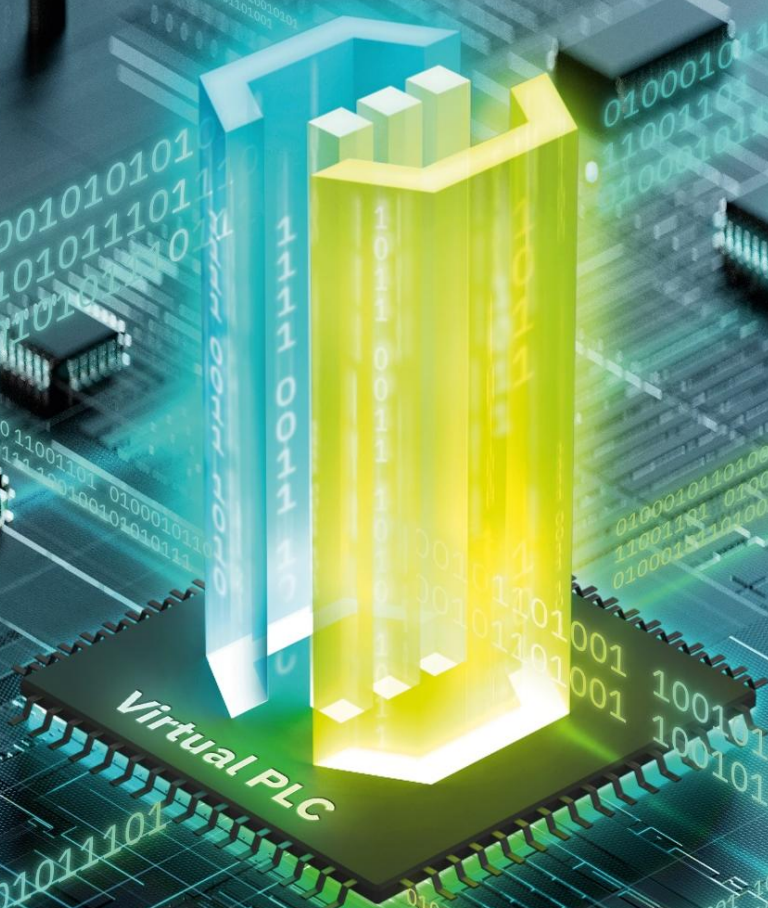


Empowering Industrial Innovation

From Virtualization to
AI-Enabled Ecosystems



Ulrich Leidecker
COO PHOENIX CONTACT



Traditional AI

Primary Function

Completely focused on automating repetitive tasks

Learning

Dependent on pre-defined rules and human intervention

Autonomy

It relies on a specific algorithm and set of rules



Generative AI

Primary Function

Responsible for content generation (text, code, images, etc.)

Learning

Learns from existing data

Autonomy

It might require prompt and guidance



Agentic AI

Primary Function

Goal-oriented decision-making and action

Learning

Improves through experience and reinforced learning

Autonomy

Operates on minimal human oversight



Robotic AI

Primary Function

Physical interaction with the real world

Learning

Adapts via sensors and ML

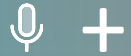
Autonomy

Executes tasks in dynamic environments



What would you like to do next?

I have attached a photo of myself. Make me 20 years younger, give me blonde hair and let the glasses disappear.







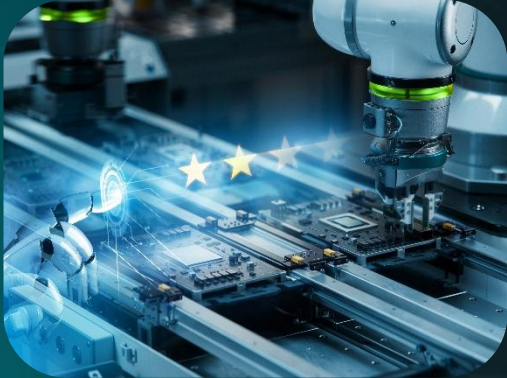
Is there anything I can do for you?

I am uploading a photo – me 20 years old.
This is what the man should look like.









Fake AI

Data and model integrity
→ Authentication required



Source: [teenybiscuit]

Hallucination

Concept shift detection
→ Prediction validation



Data misuse

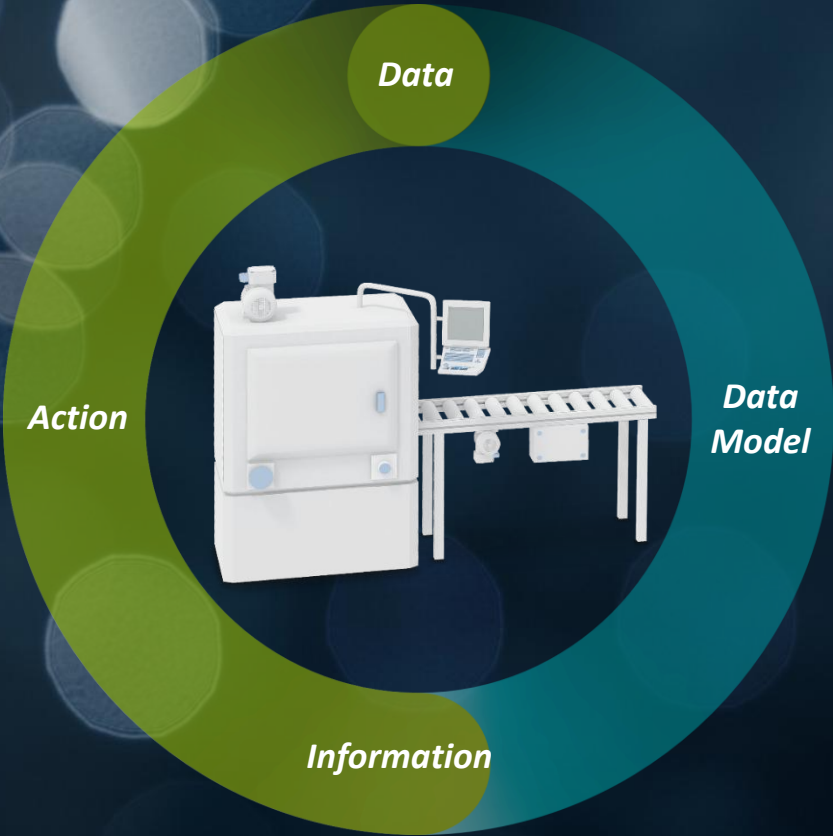
Data protection
→ Active learning



Implementation

Enabling domain experts
→ Appropriate software

Benefits of AI in Industry



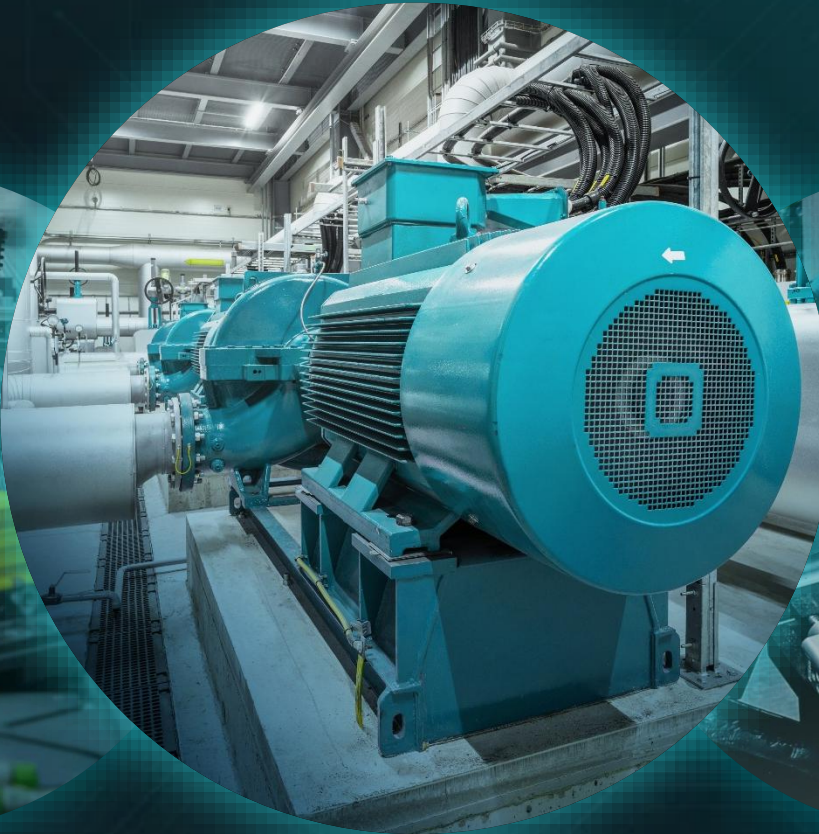
Machine Learning Solution MLnext



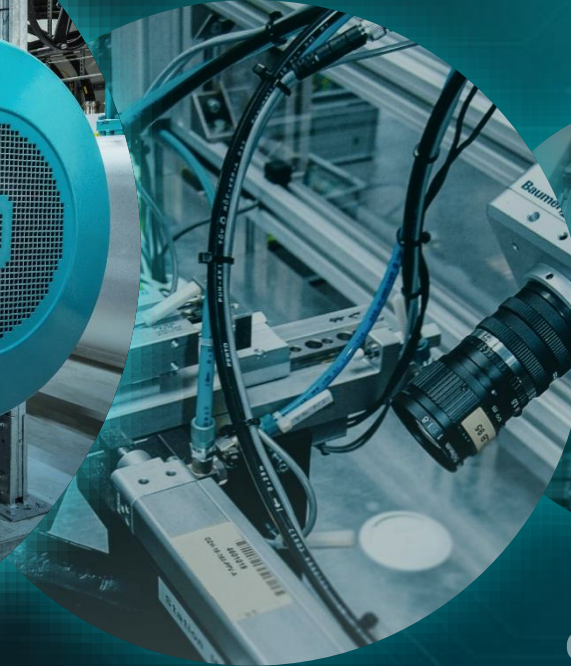
Feasibility
Analysis



Process
Optimization



Predictive
Maintenance



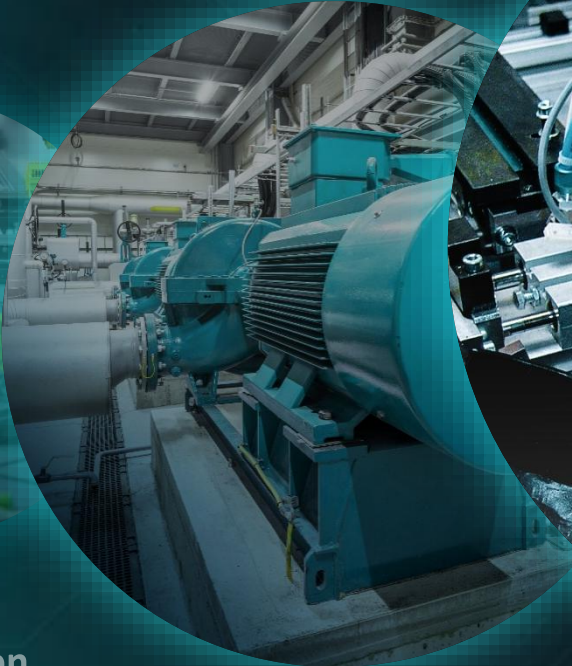
Quality
Control



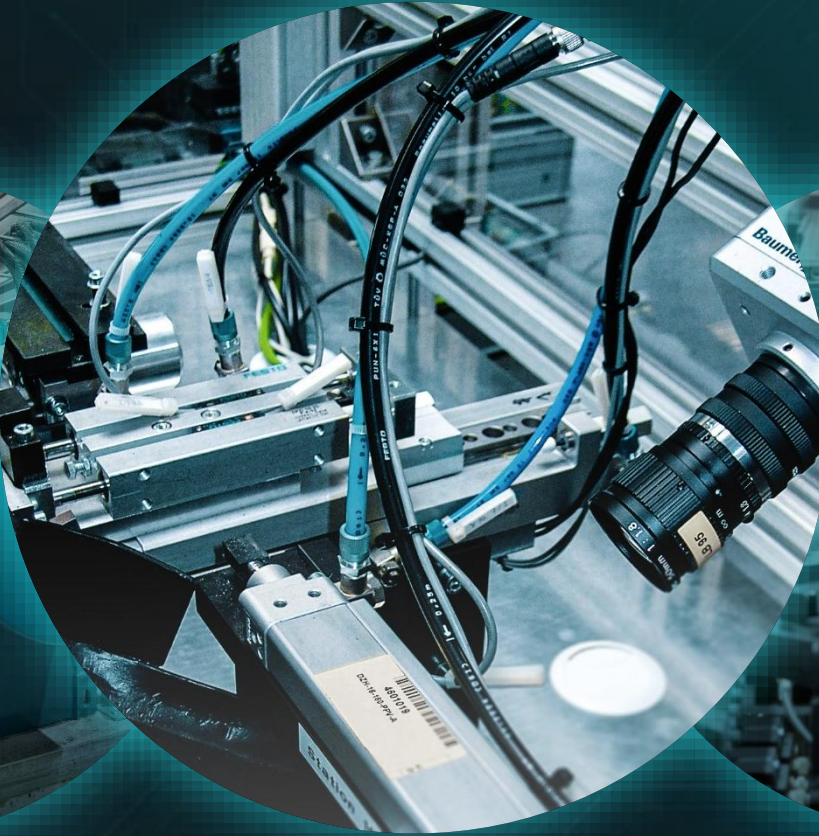
Process
Optimization



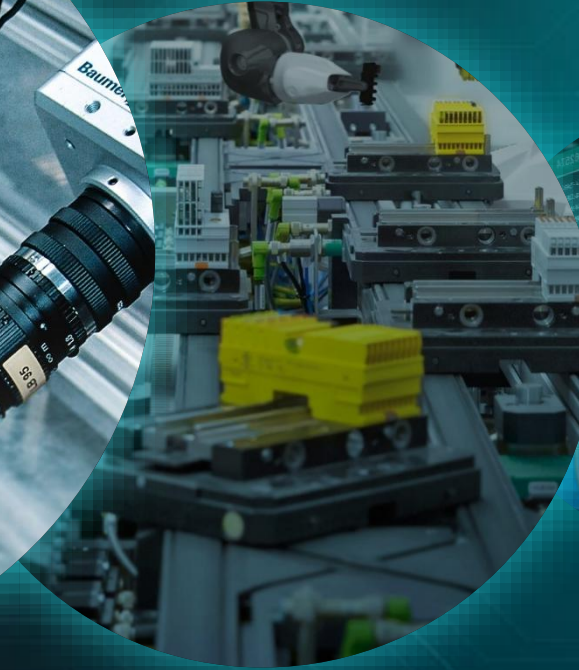
Process
Optimization



Predictive
Maintenance



Quality
Control



Process
Optimization



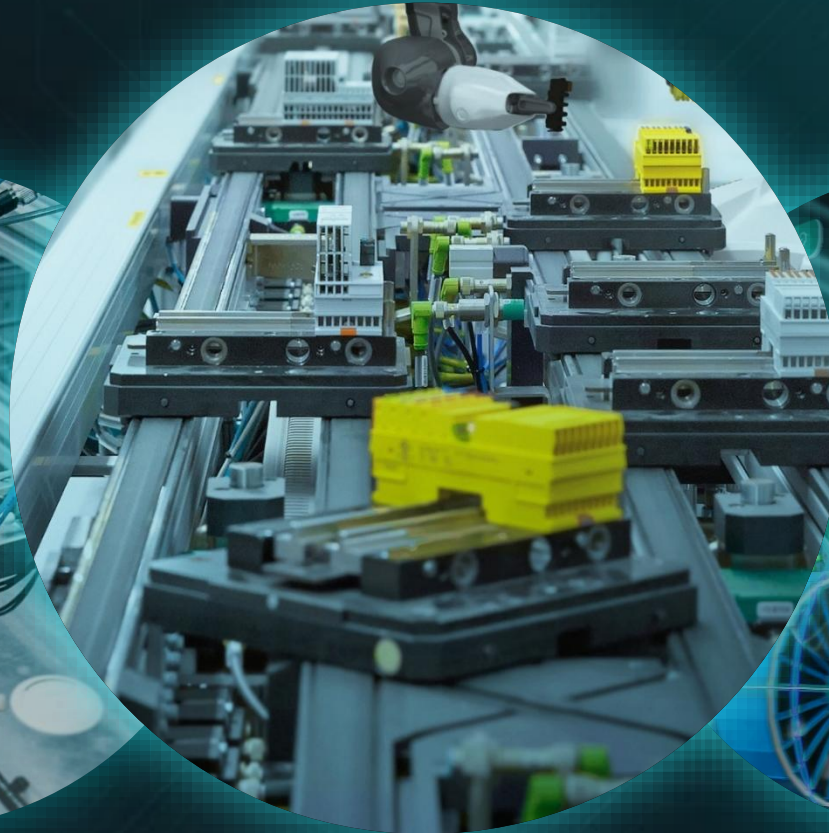
Feasibility
Analysis



Predictive
Maintenance



Quality
Control



Process
Optimization



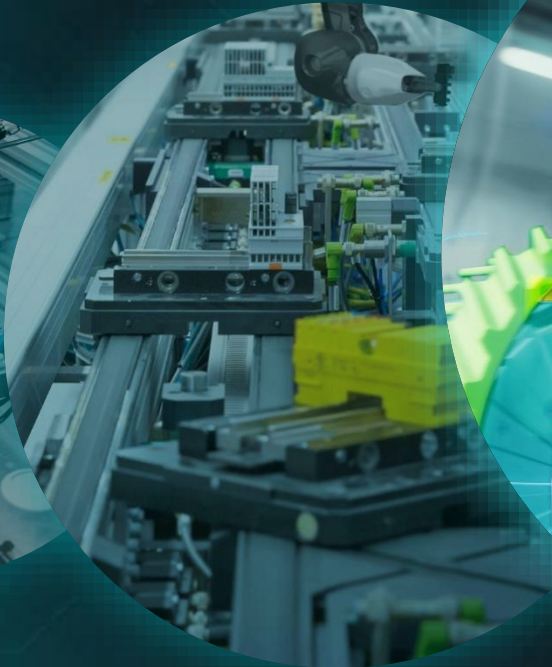
Feasibility
Analysis



Process
Optimization



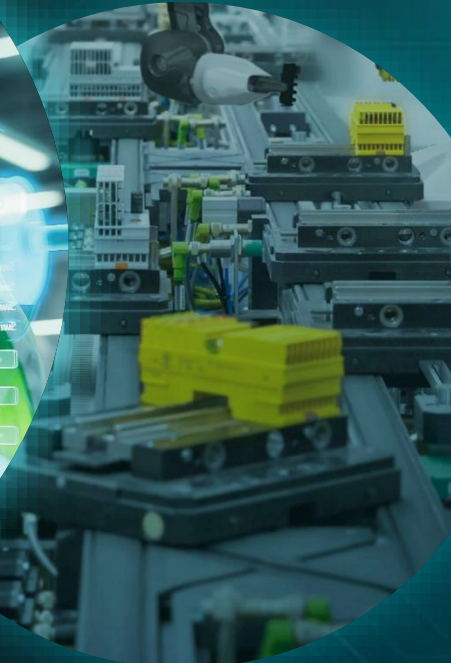
Quality Control



Process Optimization



Feasibility Analysis



Process Optimization



Predictive Maintenance





MLnext

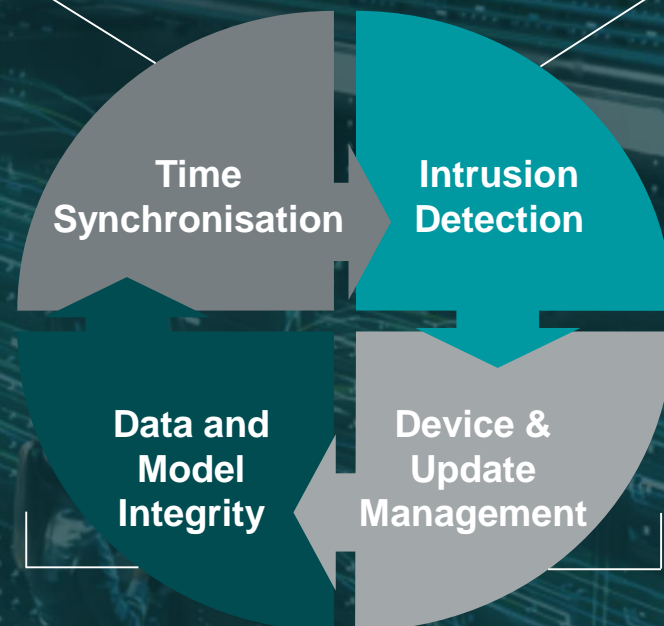
Prerequisites for beneficial use of AI

Time Synchronisation

- Ensures consistent timestamps across systems
- Critical for accurate event correlation

Intrusion Detection

- Detects unauthorized access
- Protects data and model integrity



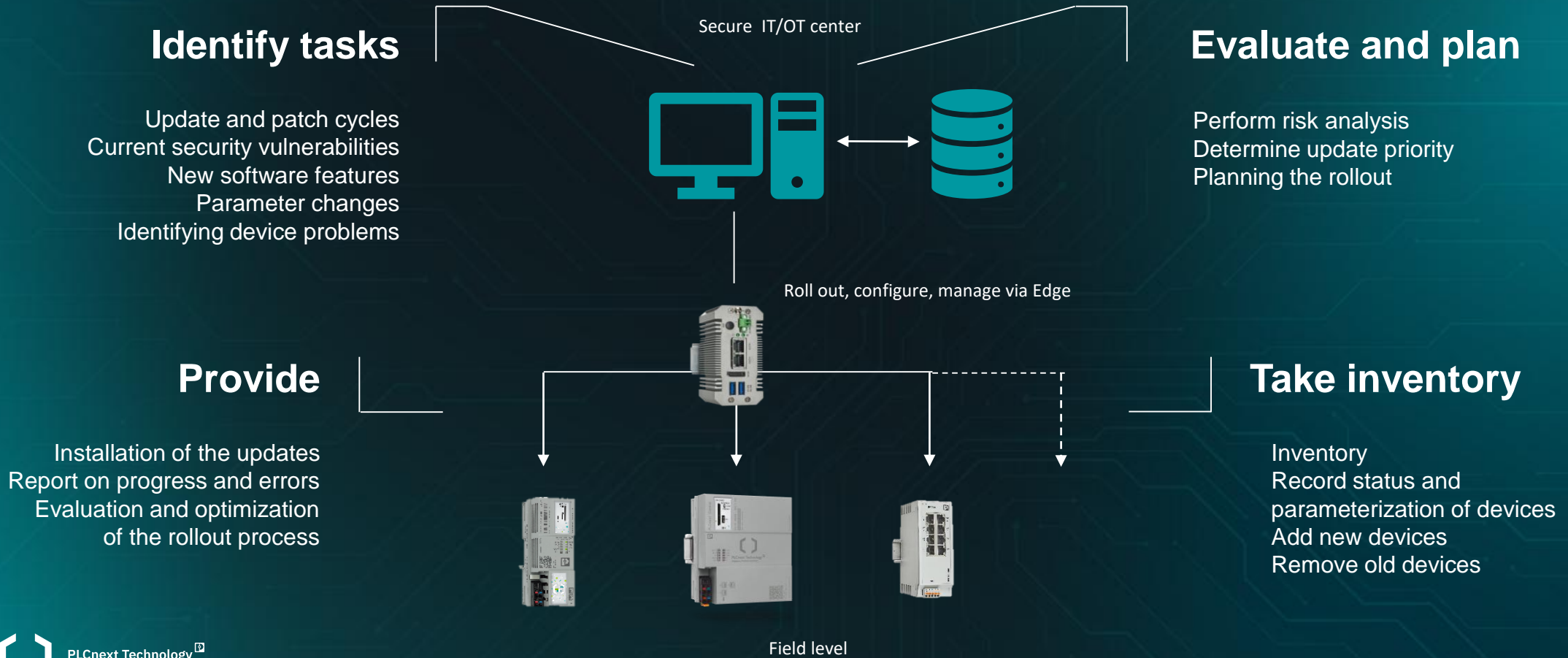
Data and Model Integrity

- Ensures trustworthy inputs and outputs
- Prevents manipulation of AI models

Device & Update Management

- Keeps systems secure and up to date
- Prevents vulnerabilities from outdated software

Process steps of Device and Update Management





PLCnext Technology

Designed by Phoenix Contact



PLCnext Control



PLCnext Engineer



PLCnext Store



PLCnext Community

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