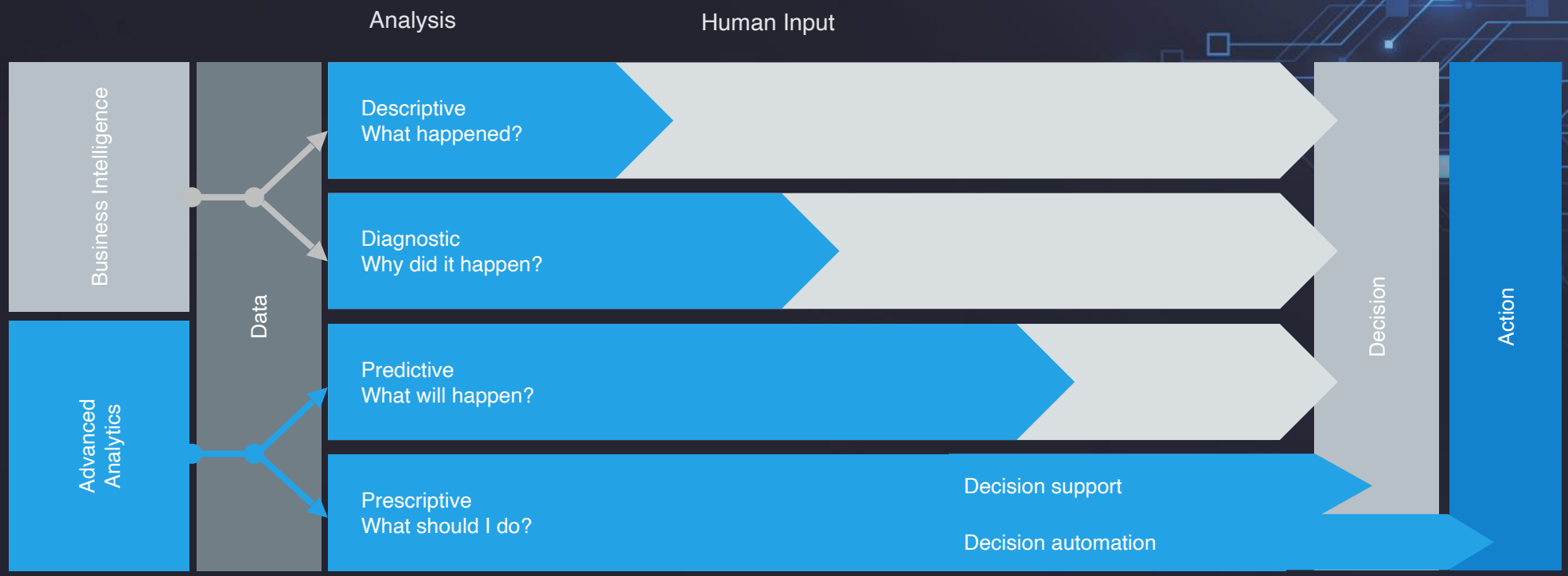
Festo AX

The Automation Industry needs AI



Gartner Group Analytics Model

FESTO

Plan
the previously unplanned.

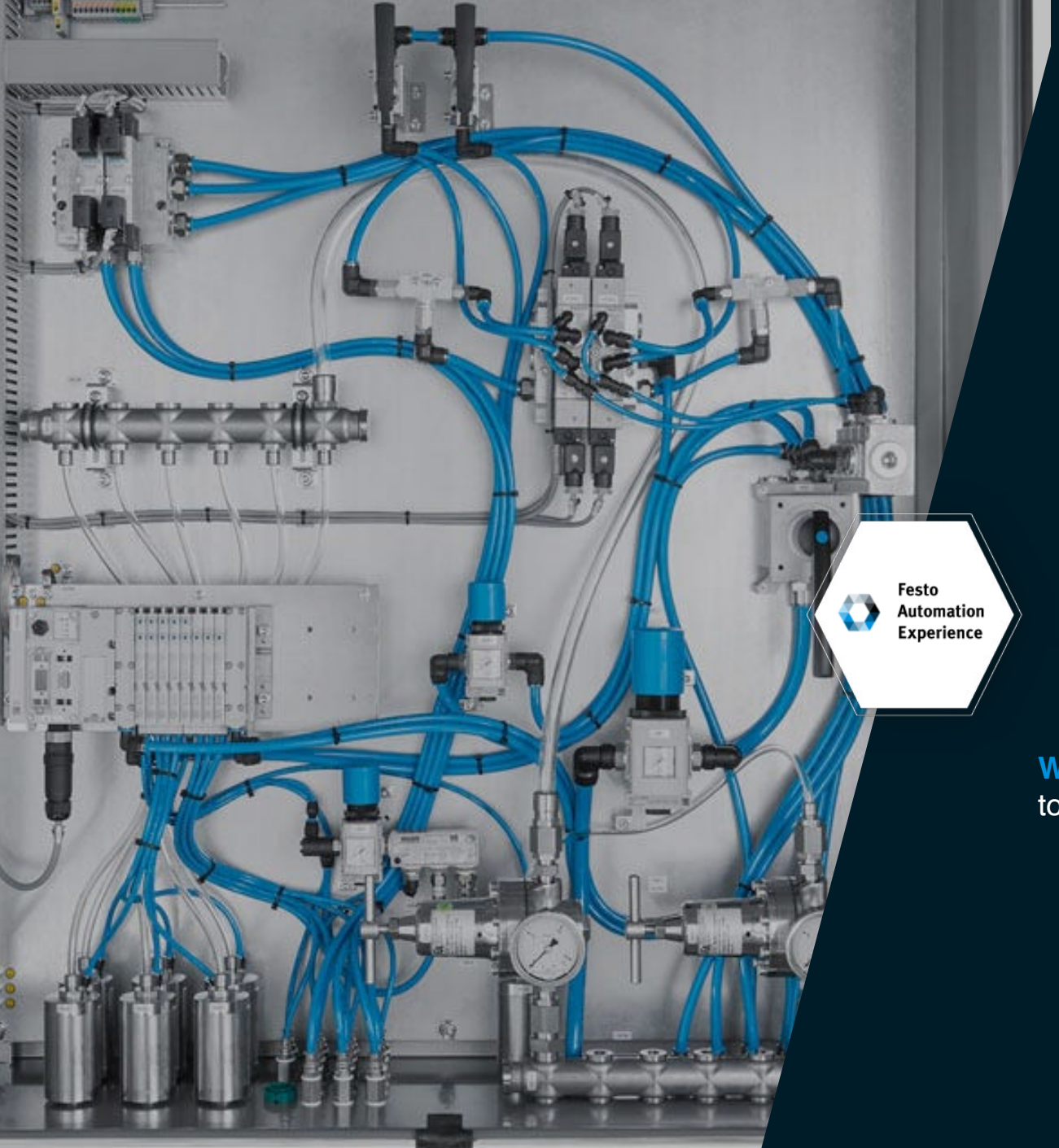
Why AI?
to predict failure of your equipment.

FESTO

Festo
Automation
Experience

Quality
to the spot.

Why AI?
e.g. for up to 100 % Quality observation on thousands of welding spots per



FESTO

Festo
Automation
Experience

Sustain
what is valueable.

Why AI?
to monitor and optimize energy consumption and detect leakages early.

FESTO

Benefits

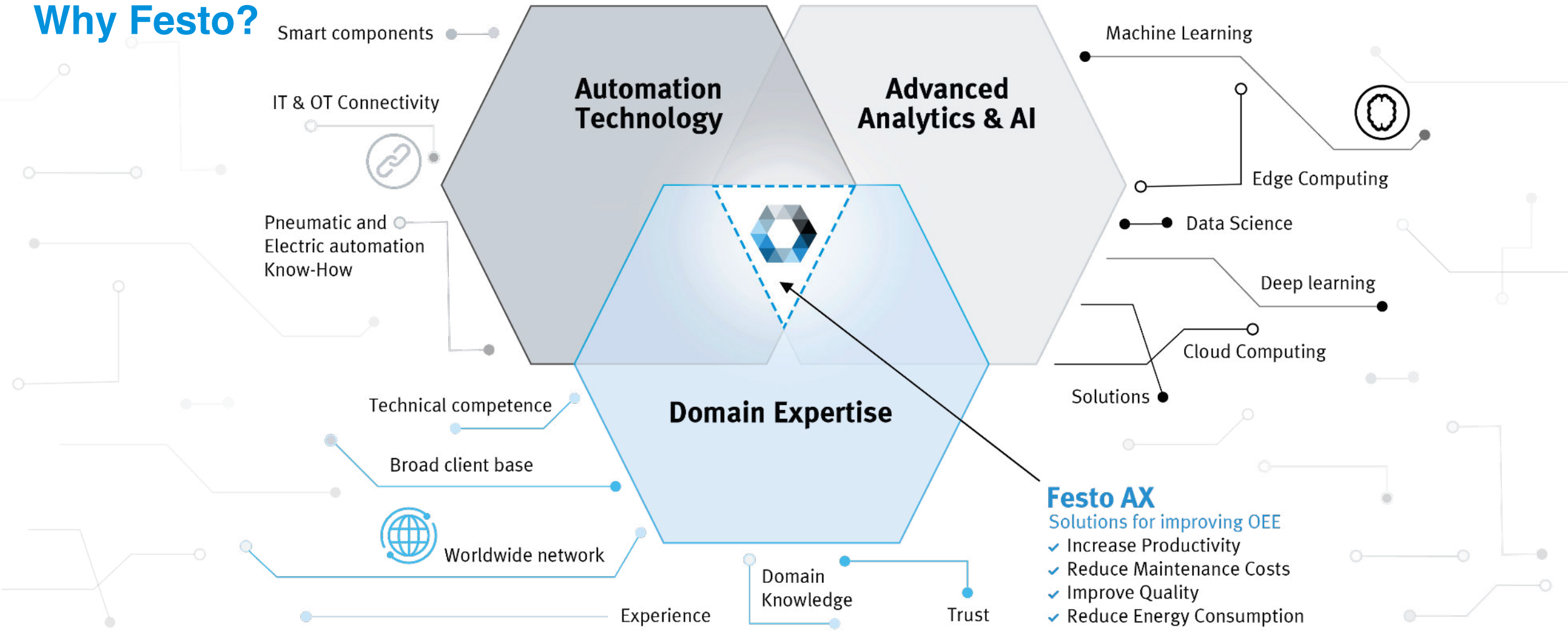
via Digitalization including AI

- ✔improve maintenance processes
- ✔increase product quality
- ✔lower energy consumption

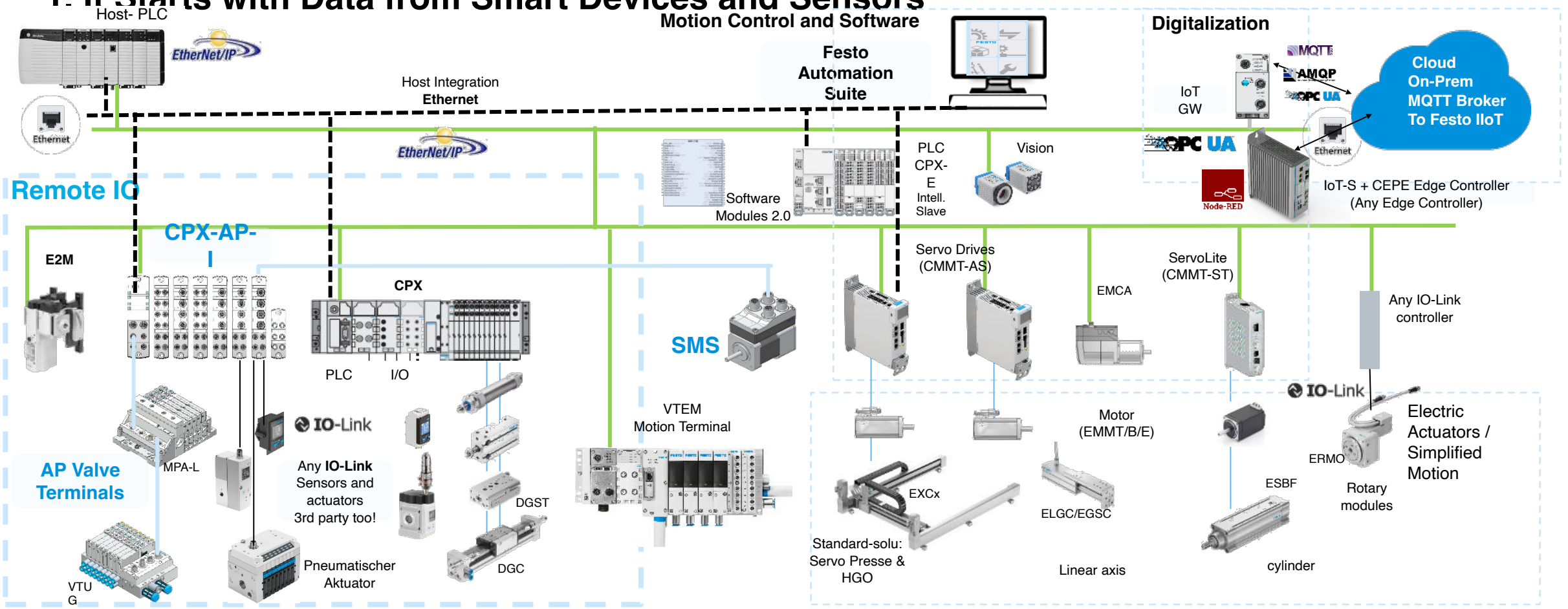
by leveraging technologies like AI, IoT and Edge Computing and making them fit to the industrial automation context with “Smart Products”

We are the engineers of Productivity.

Why Festo?


Smart components
IT & OT Connectivity
Pneumatic and Electric automation Know-How
Automation Technology
Advanced Analytics & AI
Domain Expertise
Machine Learning
Edge Computing
Data Science
Deep learning
Cloud Computing
Solutions
Technical competence
Broad client base
Worldwide network
Experience
Domain Knowledge
Trust
Festo AX
Solutions for improving OEE
Increase Productivity
Reduce Maintenance Costs
Improve Quality
Reduce Energy Consumption

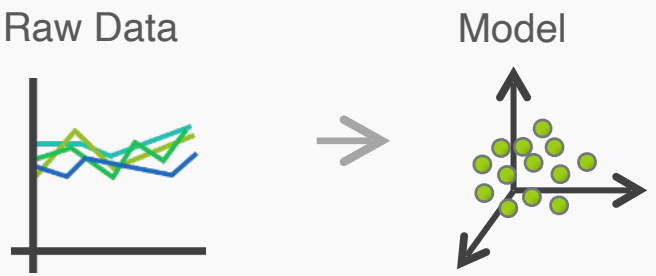
1. It Starts with Data from Smart Devices and Sensors



What is Machine Learning?

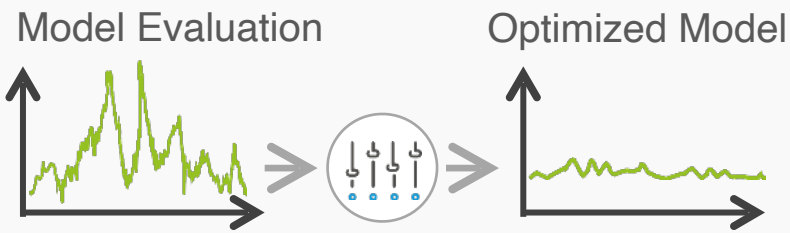
Example: Anomaly Detection and Classification

1. Training



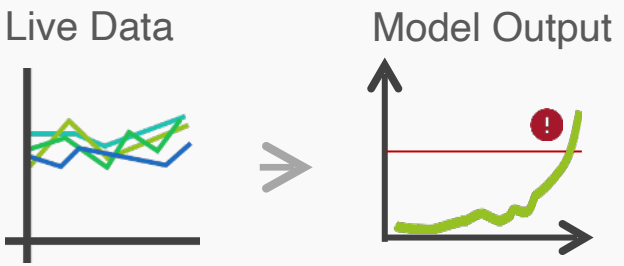
The model is adjusted to data with a learning/training algorithm

2. Evaluation



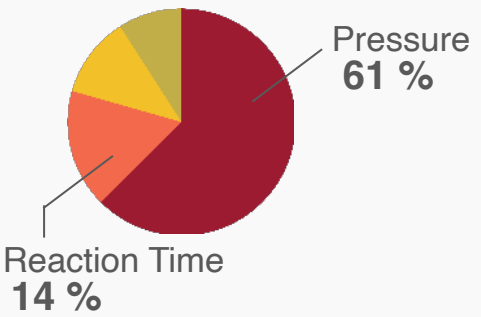
Optimization of model quality by adjusting meta parameters

3. Anomaly Detection

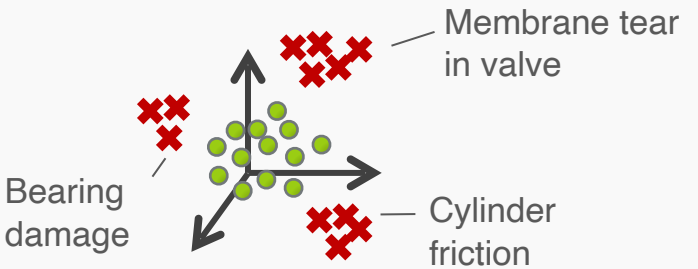


Analysis on Real Time Data

4. Anomaly Localization



5. Anomaly Classification



Festo AX Energy Efficiency

Flow & consumption

- Analyze air consumption of complete plant, floors, machine groups/ machines
- Get transparency regarding consumption, cost, CO2 emissions
- Identify deviations over time (e.g. by leaks)
- Initiate immediate countermeasures

Pressure

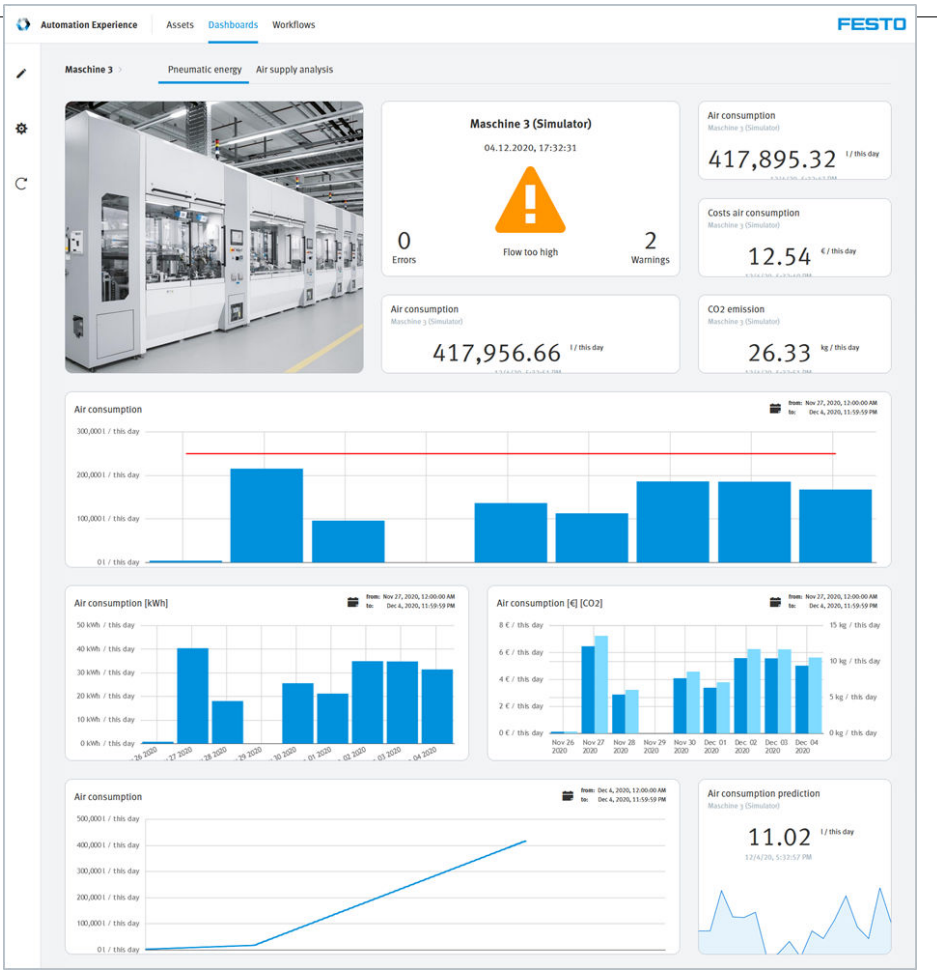
- Analyze pressure level in various parts of your plant
- Avoid inefficient high pressure levels
- Identify and eliminate pressure drops before they cause machine downtimes
- Initiate immediate countermeasures

Reporting/ alerts

- Flow, consumption, pressure, dewpoint, CO2, cost
- Actual data
- Historical data
- KPI monitoring
- Comparison with previous year
- Thresholds
- Alerting
- Standard reports

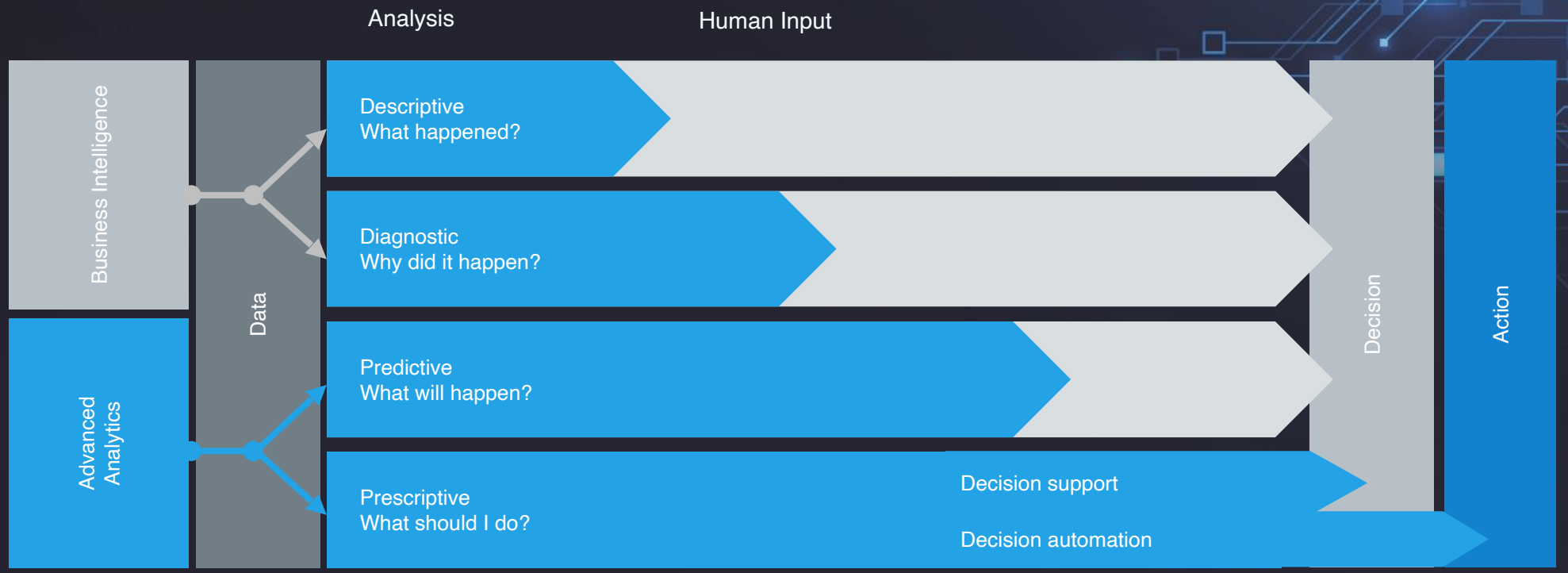
Pressure dewpoint*

- Analyze humidity of your compressed air
- Secure recommended air quality for production of your goods
- Secure recommended air quality for your pneumatics
- Identify deviations
- Initiate immediate countermeasures



* optional, additional sensor required

How will you use AI to drive your business?



Gartner Group Analytics Model