

Industrial AI Success Stories

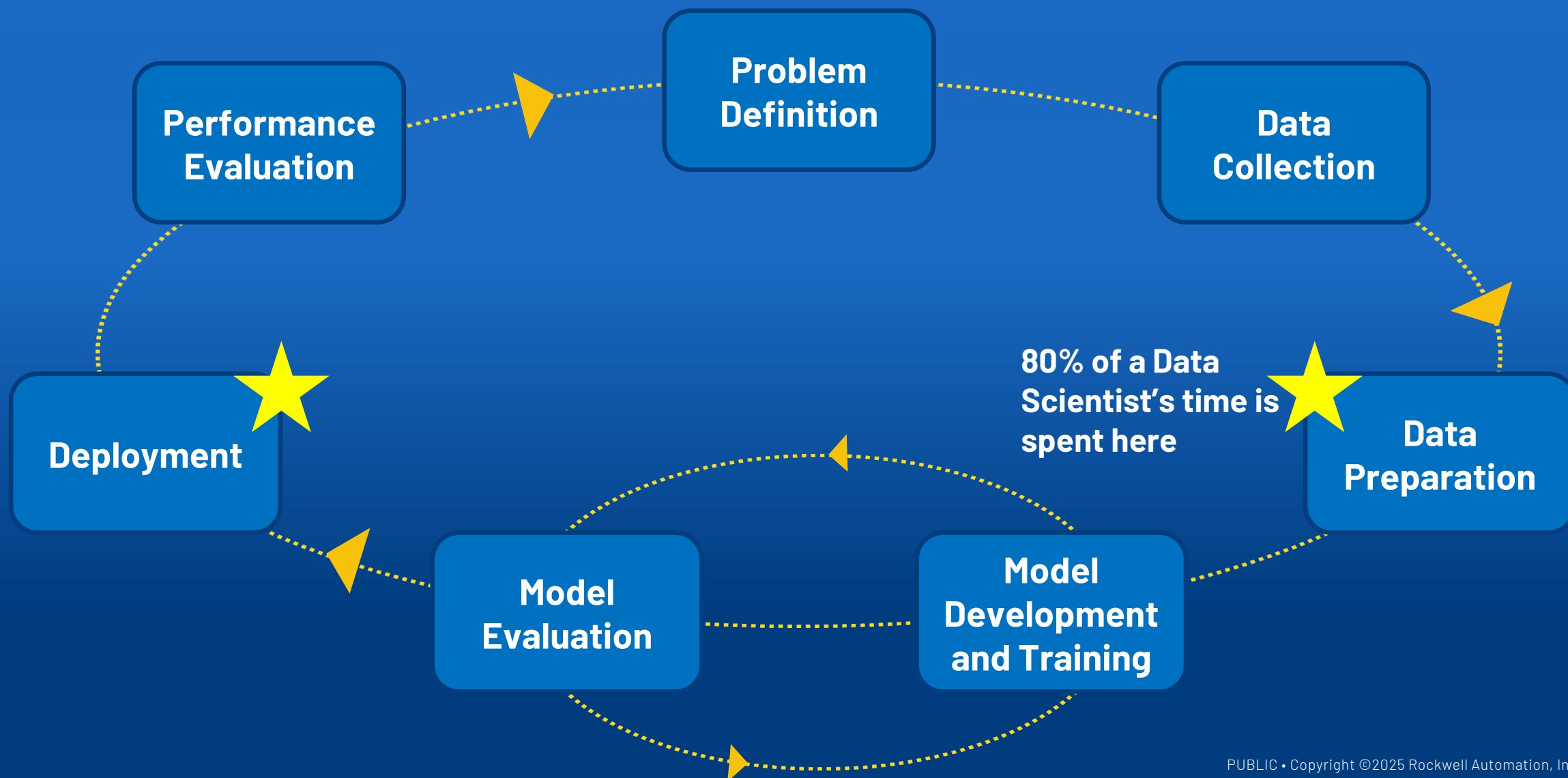
Because Even My Title Needed Machine Learning

Dominique Hain





AI Lifecycle





| AI impacts every phase of the manufacturing lifecycle...

DESIGN

Generate and validate automation designs, logic and configurations



OPERATE

Autonomously operate production: from demand forecasting to production planning, material logistics, machine sensing and control



MAINTAIN

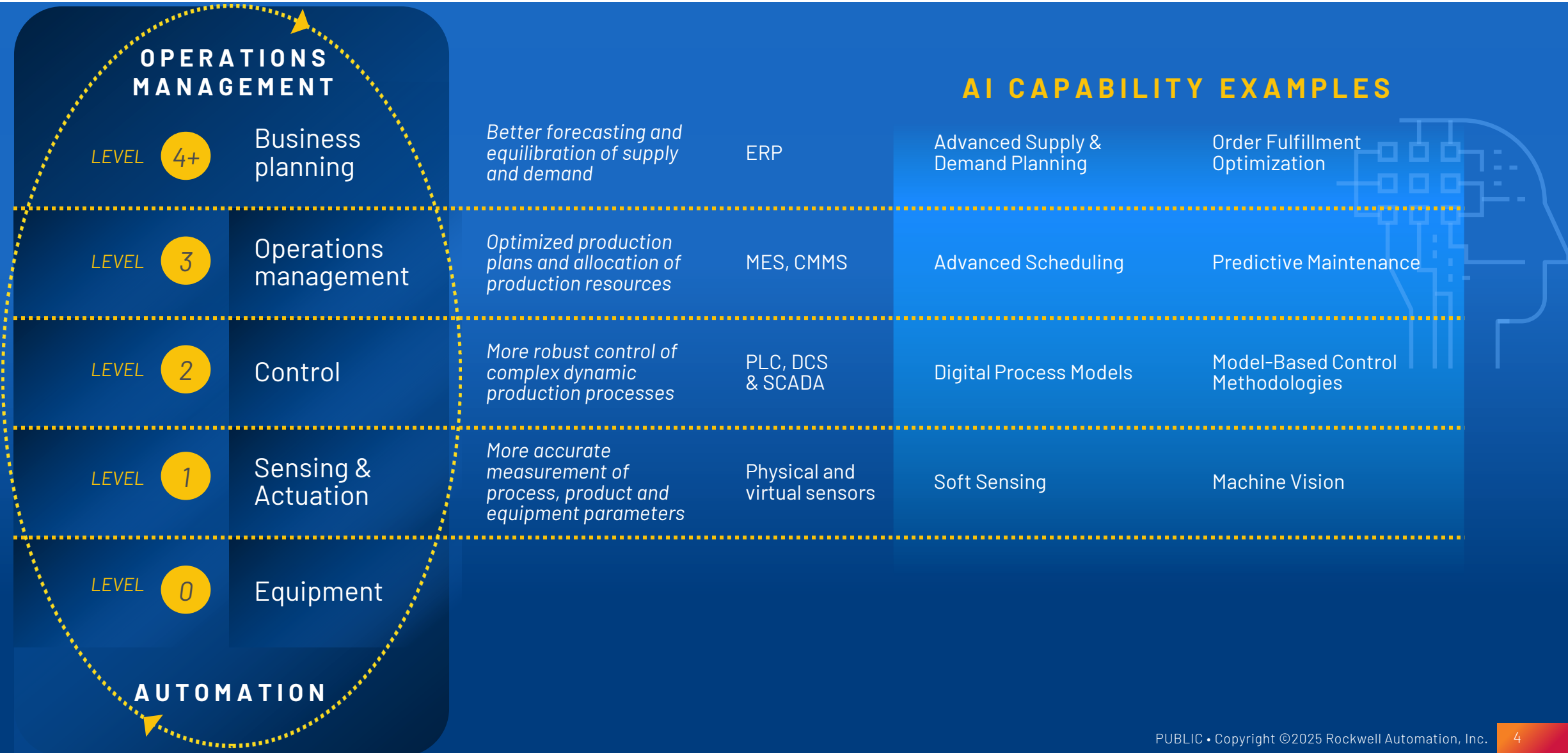
Monitor, maintain and continuously improve production automation systems and physical equipment





...and every level of the operational technology stack.

Solving complex planning, optimization and control problems across the automation landscape



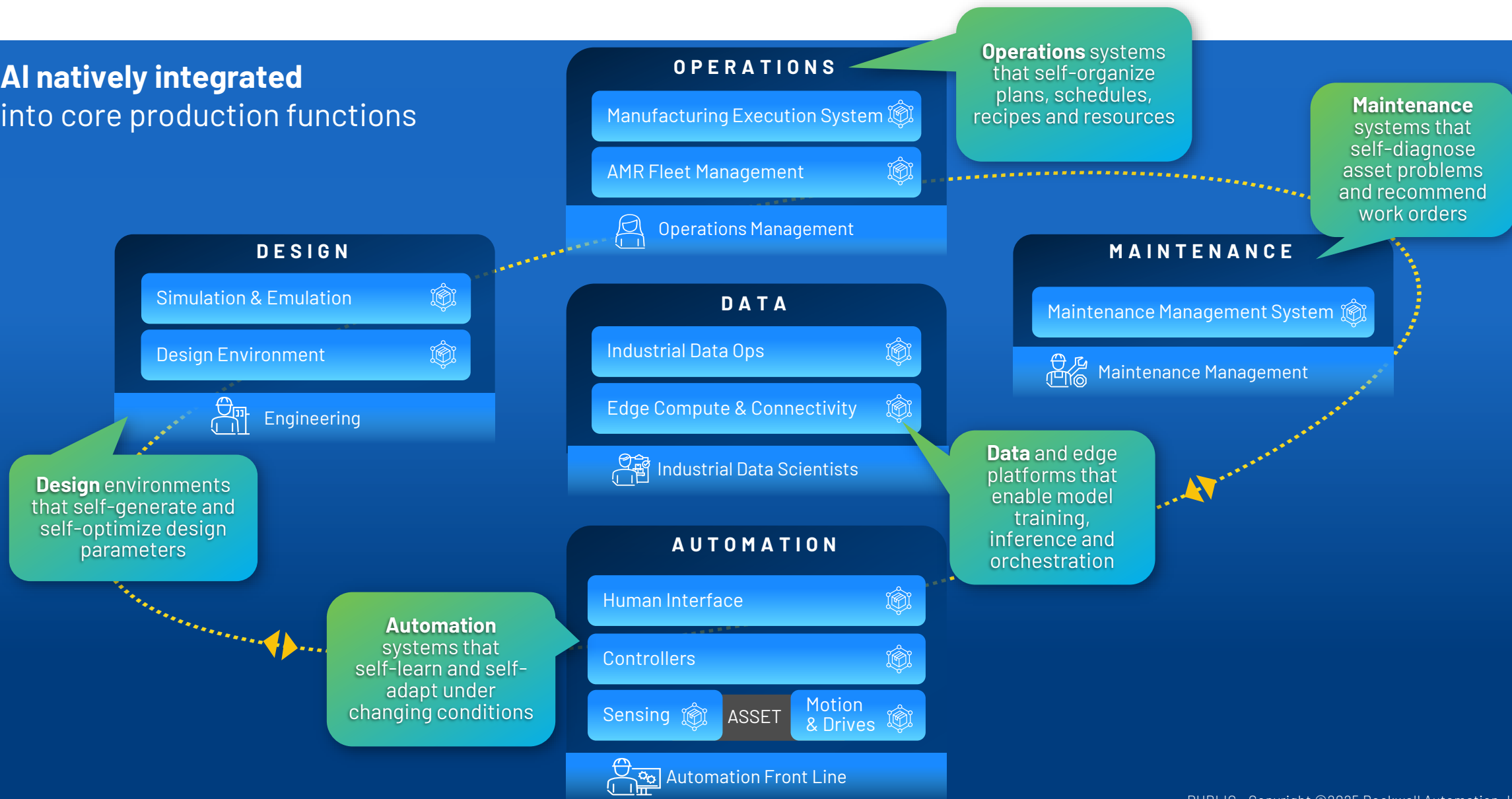
| Typical Industrial Production System

Core production functions in the Rockwell portfolio



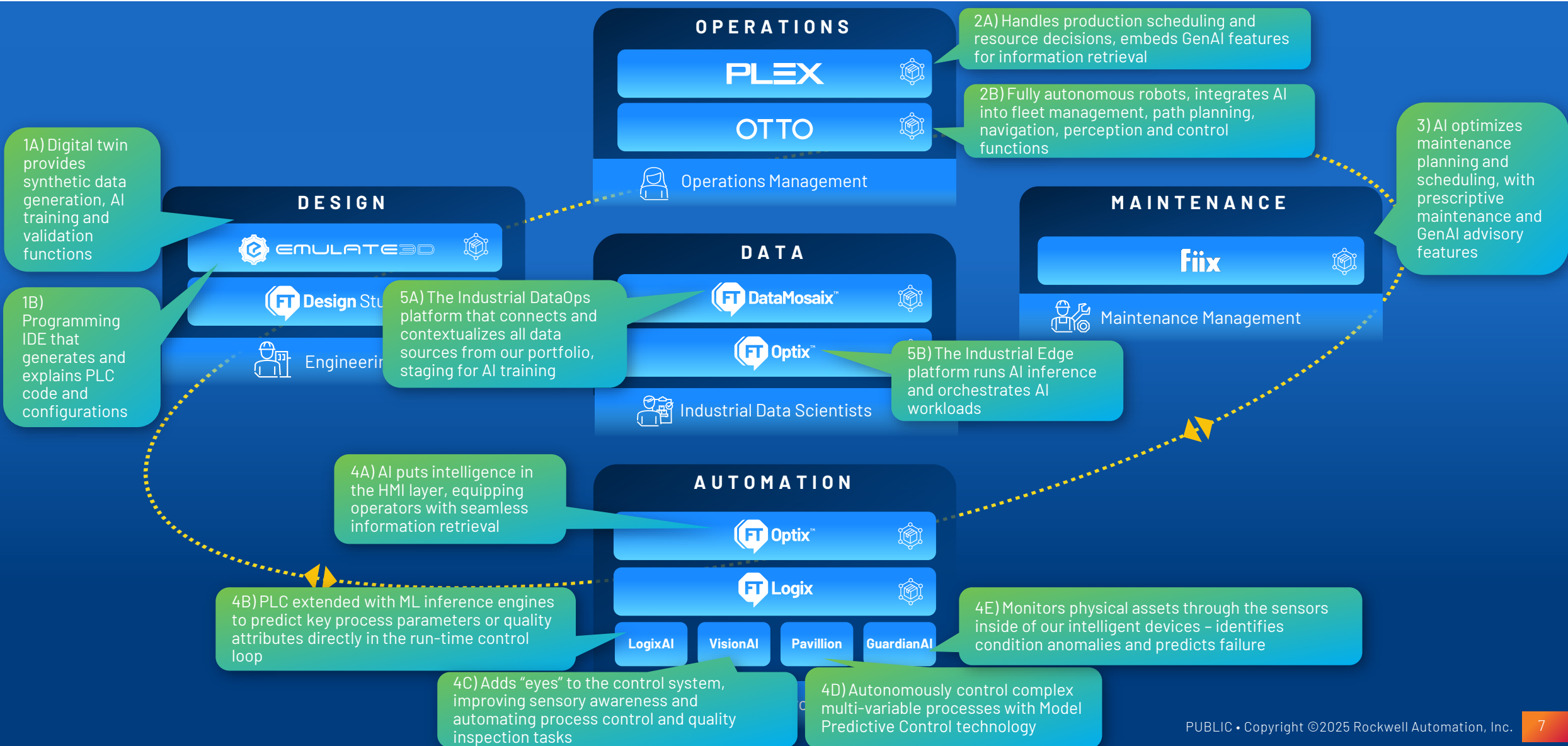
RA | AI-Augmented Production System

AI natively integrated
into core production functions





Embedding AI to create an end-to-end Autonomous Production System



O P E R A T E

Sensing + Control

work and *learn* together



FactoryTalk[®] Analytics[™] LogixAI[®]

Empower OT personnel with out-of-the-box, no-code machine learning at the edge



Industrial Computer

Linux container runs in the chassis or cabinet and communicates with ControlLogix[®] via Ethernet



Anomaly Detection

A predictive model learns what normal operation looks like and detects when a deviation begins to occur.

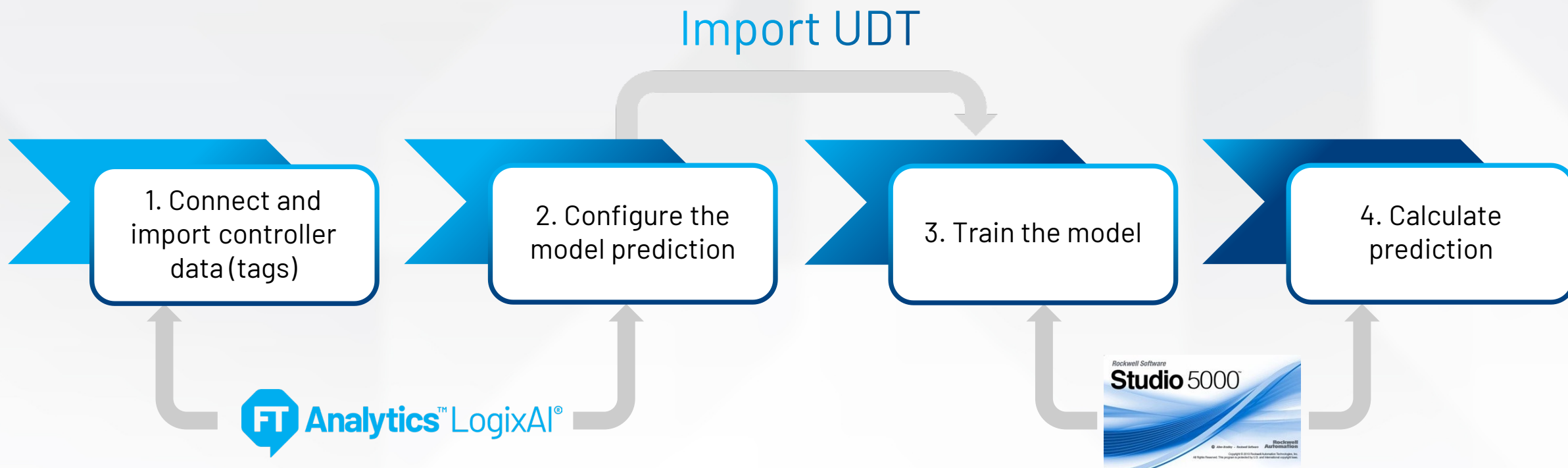


Soft Sensor[®]

A real-time, logical prediction of an operational parameter's value to replace manual testing.

FT | FactoryTalk® Analytics™ LogixAI® Overview

Train and predict using controller data





Rolled Products

CUSTOMER USE CASE



Scenario

Rolled products such as paper, hot-rolled steel, plastics are manufactured at a moderate to high speed.

Machines involved in the manufacturing process use sensor measurements to define the positioning of other machine components.

Positioning is required in printing, cutting & perforations, applying glue at the tail end.



Problem

These sensors lose integrity periodically at unknown intervals due to high-speed operations and harsh operating conditions.



Value

The user can train a LogixAI® module with streaming or historical data to model key sensor measurements using the LogixAI® Soft Sensor® model capability.

When the physical sensor loses integrity, the estimated measurements can be used through feedforward PID control strategy.

Once the model is successfully validated on a production machine, a global rollout can help to drive enterprise process effectiveness.





Freeze Drying

CUSTOMER USE CASE



Scenario

Freeze Drying is used across various industries including pharmaceuticals, food processing, and chemicals, to remove moisture from a product by freezing it and then removing the ice that forms.

Freeze drying is used instead of more conventional heat drying because it preserves the quality of the product for future rehydrating.



Problem

It's difficult to measure the moisture content of a product during the freeze-drying process.

Often, samples are taken after the process is complete to measure the % moisture left in the material and adjustments are reactively made to the process setpoints to improve future drying results.

The delay between sampling and correcting can result in off-spec product.



Value

The user can train a LogixAI® module with streaming or historical data to model key sensor measurements using the LogixAI® Soft Sensor® model capability.

Once validated the predictive moisture value can be used through feedforward PID control strategy.

Moisture control is enhanced improving product quality, making a more consistent end-product and reducing over-drying that impacts product yields.





Tire & Automotive

CUSTOMER USE CASE



Scenario

One tire manufacturer used the ML capability of FactoryTalk® Analytics™ - in combination with edge data management and ControlLogix® solutions - to consistently make automated adjustments through an innovative closed-loop learning approach to reduce the number of out of tolerance splices.



Problem

The length of the tire splice must adhere to strict tolerance limits to confirm product quality.

Often, operators must make manual adjustments to the process to achieve consistent, in-tolerance splice lengths.

When out of tolerance events occur, it causes machine downtime, which cuts into production and results in wasted product.



Value

Out-of-tolerance events were reduced by 70%, resulting in 80 incremental tires per machine per day and leading to higher profitability.



D E S I G N

Design, program and test **in the digital world**



Future-ready industrial automation design

Empowering engineers with cloud-based tools, AI-driven productivity and modern Logix programming.

Built for what's next.



MODERN

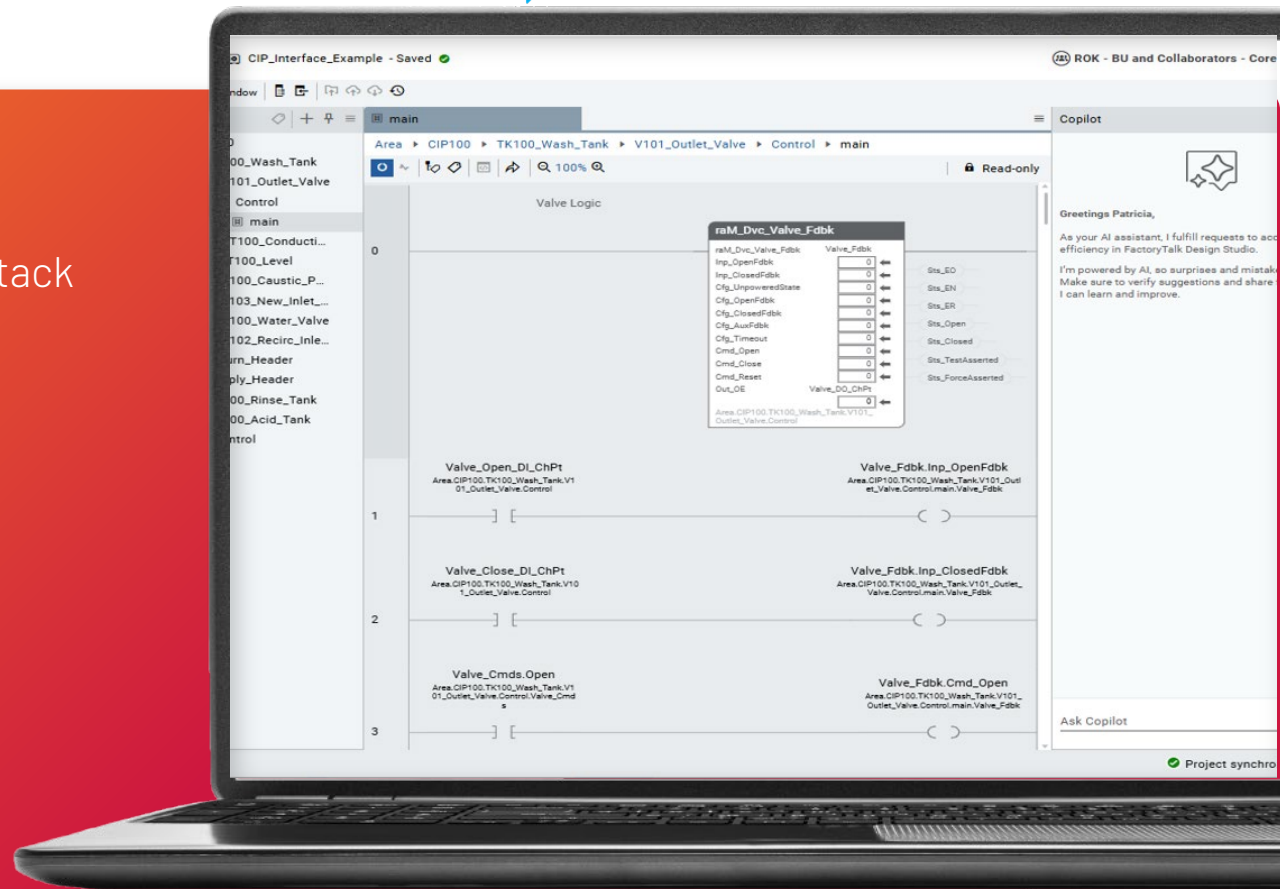
- Driving Logix programming into the future
- Enabling new capabilities with a modern technology stack
- Breakthrough productivity with Generative AI

MULTI-USER

- Collaboration enabled by integrated version control
- Monitor and approve any project changes
- Simplified steps to build Logix systems

MULTI-CONTROLLER

- Build a project with multiple Logix controllers
- Connect to multiple firmware revisions
- Deliver a system model abstracted from hardware





MODERN

Development functionality to build and deploy faster

Integrated Generative AI

Use the copilot for code generation, product guidance, code explanation and help with troubleshooting

Enhanced modular development

Develop and maintain projects more easily with object-oriented programming concepts

Integrated library management

Increase code standardization and reduce repetitive steps with integrated library tools

Browser-based; anytime, anywhere

Always-available access to the most up-to-date software and hardware resources



SCALABLE

The FactoryTalk® Optix™ Platform



FactoryTalk® Optix™ for SCADA

- High availability
 - System configuration and monitoring
 - Cloud-hosted deployment
 - Remote management and deployment
- Initial offering available in 2026



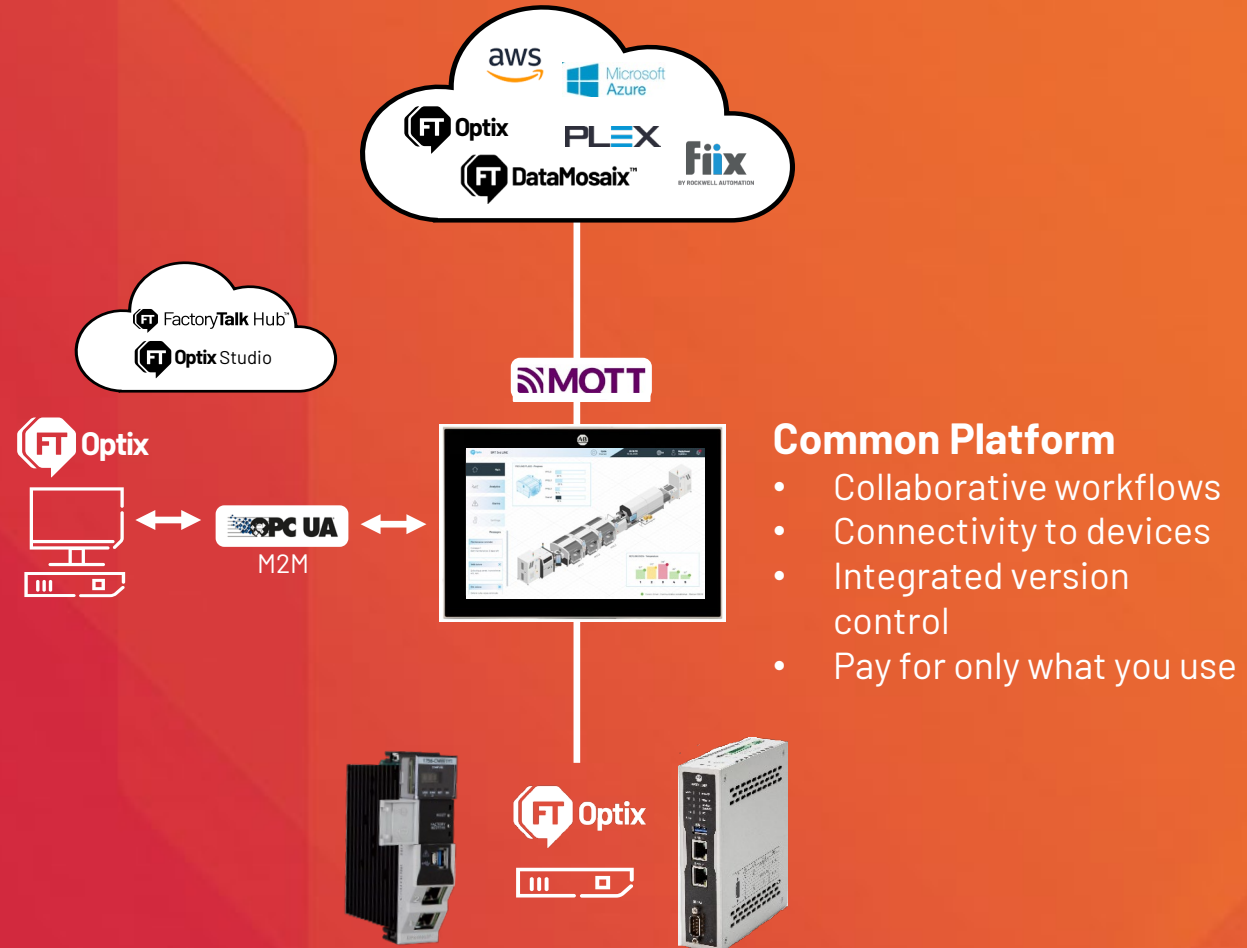
FactoryTalk® Optix™ for HMI

- Responsive graphics
- Embedded and station deployment
- Third-party drivers
- OPC UA machine-to-machine



FactoryTalk® Optix™ for Edge

- IoT connectivity, MQTT
- Smaller, purpose-built applications
- Embedded runtime devices like: LEEC and OptixEdge™



FactoryTalk® Optix™ AI Design Assistance

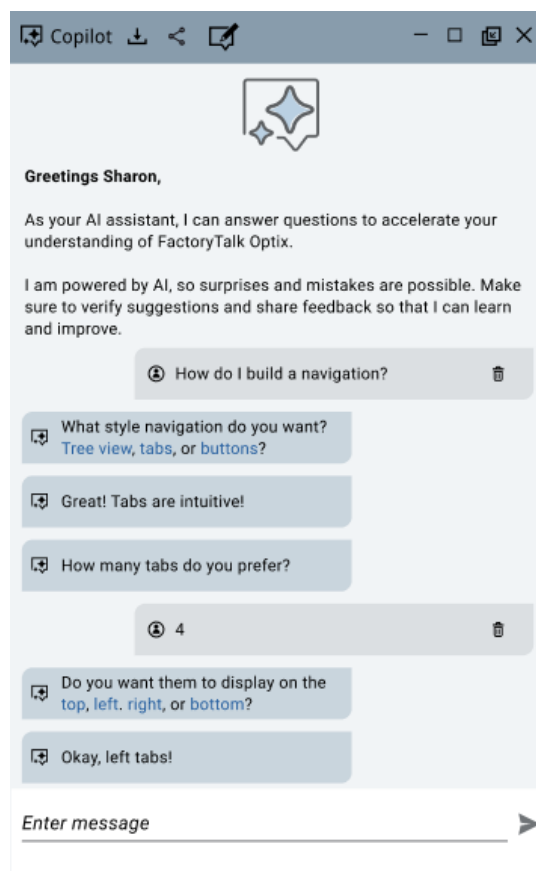


Generate screens from images

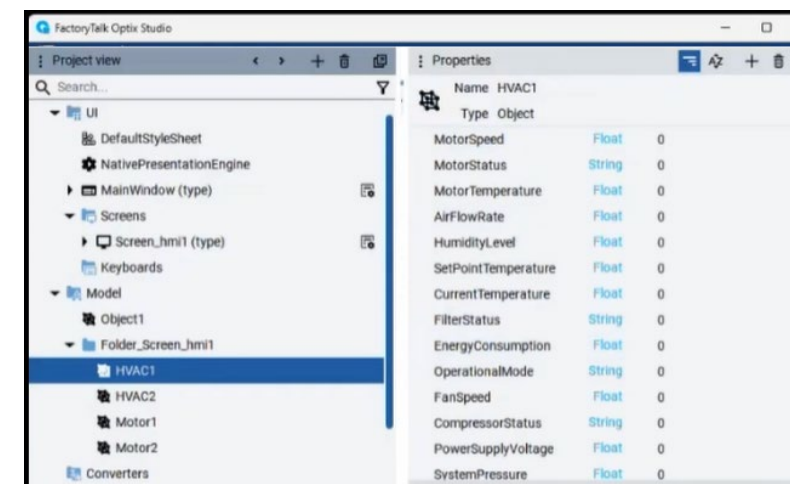
Figma, photo, hand-drawn sketch



Generate project content and find help through conversational text



Auto-generation of models, properties, and backend connectivity





| Rockwell as your Partner for Industrial AI

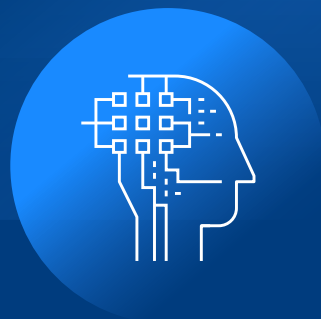
Trusted Partner for Industrial AI

With over a century of OT experience and deep IT/OT expertise, we're uniquely positioned to help customers deploy AI safely and reliably in critical environments.



Embedded AI into Familiar Manufacturing Products

Our embedded approach allows us to deliver real-time optimization, predictive insights, and autonomous control, from design to maintenance.



End-to-End Support for the AI Journey

We offer a full portfolio of hardware, software, and services to support the entire AI journey—helping customers design, deploy, and scale AI across their operations.





Thank you

www.rockwellautomation.com

