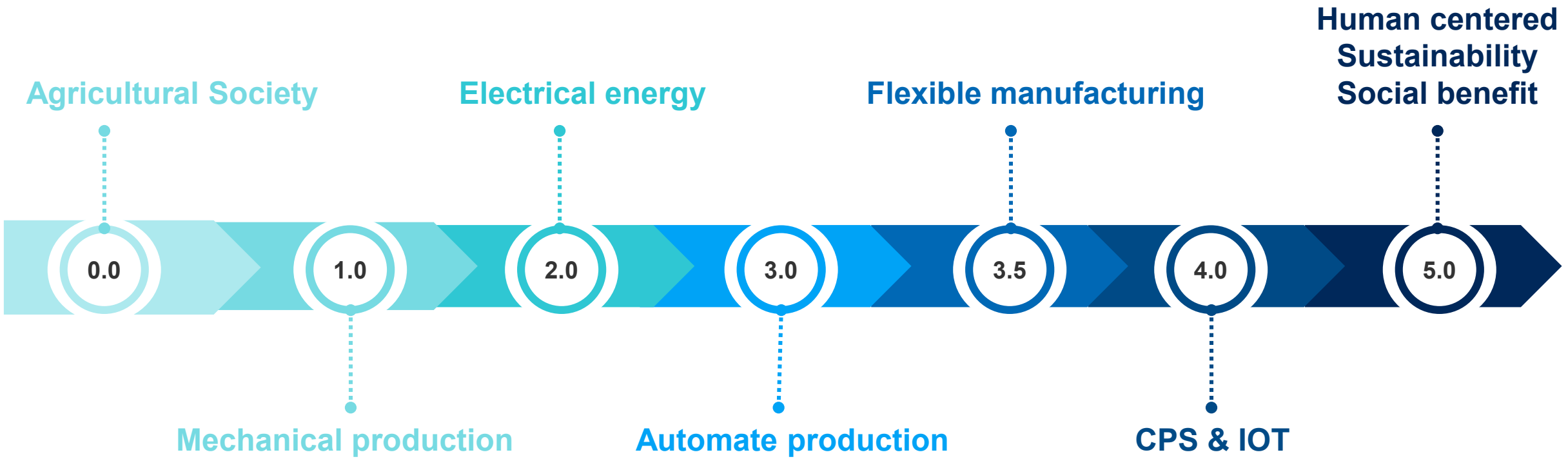
From Industrial 3.0 to Industrial 5.0

Ting Ting Product Manager

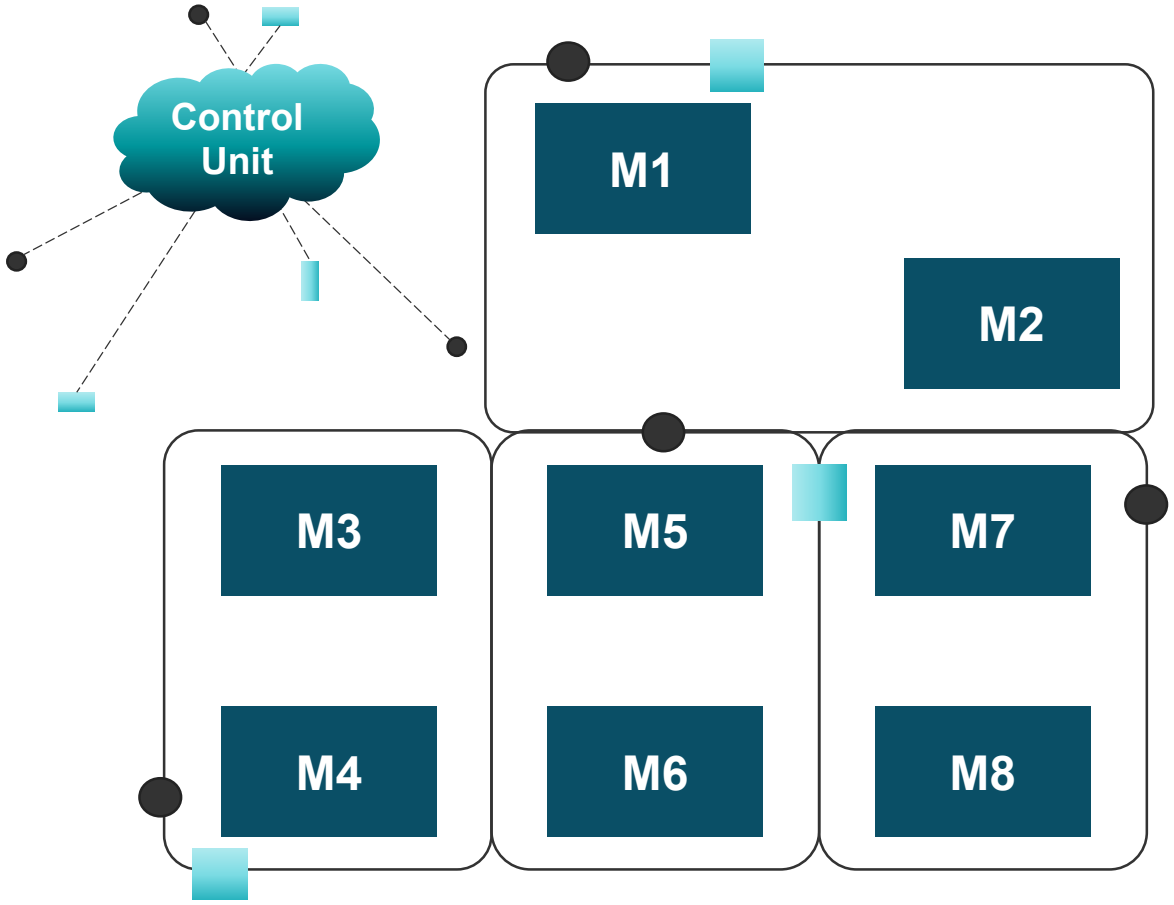
Enabling 5G & Intelligence at the EDGE

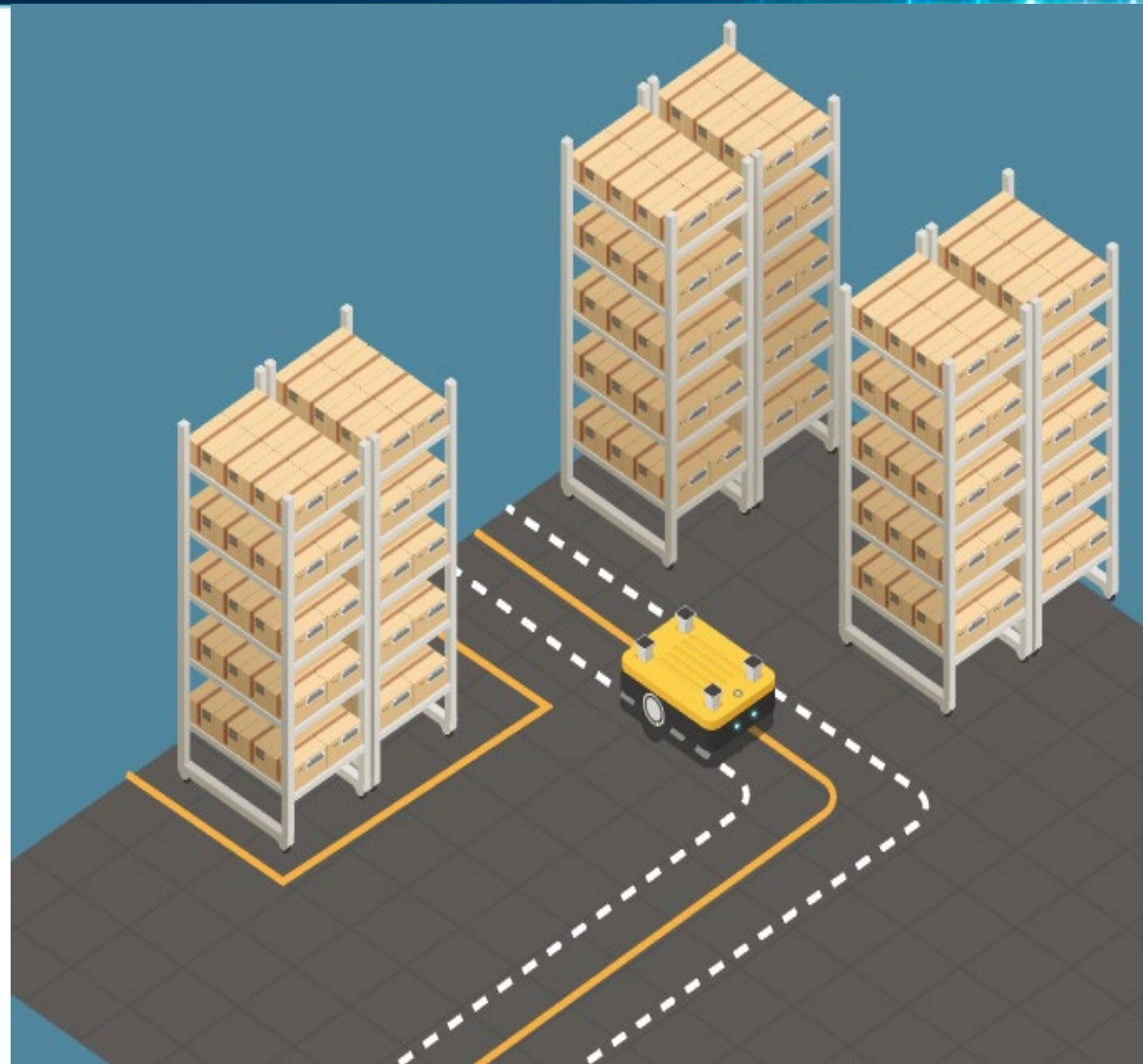
iEi

From Industrial 3.0 to Industrial 5.0

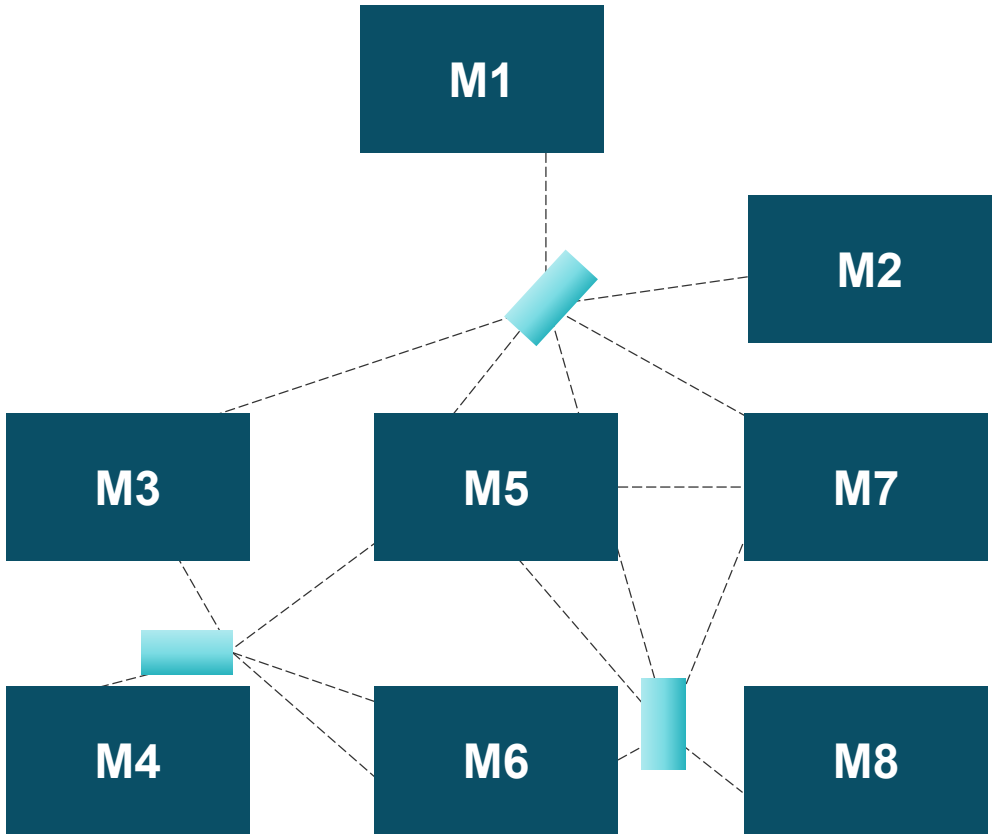


AGV
In Control Layer



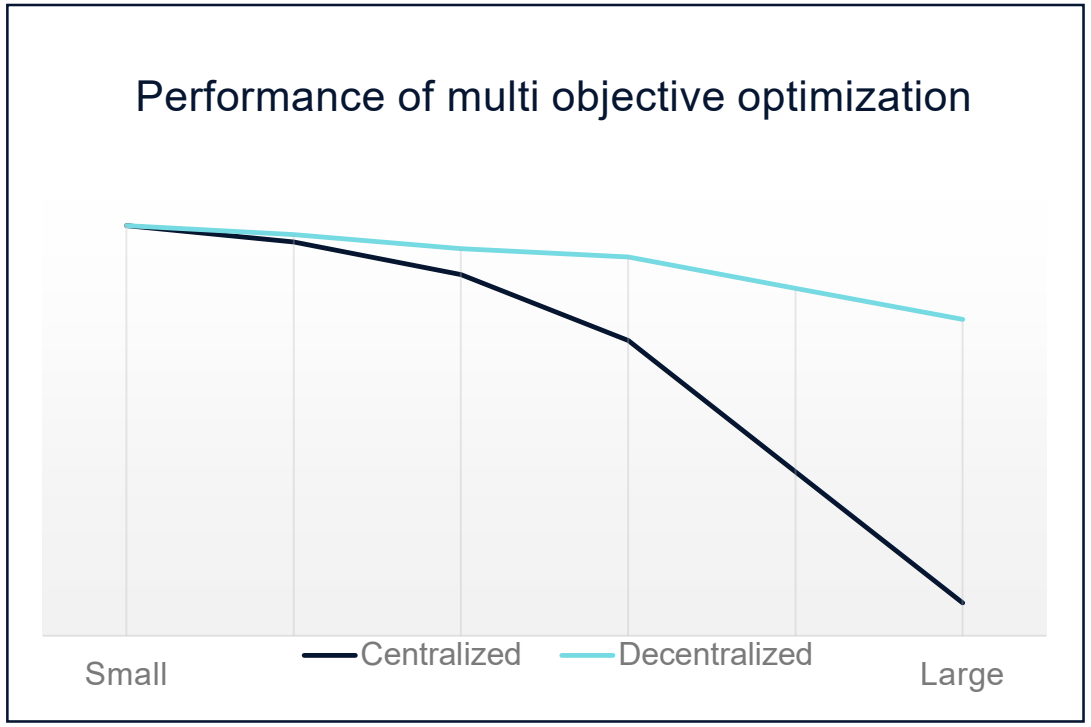


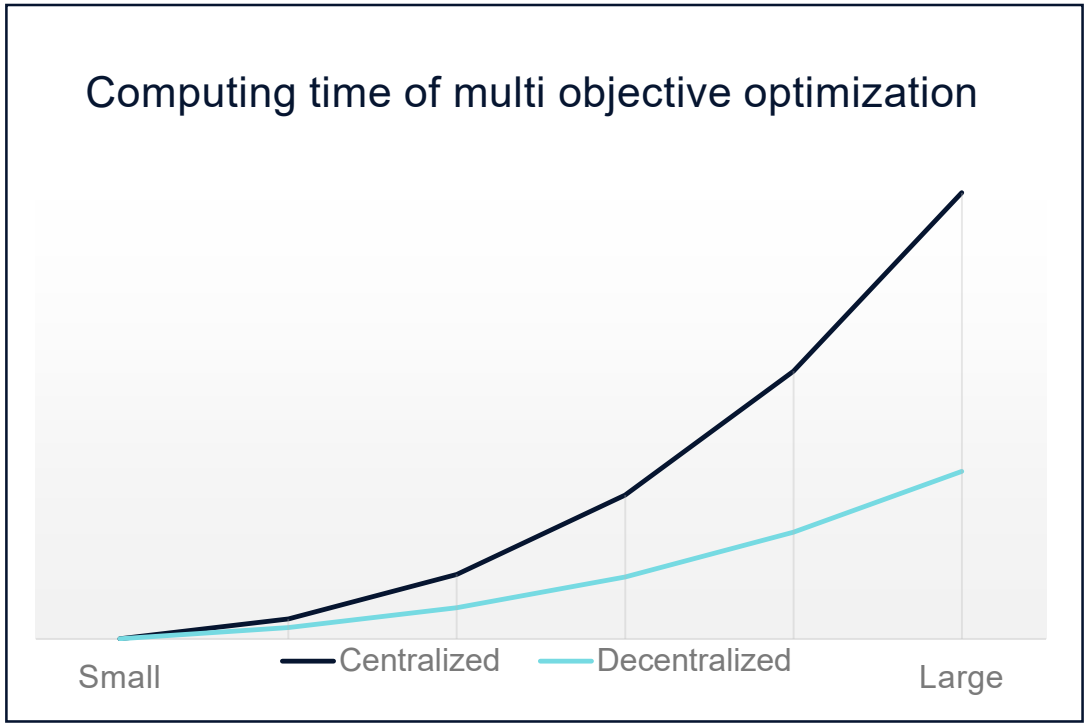
AMR
In Control Layer



Why Decentralization

The central hierarchical system has been challenged by large fleet swarms, collaborative robots, and an increased variety of services provided. System performance is reduced by a centralized control hierarchy since it must take, and real-time communication for many decisions.





Algorithm for AMR

- Control decentralization
- Cooperate with numbers and types of vehicles
- Zoning and service points
- Resource management
- Scheduling
- Dispatching
- Path planning
- Robustness and resilience

IEI Embedded System For AMR

Optimized Mechanical ID Design

Extended OT

Thermal Technology

Quick CTOS Integration

Shock & Vibration Resistant

CE/FCC

Industrial Automation System

TANK Series

DIN-Rail Embedded System

DRPC Series

Compact Size Embedded System

ITG / uIBX Series

Digital Signage Embedded System

IDS Series

TANK-XM810 / TANK-XM811

TANK-XM811 Features

- Supports 12th CPUs
- Support 35w and 65w CPU
- Dual independent display interface
- Support quick disassembly
- Multiple USB and multiple serial ports
- Modular design for easy expansion

Application

- Factory automation
- ATM
- Automatic ticket collection system
- Artificial intelligence reasoning system

TANK-XM810 Features

- Supports 10th/11th CPUs
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Application

- Factory automation
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DRPC-240-TGL-U / DRPC-W

DRPC-240-TGL-U Features

- Intel® Core™ i5-1145G7E/i7-1185G7E/ Celeron™ 6305
- Four 2.5GbE network interfaces (optional POE)
- Multiple IO interfaces
- Flexible expansion

Application

- factory automation
- energy management
- Factory production line
- AGV

DRPC-W Features

- Support wafer series motherboards
- WAFER-TGL-U
- WAFER-EHL
- WAFER-JL
- Compact size design

Application

- factory automation
- ATM
- Automatic ticket machine
- artificial intelligence inference system

Computer Vision In Manufacturing

Design

- Modeling
- Simulation

Planning

- Production plan

Production

- Process control
- Robot guidance
- Classification
- 3-D position
- Safety

Inspection

- Quality control

Assembly

- Automatic assembly
- Assembly quality

Transportation

- AGV/AMR
- Logistics

Disassembly

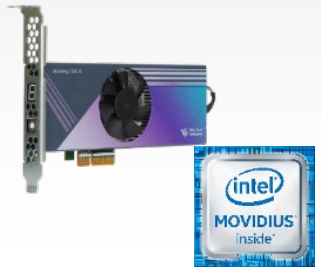
- Automatic disassembly

IEI AI Solution For CV

- High workload with optimized thermal design.
- Powerful AI inference capability with VPU.

OpenVINO™ TensorFlow Lite TensorRT

AI Accelerator PCIe Card



AI Accelerator M.2 Module

AIoT Dev. Kit

OpenVINO™

Network AIoT Dev. Kit

OpenVINO™

AI Box PC

FLEX-BX210-Q470

FLEX-BX210-Q470 Features

- Support Intel 10th/11th CPU
- Four hot-swap hard drive bays support RIAD 0 1 5 10
- 4 x USB 3.2 Gen2
- Multiple PCIe expansion slots
- Internal multi-expansion

Application

- Edge computing
- Factory automation

AI Small Box For Industry

- AOI inspection
- Robot arm control

Small Box PC

Tango Series

TANGO-3010 / TANGO-7010

TANGO-3010 Features

- Intel® Celeron J6412
- 2 x HDMI 1.4b up to 4k
- Support multiple USB ports

Application

- Digital Signage
- Smart factory gateway

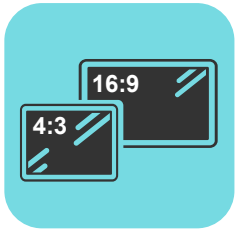
TANGO-7010 Features

- Intel® ADL-S Core™ I
- 2 x HDMI2.0 up to 4k
- 1 x DP ++ up to 4k
- Support multiple USB ports

Application

- Digital Signage
- Smart factory gateway

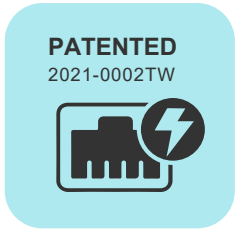
Industrial Touch Panel PC and Monitor



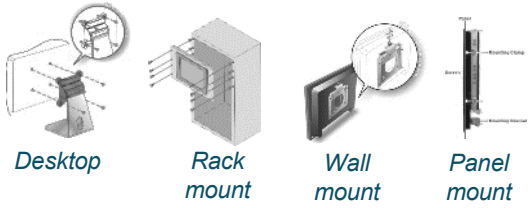
Scalability In Panel Sizes

Front Panel IP64/65 Waterproof

10-point AG PCAP touch with anti-UV



PoE PD Device



Versatile Mounting Methods

IP64 Slim Panel PC

AFOLUX Series

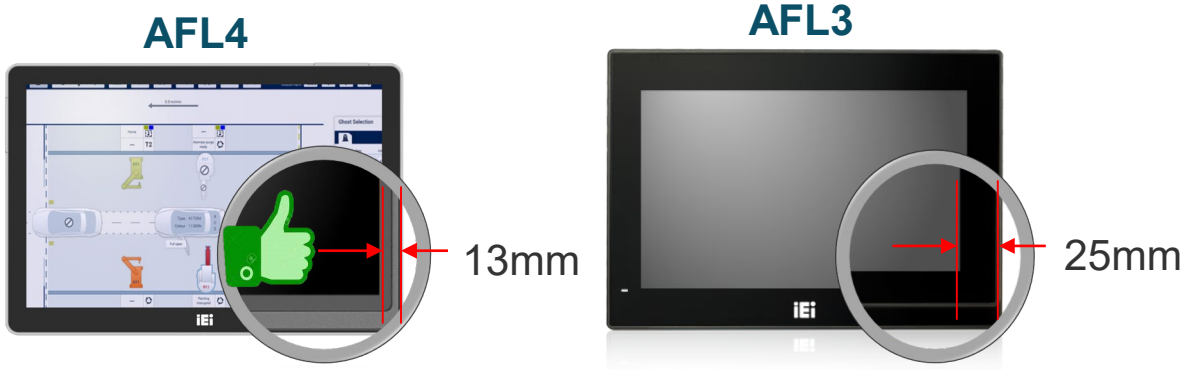
IP65 Rugged Panel PC

PPC-F Series

Industrial Monitor

DM-F Series

IEI AFL4 Series



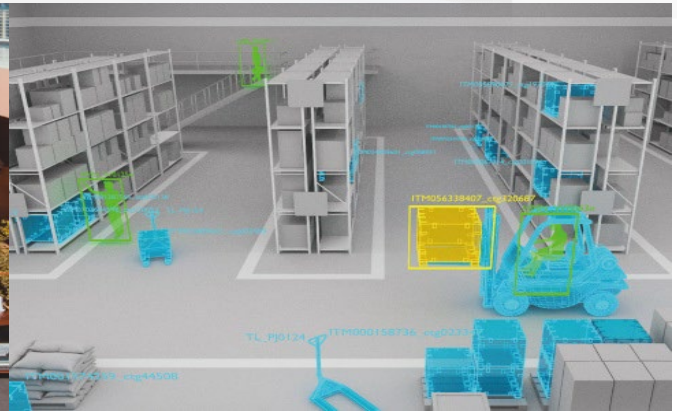
Features

- Intel ® Elkhart lake & Alder Lake -P
- Fanless design
- Narrow bezel design
- Support Wi-Fi 6E and Bluetooth 5.2
- Support 2.5GbE Lan port x2
- Support M.2 2242/2280

Application

- Self service
- Retail

IEI PPC2 Series



Features

- 8”~W21.5” Heavy Industrial Panel PC
- Intel ® Elkhart lake & Alder Lake -S
- IP65 waterproof design
- Support 2.5GbE Lan port x2
- Support M.2 2242/2280
- Anti-Glare& Anti-UV Capacitive

Application

- Factory automation
- Power Industry
- Warehousing
- Visual inspection

Thank You