



# Build an Edge Inference and Cloud Integration Security Solution

**Mark Liu**

Head of Branding Product Division  
Edge-Computing





**Est. 1997**

More than 25 years of experience  
 Headquarters: Taipei, Taiwan  
**Public Listing:** Taidex 3022

**3,000+** GROUP EMPLOYEES



**GROUP WORLDWIDE OFFICES**

Design Centers	3
Manufacturing Centers	3
Logistics Centers	5
Sales Offices	22

**INDUSTRY SERVED**



Telecom & Datacom  
 Factory Automation, Gaming, Retail, Edge  
 Computing, Transportation, Healthcare

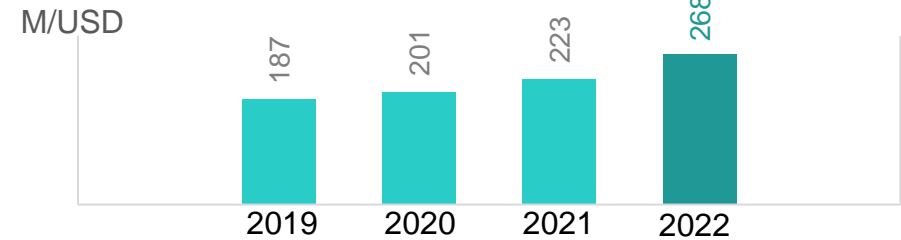
**>10,000**

**IEI HAS DEVELOPED MORE THAN 10,000 STANDARD PRODUCTS & SOLUTIONS**



**20%** **STABLE GROWTH**

Even in economically challenging times, Iei reliably achieves a positive sales performance.



# IEI Group Worldwide Presence

3 Manufacturing Sites    5 Logistics Centers    25 Countries    11 Subsidiaries



● IEI and QNAP Subsidiaries   
 ● QNAP Subsidiaries   
 ● QNAP Regional Sales Service Centers

**Xizhi, Taipei County**

- Design center
- Technical support
- Logistics center

**Qidu, Taipei County**

- Manufacturing center
- Logistics center
- RMA center
- Assembly center

**Willich, Germany**

- RMA center
- Technical support
- Logistics center

**Shanghai, China**

- Design center
- Technical support
- Manufacturing center
- Logistics center
- RMA center
- Assembly center

**California, USA**

- Logistics center
- RMA center
- Assembly center

**United Kingdom**

- Sales
- Marketing
- Warehouse
- Technical support



# How IEI help in IIoT ?

## COMPUTING



- Embedded Box PC
- Industrial Panel PC
- Industrial Boards
- AI Accelerator
- Device Management



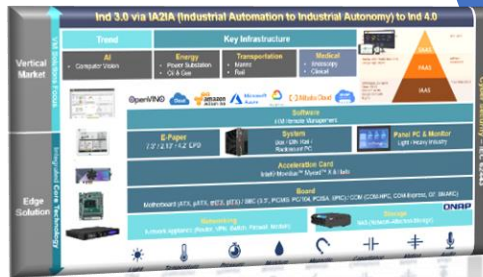
## NETWORKING



- Network Appliance
- Computing Server



## Solution



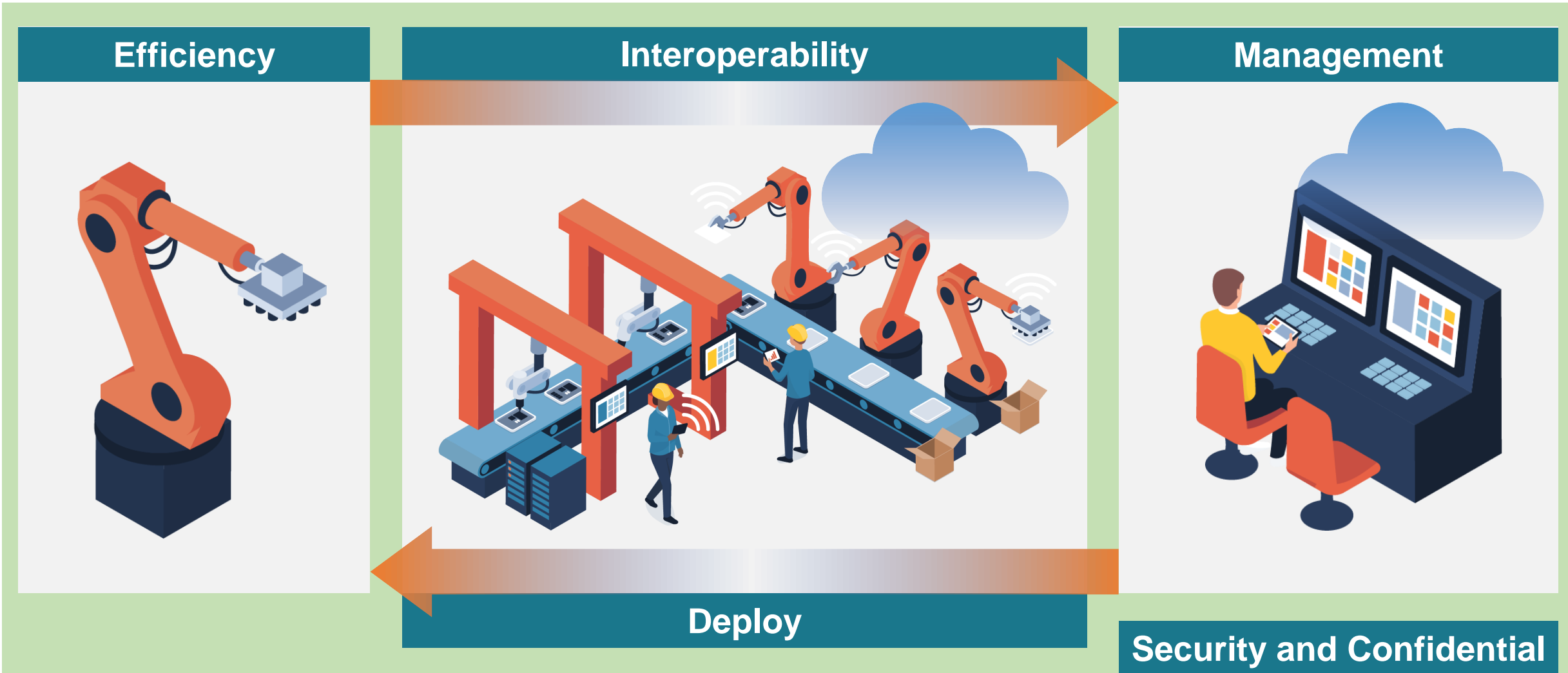
- AI
- Energy
- Transportation
- Medical



**91%** of manufacturing companies have increased their digital transformation investments



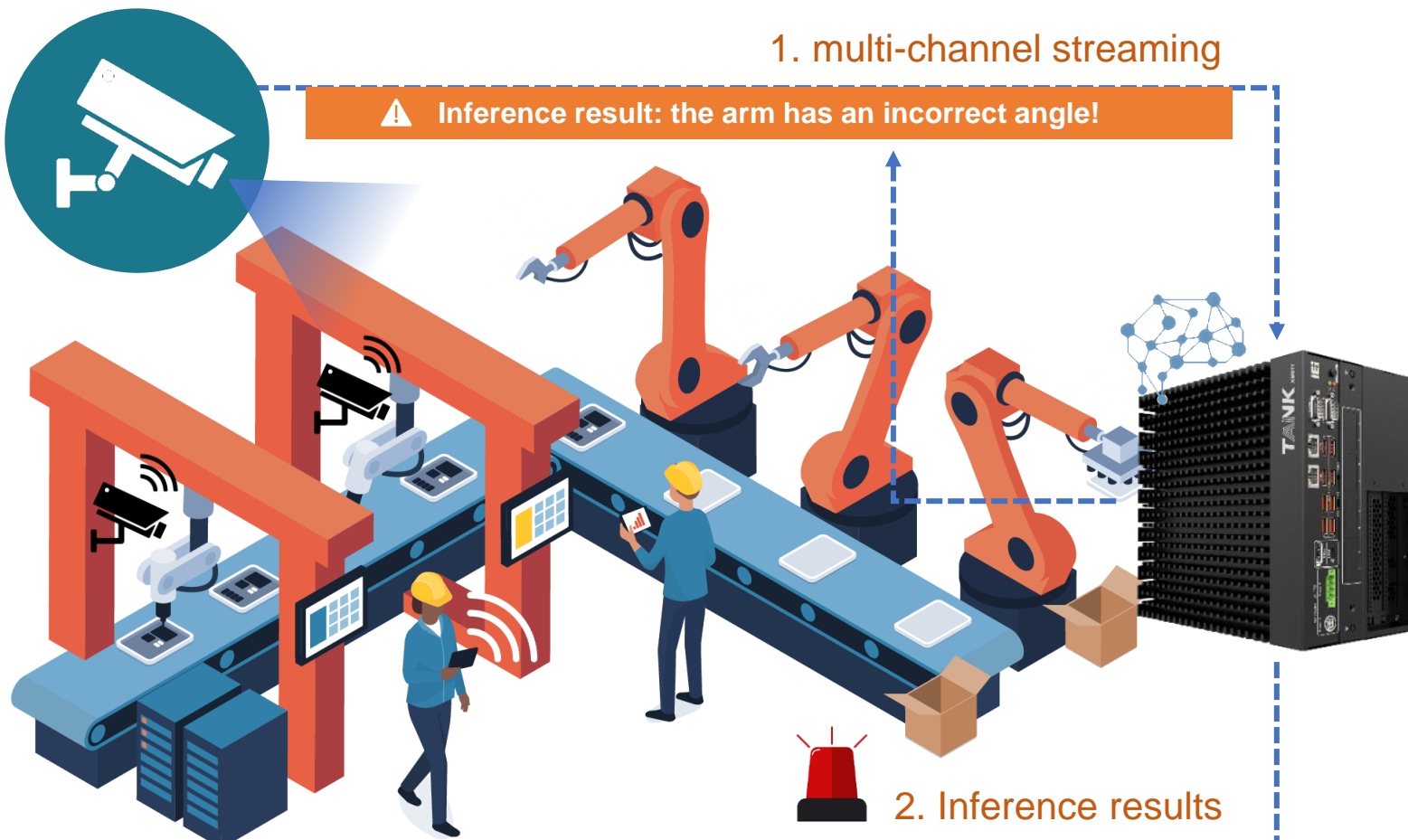
# The Challenges to Smart Factory



# Robot Arm Surveillance and Management

## 1. multi-channel streaming

⚠ Inference result: the arm has an incorrect angle!



## 2. Inference results

⚠ Inference result: people are in the danger zone!

### • 客戶痛點

自動化趨勢強勁，即時反饋日趨重要

1. 自動化機械導入，廠區安全與機械狀態需即時回饋
2. 人力資源有限，無法確認機械當下執行狀態

### • 解決方案

多通道影像串流與即時推論方案

1. 設定警戒區域，即時警示與串連警示機制
2. 有效從遠端掌握設備資訊，透提供預測及告警，建立數位雙生環境。

# Modular Edge AI Inference System



TANK-XM811

Integrated Intel® Arc™ Pro A40/A50 graphics High-speed 6GB GDDR6 memory



4x Displays at 4K



Flexible expansion kit via PCIe for efficiency in Intel® Arc™ Enhanced system reliability



Intel® Arc™ Pro A40

Intel® Arc™ Pro A50



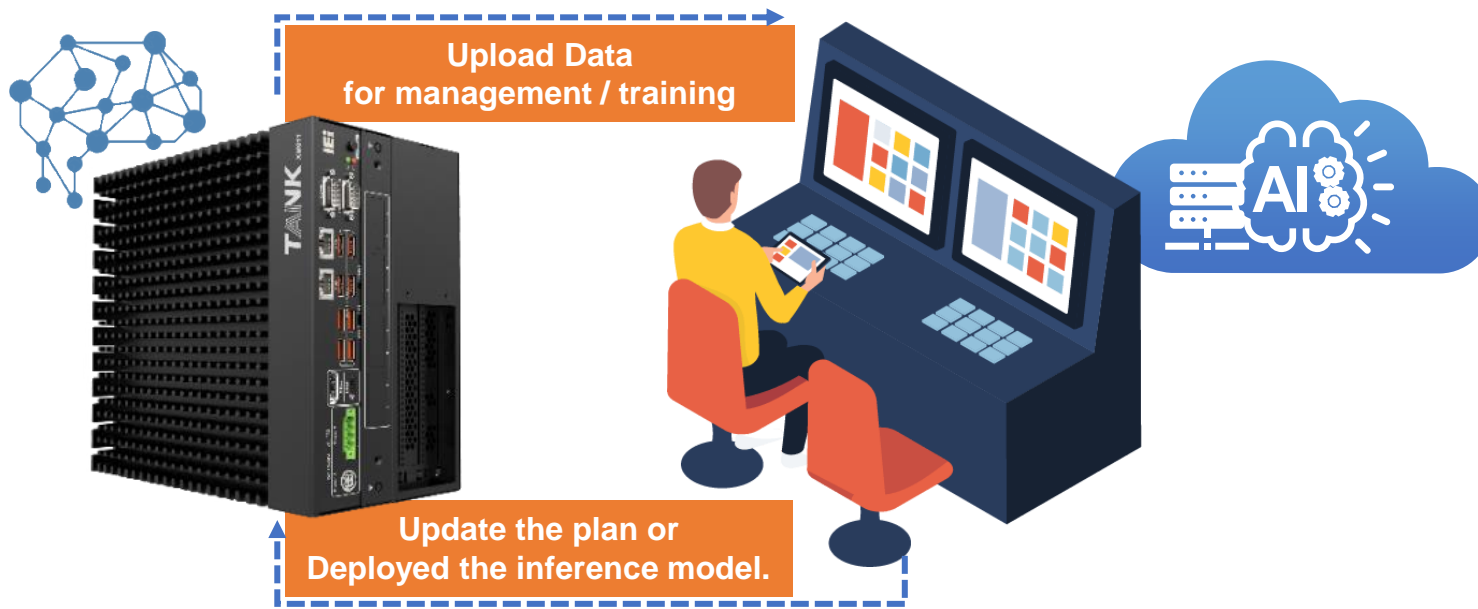
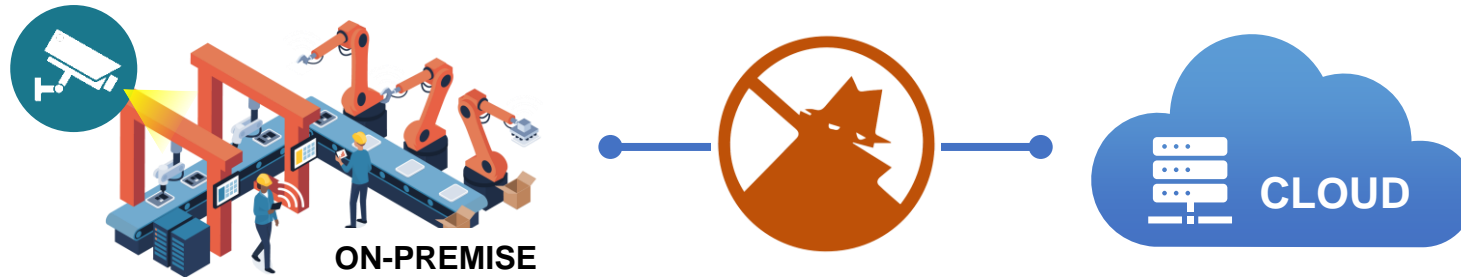
Optimized Thermal Design





# From Edge to Cloud :

## How to protect the sensitive data from the fields?



### • 客戶痛點

各地廠房產線資訊與供應鏈整合管理問題

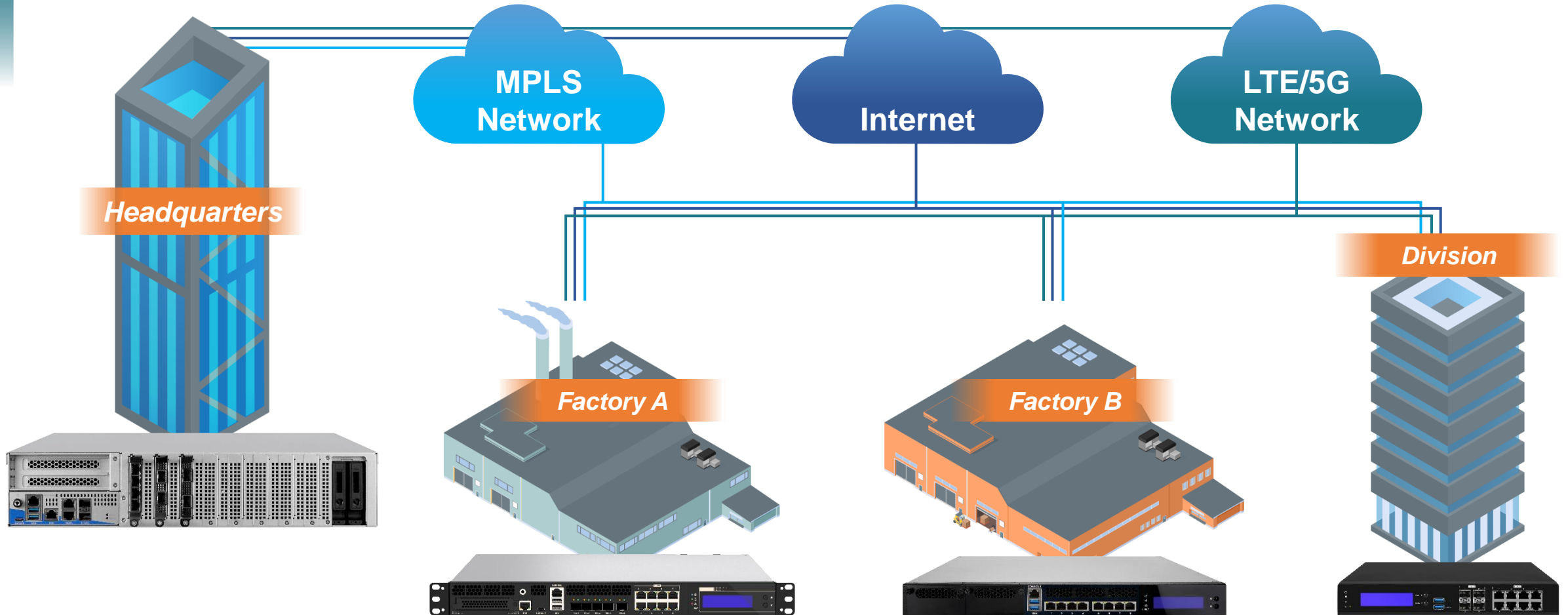
1. 供應鏈資料繁多，且價格備料與執行資訊為高度機密
2. 不同場房環境也不同，需安全部屬所對應的推論模組

### • 解決方案

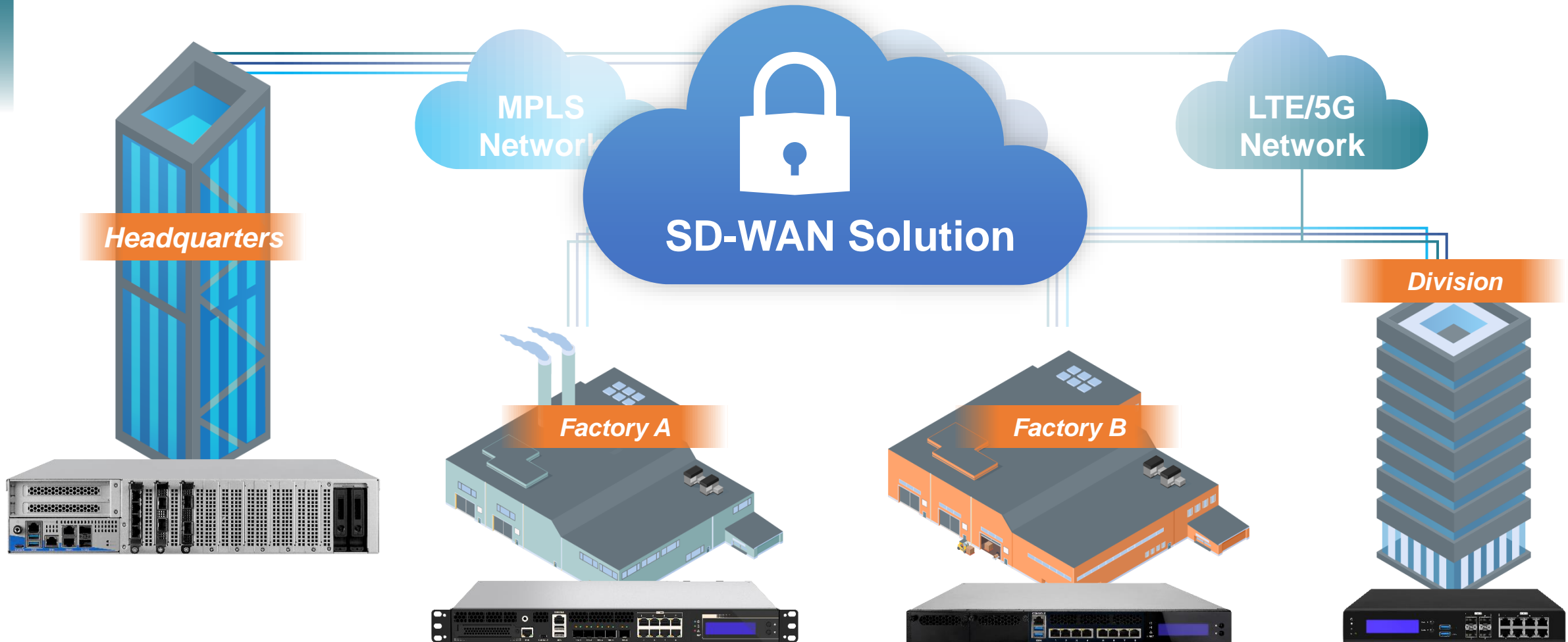
SD-WAN加速大規模 VPN 組網

1. 提供一站式SD-WAN軟、硬體整合方案
2. 提供中、小企業內網安全之基礎架構
3. 無訂閱費用，提供企業更彈性的網路安全發展策略

# Use Case



# High-performance Enterprise Networking Security Solution



# Intel® QAT (QuickAssist) Technology

- Intel's 3rd Generation Technology
- Sub Gb/s to 100 Gb/s Rates
- Networking, Storage, Big Data, Cloud, Datacenter, and HPC Applications Receive High Performance Execution of:
  - » Cryptographic Ciphers
  - » Authentication
  - » Public Key Exchange & Key Protection
  - » Compression/Decompression
- Enables Standard Server & Cloud Platforms to Offer Ubiquitous Security and Compression/Decompression
- Provides a Converged Platform Architecture for Cloud, Networking, Storage & Big Data

## Integrated Accelerator & PCH

### Intel® QuickAssist Technology

Crypto

Compression

10 GbE/1 GbE Ports

USB 3

SATA 3

GPIO

SPI & eSPI

x1 GbE

SMBus

Innovation Engine (IE)

PCIe Gen3 Root

# QuCPE 內建QuWAN：免訂閱費、無痛採用

	QuWAN (QNAP SD-WAN)	V廠/C廠 SD-WAN	VPN	MPLS/T1 專線
費用	\$0 (無訂閱費)	月租:數千至萬元不等	昂貴VPN伺服器	若用於資料備份月租費用破萬
最佳路徑與MESH	支援雲端與分點自動調整	有	無	無
自動調配出口	支援	有	無	有
總部頻寬需求	可降低50%	降低總頻寬成本	極高	極高
安裝調整	簡單容易, 一目了然	訂閱服務	安裝複雜很難維護	安裝複雜很難維護
IPSec效能	超越Gbps等級的硬體加解密	更換設備和高訂閱費	需採購昂貴的VPN設備	更換設備和高月租費
效益	輕鬆應付業務增長或擴增	業務增長月租費用隨頻寬提高	業務增長的瓶頸	業務增長的瓶頸

# High Performance AI Inference at the Edge



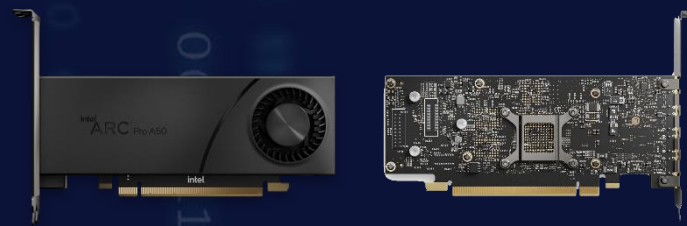
High Performance



Ruggedized



Modular Expansion



Intel® Arc™ Pro Graphics



Wired/Wireless Connectivity



Thanks for  
your attention