Innovating at the Edge Meetups

Operations Technology Solutions – Driving Industry 4.0

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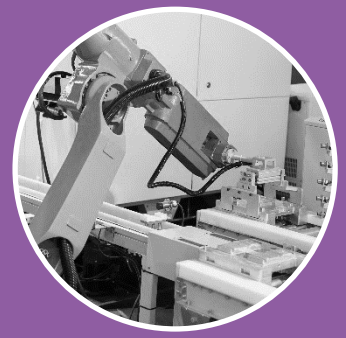
Evolutionary History

Industry 1.0

- 1784
- Steam
- Industrial Loom

Industry 2.0

- 1870
- Electricity
- Assembly Line



Industry 3.0

- 1969
- First PLC
- Automation

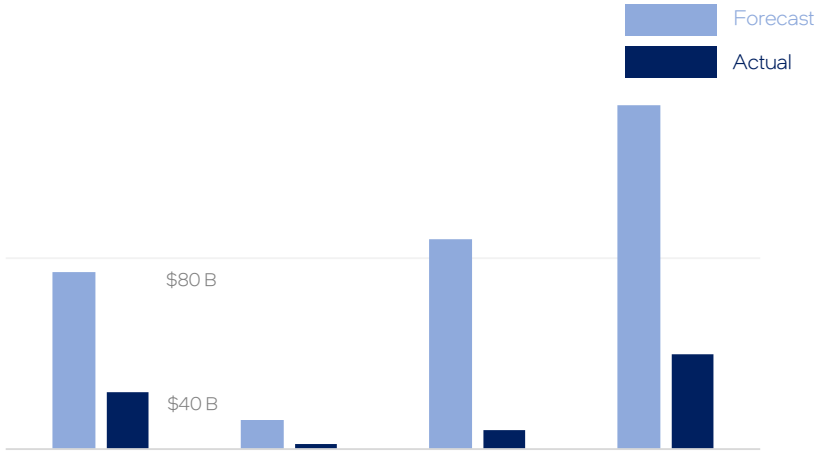
Industry 4.0

- Today
- Connected Data
- AI Focused
- Human Machine Cooperation

Achieving Human Machine Cooperation

Limited Industry Adoption … So Far

Low Industry 4.0 Adoption: Projected vs Actual



Numbers in $ Billions	Devices	Connectivity	Infra SW & Apps	Services
Projections	37	6	44	72
Actual Adoption	12	1	4	20

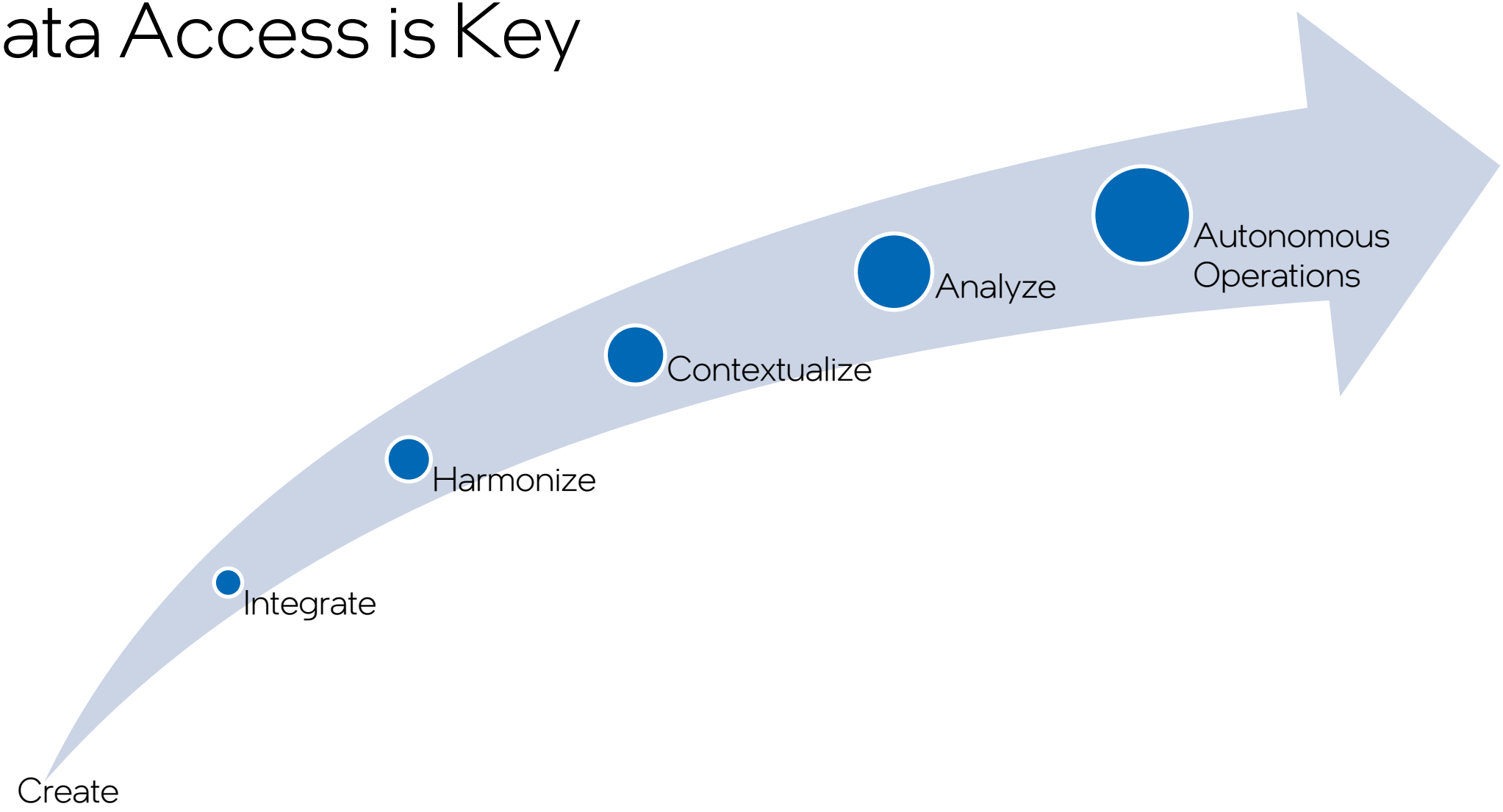
10%

Source: How to win in IIoT connectivity – McK Research

Bottlenecks

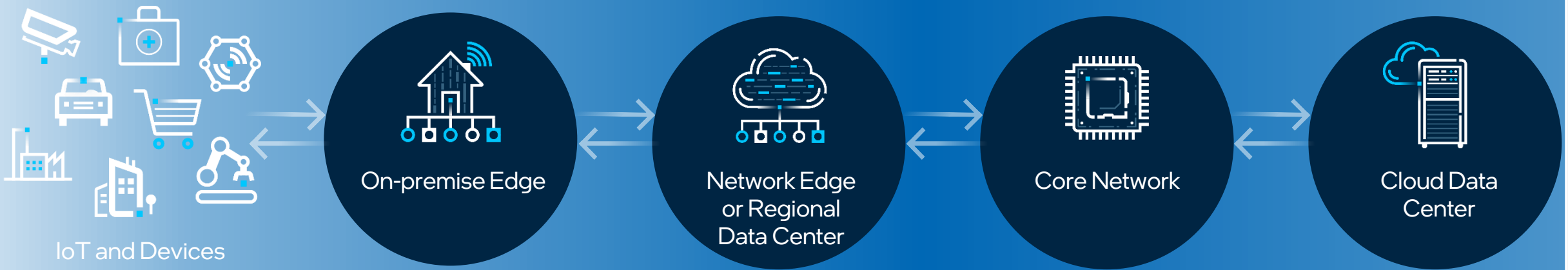
- Proprietary Systems
  - Low Incentive to change
  - Point Solutions
- Aging Infrastructure
  - Legacy Architecture
  - High Maintenance Costs
- Data Connectivity
  - Incompatible Protocols
  - No Platform Solutions
- Resource Scarcity

Data Access is Key



Intel® Smart Edge

Delivers compute where you need it

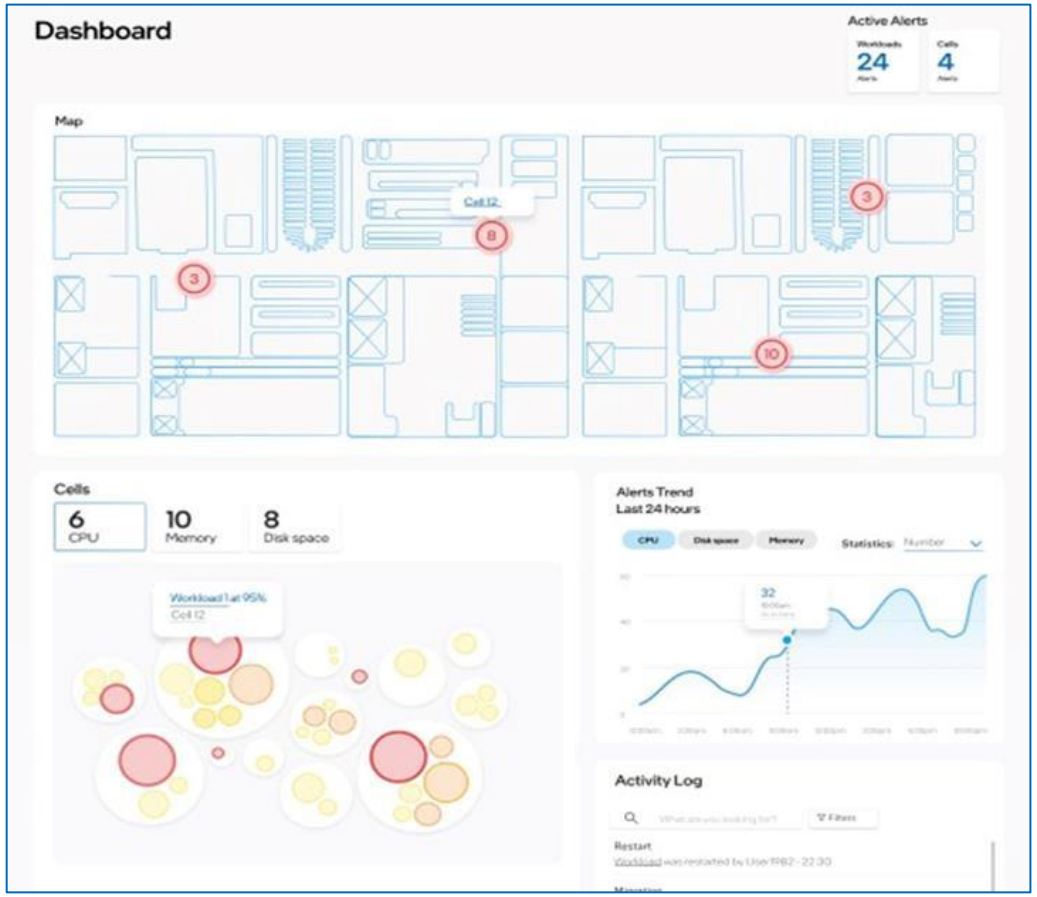


Edge Value Drivers

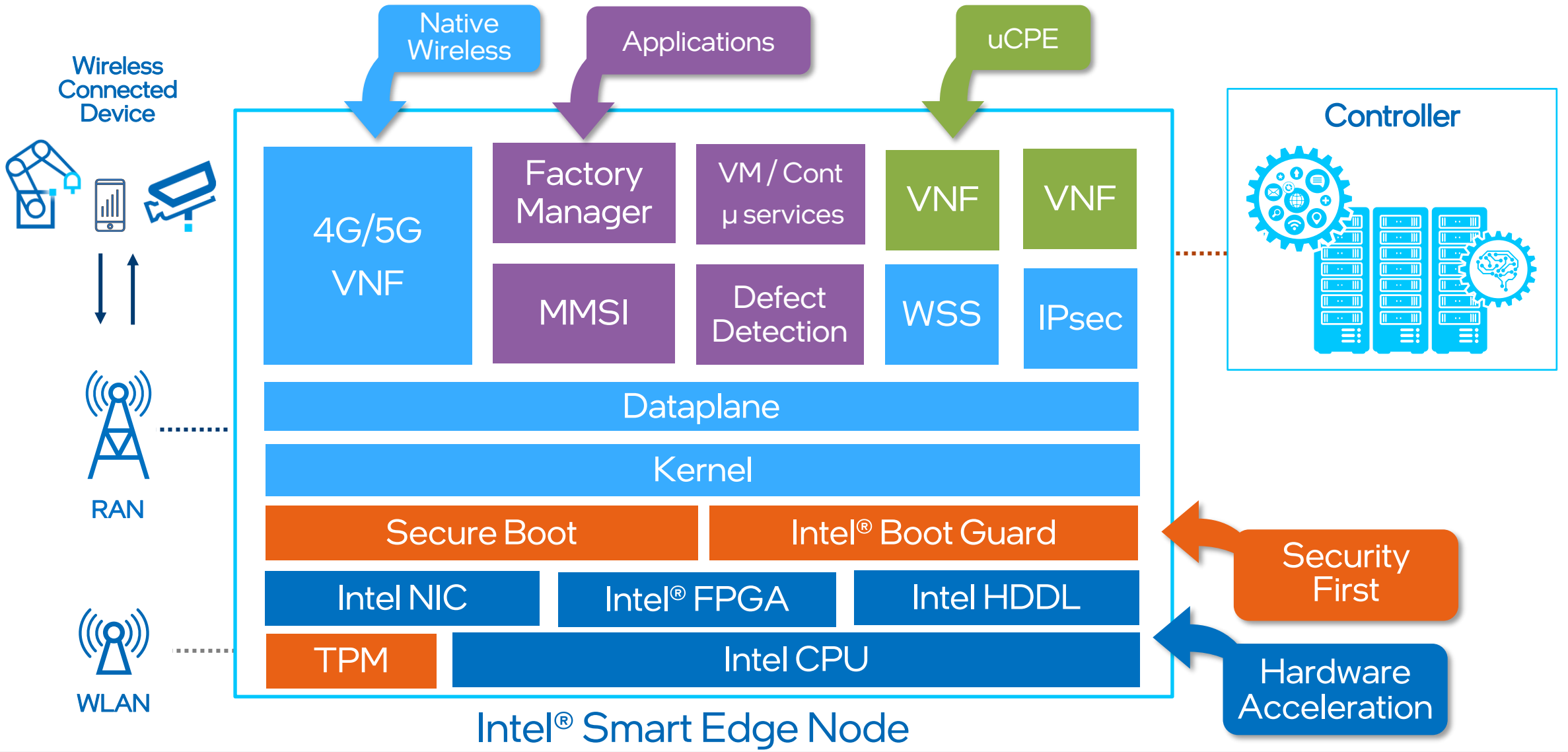
Latency
Bandwidth
Connectivity
Security
AI

Factory of the Future - Requirements

- Hyperconverged Workloads
- Zero Trust
- Flexibility – 5G Capability
- Data awareness
- Modern Application Architecture
- Simple Deployment
- Experience Driven – OT Focused

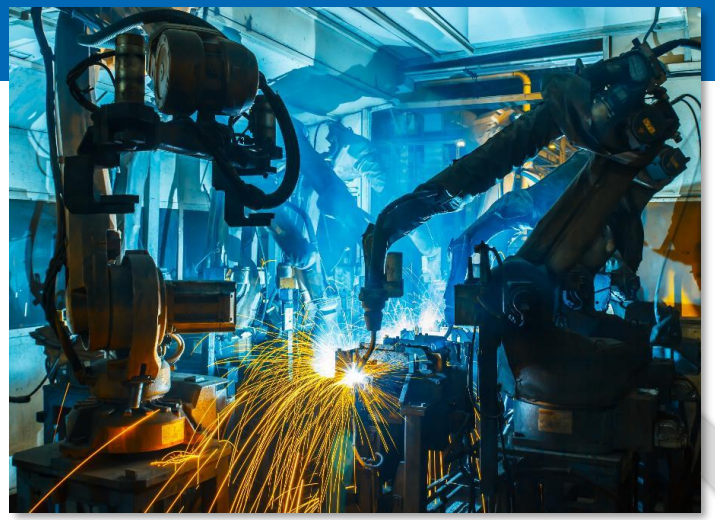


Architecture : Hyperconverged Industrial Edge



Hyper Converged

- Partnered with TT Tech Industrial
  - Virtualized PLC
  - HMI Hosting
- Leverage Intel Code
  - Sensor and Video Ingestion
- Micro Services
  - Enable System Extensibility
  - Platform Data Consumption



Next Step - Enable Business Outcomes

- Real time data
  - Human/Machine Cooperation
  - Machine Vision
  - Digital Twin
  - Defect Detection
- OT/IT Integration
- Effective User Experience

Questions?

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