Transforming the Edge
Reassessing Automation Architectures

#DigitalEvolution
#InnovationDay
#EcoStruxure
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BIG DATA
One EcoStruxure architecture
serving four end markets with six domains of expertise
The EcoStruxure Platform maximizes the value of data
Translating data into actionable intelligence and better business decisions

CONNECT
Connect everything from shop floor to top floor

COLLECT
Capture critical data at every level, from sensor to cloud.

ANALYZE
Convert data into meaningful analytics

TAKE ACTION
Drive action through real-time information and business logic

CLOSE THE LOOP
Traditional Automation

- **Digital twins** exist however are fragmented and isolated
- **Layered architectures** are used to deal with complexity
- **Hardware specific** technical domains with differing skillsets
- **Bespoke integration** between heterogeneous technologies
- **Lifecycle mismatches**
- **Low cohesion + high coupling => brittle systems**
- Increasing **complexity, scale and connectivity**
- Driven by **organic growth** with bottom-up data flow
- It’s time to rethink so we can **close the loop**
Technology Focus
Process-centric, built for efficiency, upwards data flow

Function Focus
Asset-centric, built for efficiency, agility and business performance
Creating a new Automation Platform

Smart process system (IEC 61131, IEC 61499)
- Modular (system software) for configuration
- Flexible architectures for IT and OT platforms
- Decoupled hardware implementation
- Microservice software architecture

Smart connected products
- Connectivity (Ethernet) and Identifiability
- Syntactic and semantic interoperability (OPC UA)
- Distributed control intelligence
- Cyber representation (Twin / Asset Admin Shell)

Common & Open Technologies
- Ethernet based
- OPC UA Pub/Sub + TSN
- Containers and virtualization

Connected Products
- Edge Control
- Apps & Analytics
- Services

Modular (system software) for configuration
Flexible architectures for IT and OT platforms
Decoupled hardware implementation
Microservice software architecture

Connectivity (Ethernet) and Identifiability
Syntactic and semantic interoperability (OPC UA)
Distributed control intelligence
Cyber representation (Twin / Asset Admin Shell)
Edge Compute Node

From specialized hardware...

…to a flexible edge application platform

- More diverse applications
- Less stock on hand
- More flexible solutions
- Streamlined supply
- Lower downtime
- Scalable management
- Integrated cybersecurity
## Facilitating Digital Transformation

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<th><strong>Traditional Model</strong></th>
<th><strong>Automation Platform</strong></th>
<th><strong>Solution Marketplace</strong></th>
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<tr>
<td>Hardware-centric</td>
<td>Mixed hard/software</td>
<td>Software-centric</td>
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<tr>
<td>Vendor focussed</td>
<td>Ecosystem focus</td>
<td>User focus</td>
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<td>Release coupled</td>
<td>Less coupled</td>
<td>Loosely coupled</td>
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<td>Transactional business</td>
<td>Mixed Interaction</td>
<td>Collaborative consumption</td>
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Roundtable Questions

• What information loops could you close to create value for your business? For others?
• What tools, skills or resources would your business require to manage and secure converged IT/OT platforms at scale?
• Given an agile technology platform, what else would you need to improve your operational agility?
• Are there new business models that you could take advantage of through an open automation platform and marketplace?
Join the conversation

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