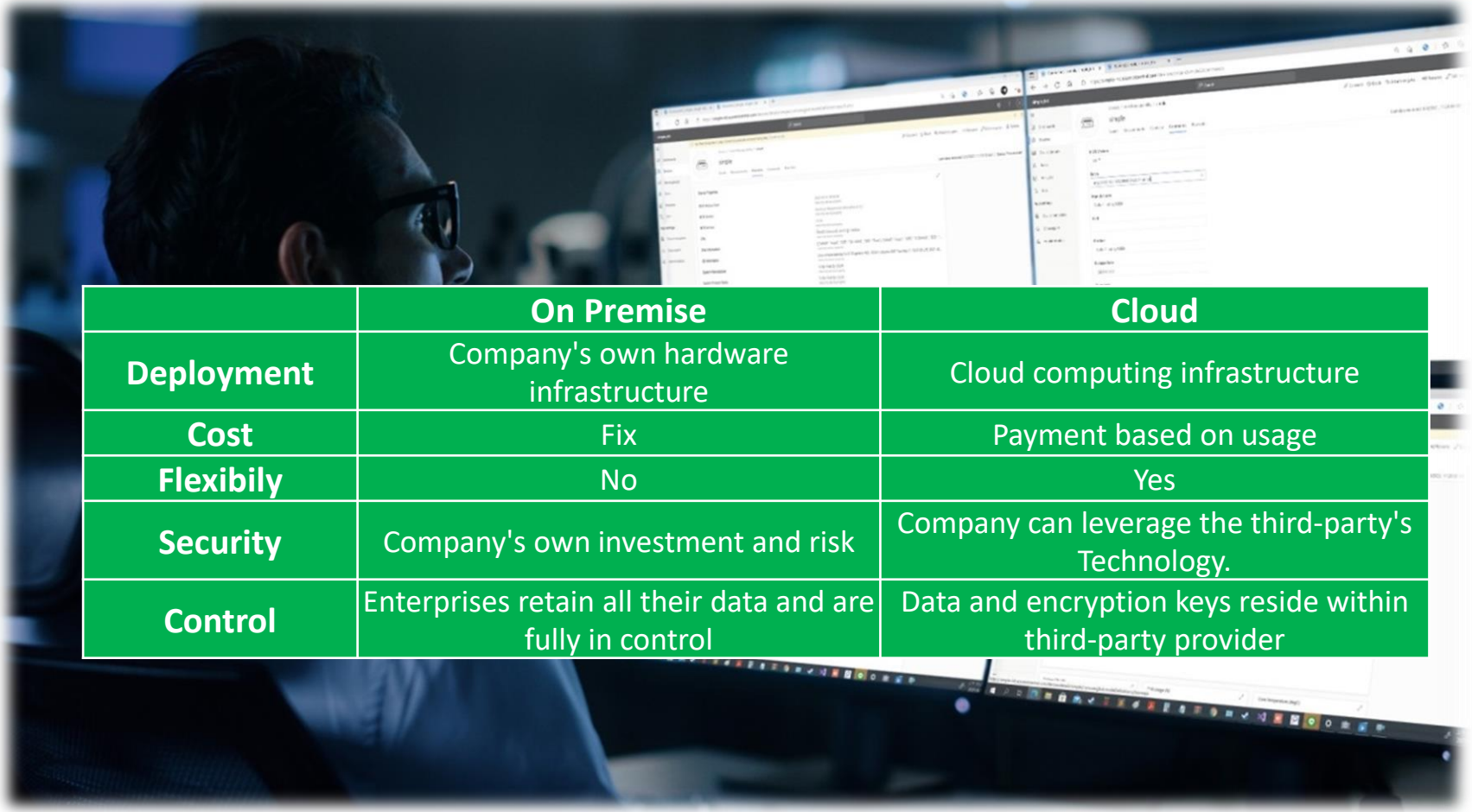
- ✓ Type1 Hypervisor
- ✓ CBL Mariner Linux
- ✓ To run containerized AI Linux workloads
- ✓ Windows to power the legacy devices
- ✓ Azure Cloud services

Intel Edge Insights for Industrial

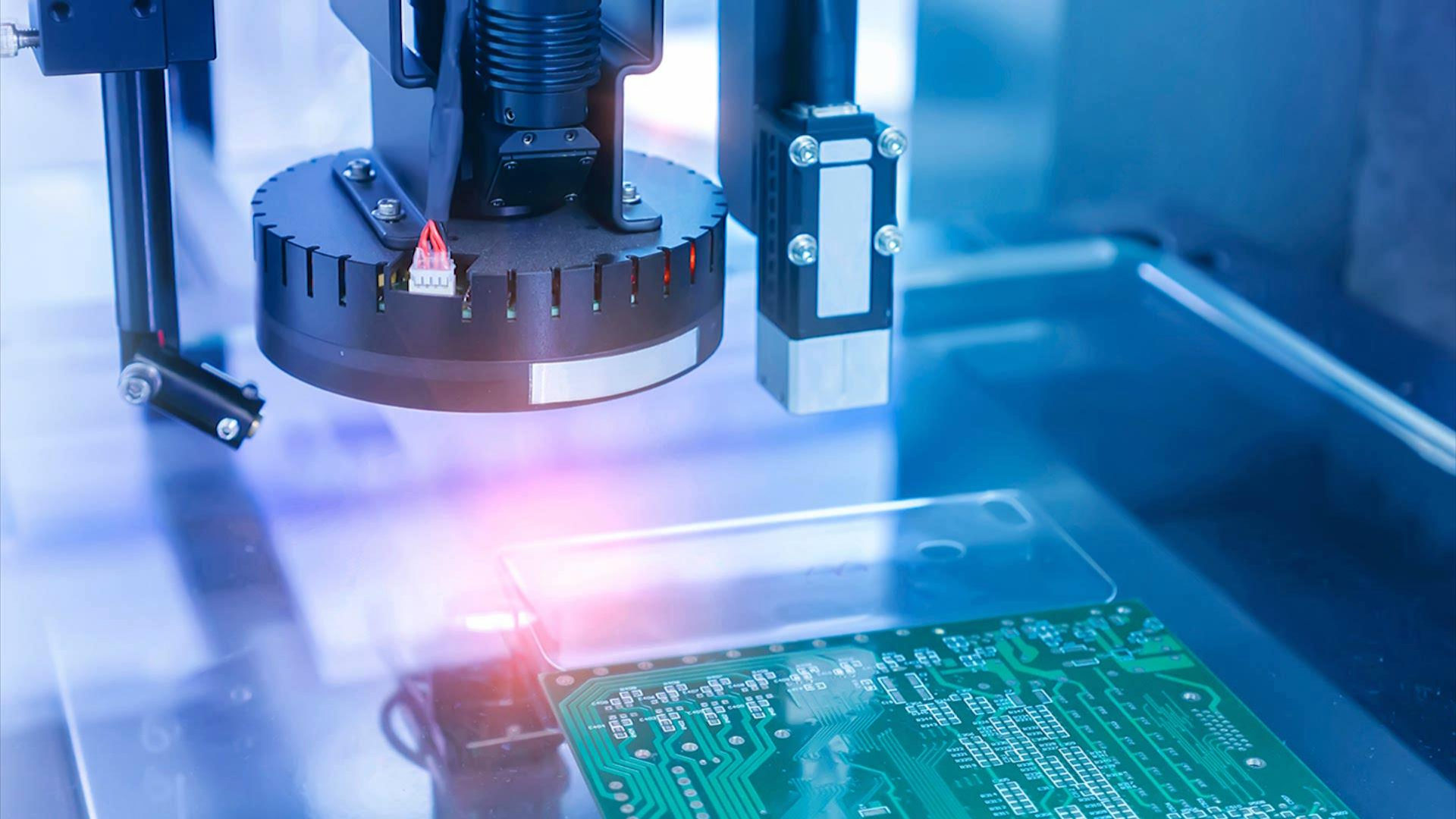


Source:https://www.intel.com/content/www/us/en/developer/videos/architecture-quick-overview.html

On Premise or Cloud option



	On Premise	Cloud
Deployment	Company's own hardware infrastructure	Cloud computing infrastructure
Cost	Fix	Payment based on usage
Flexibily	No	Yes
Security	Company's own investment and risk	Company can leverage the third-party's Technology.
Control	Enterprises retain all their data and are fully in control	Data and encryption keys reside within third-party provider



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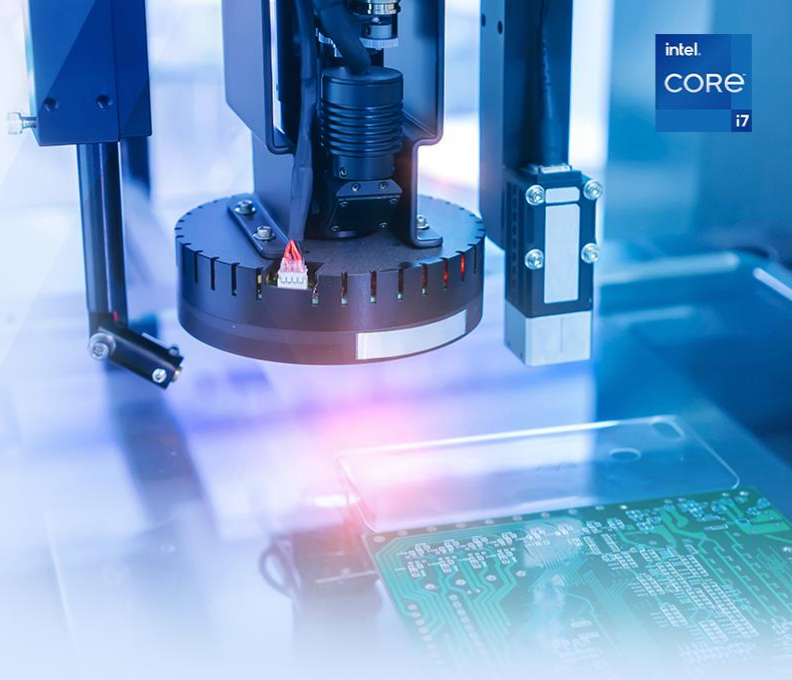
AI AOI Workload Consolidation



13th generation Intel® Core™ processor

Rugged design for Industrial environment

Fast development using Edge Insights for Industrial

Rich IO & connectivity TSN & Intel® TCC

Linux AI Workload Consolidation with Windows

Connecting Edge to Cloud

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intel partner Titanium IoT Solutions

ROBUST EDGE AIOT PLATFORM

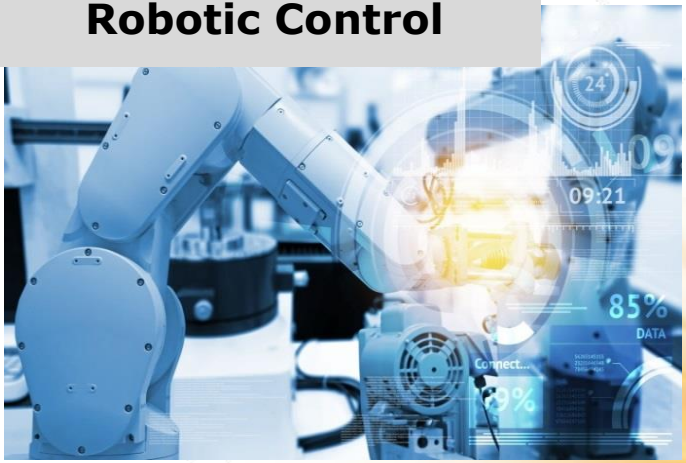
iEPF-9020S Series

iEP-9020E Series

- 13th Gen Intel® CPU
- Rich IOs & Expandability
- Real-time Connectivity
- Rugged Design
- Workload Consolidation

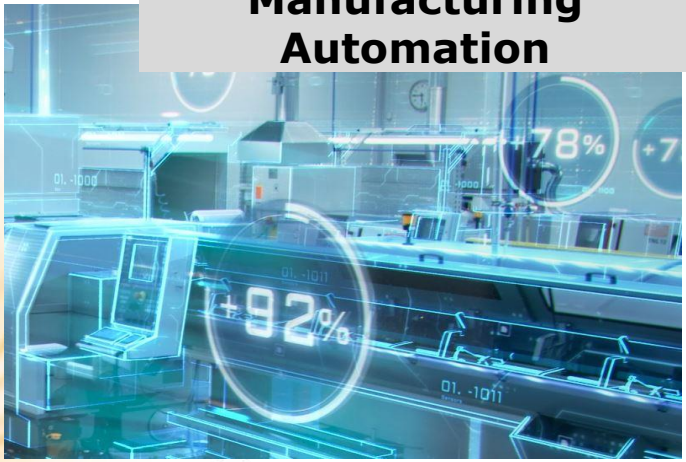
Various Industrial Mission-Critical Application

Robotic Control



iEPF-9020S Series

Manufacturing Automation



iEP-9020E Series

Autonomous Vehicle

Smart Pole

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Industrial

iEP-7020E Series

INDUSTRIAL IOT CONTROLLER

13th Gen Intel® CPU

AI Acceleration

Rich IOs/Expansions

Real-time Connectivity

Rugged Design

The Best AI Accelerator

Edge AI inference

Buffer-fly DRAM design for the Best Thermal Performance

Fast GPU image classification inference performance with up to 96 EUs

intel. iRIS Xe GRAPHICS

128-bit Dual Channel DRAM(VRAM) to meet iRIS Xe Brand requirement. The Best iGPU Inference Engine.

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intel. ATOM

iEP-5000G

INDUSTRIAL IOT CONTROLLER

- Powerful Intel® Atom® x6000E Processor
- Rich RF Connectivities
- Flexible IOs & Expansions
- Real-time TCC/ TSN
- Compact & Rugged Design
- Wide Operating Temperature

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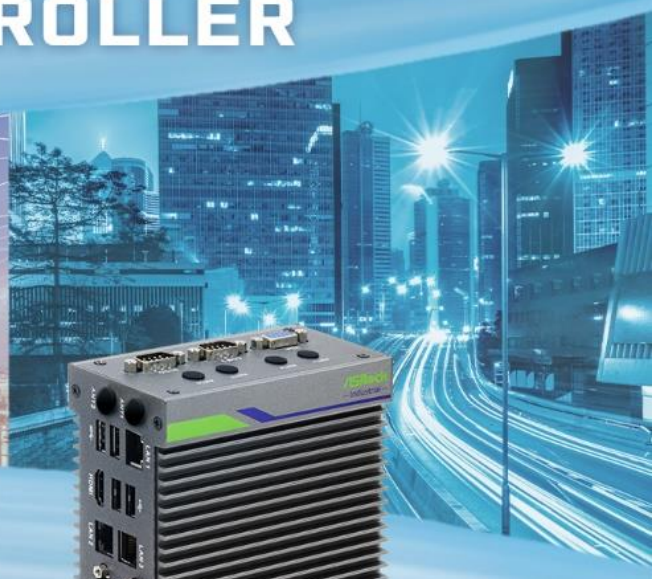
intel partner Titanium IoT Solutions

iEP-5010G

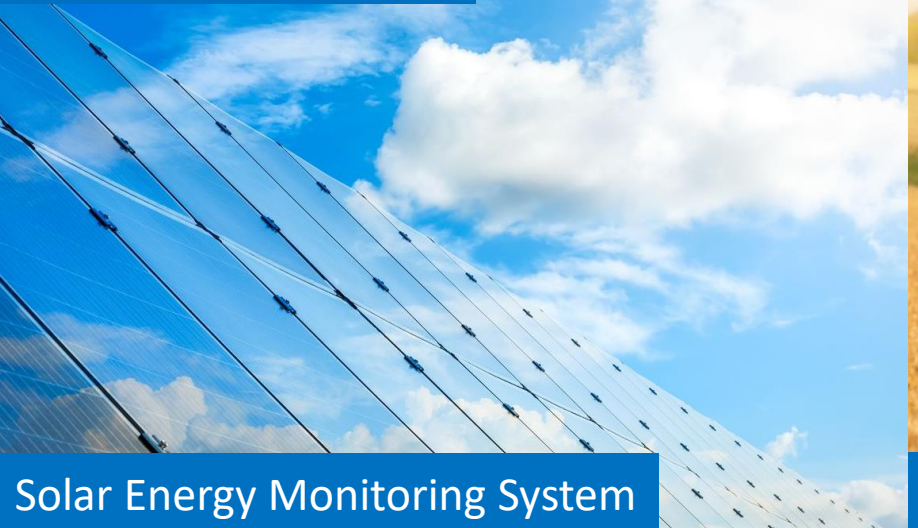
INDUSTRIAL IOT CONTROLLER



- Powerful Intel® Atom® x6000E Processor
- Real-time TCC/ TSN
- Flexible IOs & Expansions
- Intel® In-Band ECC
- Fan-less and Rugged Design
- -40 ~ 70 °C Wide Operating Temp.

Process Automation

EV Charging Stations



Solar Energy Monitoring System

Intelligent Agriculture

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Thank you for your attention!