The Future of Automation is not Business as Usual

Pascal Junges / Commercial Business development

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A lot has changed in 50 years!

Industrial control: relatively linear progress

- Richard E. Morley invented the first programmable logic controller in 1968
- The challenges and constraints have been on available calculation power, memory, and signal conditioning to execute rungs in a cyclic loop
- Hardware driven

End users struggle with complexity

- Continual pressure to reduce costs
- Increased product variants & shorter life-cycles
- Fluctuating demand, energy & raw material prices
- Increasing regulations
- Workforce evolution

New technology & behavior to leverage

- Machine learning / Data science
- Augmented / Virtual reality
- Digital twins, Edge computing
- Cloud architectures
- Cross team collaboration
- IT driven mindset

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Do you identify with these digital transformation statements ?

"I hesitate with Industry 4.0 strategies due to cost and complexity to interface with IT systems."
(Predictive analytics, Digital Twins, Asset Management …)

"I'm obliged to renew HW & SW automation solution when my HW reaches end of life."

"I lose time solving the complexity of interfaces between different vendors automation solutions !"

" it is difficult to attract talented young software engineer to maintain my plant or program systems !"

"Teams lose time in changing habits and rewrite our library/application because of different Automation Solution supplier !"

"I feel locked to a supplier because switching costs are too high !"

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Constraints to successful OT digital transformation

Vendor locked solutions

Access to data from OT systems

Complexity to scale up solutions

Limited interoperability of OT systems

Our vision for next generation Automation

Portable

Interoperable

Sustainable

Open

Software centric

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For a vendor independant automation solution

1. **A community** of Users and Vendors
2. **A shared-source runtime execution engine**
3. **IEC 61499 standard –** as technology enabler

Think of it as the Android of Industrial Automation

For smartphones

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For industrial automation

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to master your destiny, join the community !

- **Sponsor the initiative** for “Plug & Produce” automation with vendor-independent software components
- **Influence** the next **development** of the runtime execution engine
- **Get trained** on the technology, interact with **UAO Ecosystem**
- **Network with other users** to learn & drive standardization

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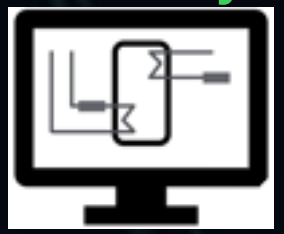
After 10 months UAO-compliant offers are available

- UNO 430
- EW420
- IceBlock
- K-Chief (CPU board)
- IS1+ remote IOs
- Ecostruxure Automation Expert

License & Support

Digital Continuity with AVEVA



Cyber Security

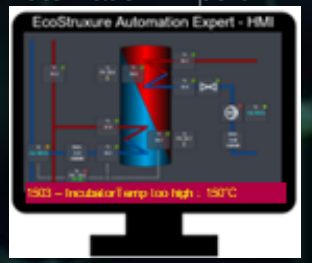
Libraries

Application Libraries
Field device Libraries

EcoStruxure
Automation Expert

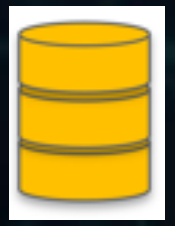
Embedded Line HMI

Automation Expert HMI



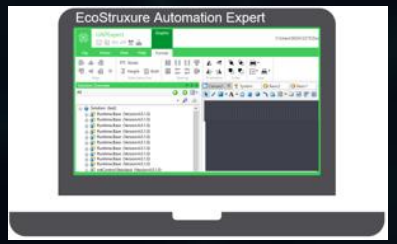
Embedded Historization

Automation Expert Archive



Engineering

Automation Expert



IT & OT Communication protocols

HW & SW dPAC Controllers

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A Unique Technology Mix

Master complexity

Asset centric design

Flexibility of object based design

HW and Application libraries

Object-orientation

Hardware abstraction

One Runtime across platforms

Cost savings by separated HW & SW life-cycles

Engineering with no regard to hardware.

Full re-usability, Simple porting, No vendor lock

One Application

Distribute the control logic to several controllers by drag & drop.

Single application to maintain

Automatic cross-communication.

Distributed intelligence

System Orchestration

Orchestration of systems

Reduced efforts to orchestrate heterogenous systems

Control and Monitor whole system from single application

Efficient engineering

One single engineering tool for all tasks

Application independent from HW

Easy and fast system simulation

Integrated engineering

Data consistency

IT readiness

Simple integration with IT systems due to the same processing methodology.

Accurate field-level data by source time-stamping

Openness to advanced programming languages

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Invest in a future proof solution independent of HW life cycle

Master efforts to interact with IT environment

Open your plant to deploy digital transformation & Industry 4.0 strategies

Orchestrate heterogenous systems

Standardize application design to simplify maintenance activities and to reduce downtime

Attract talented software engineer with modern technology

Benefits

Boost bottom-line profitability

Sustainability and decreased carbon footprint

Empower people
Get increased ROI from industrial assets