



Predictive Maintenance for the heat treatment industry with PI in its center

by Stefan Bache & Dennis Miller





Digital Services for Heat Treatment Furnaces

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Agenda

1. Company Profile
2. IVA Schmetz's Digital Story
3. Predictive Maintenance
 - i. What does it mean?
 - ii. IoT platform components
 - iii. Architecture
4. Key takeaways

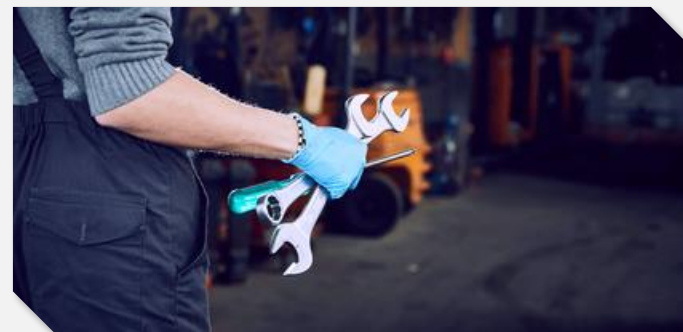
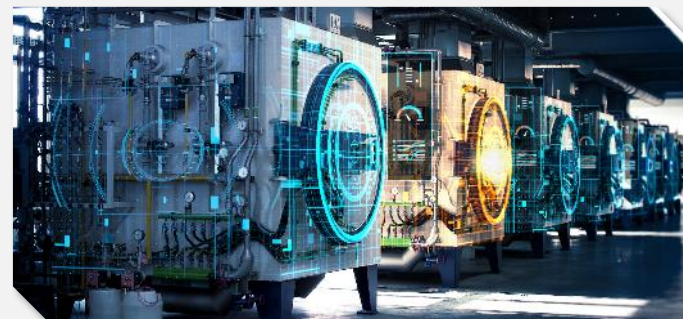


Company profile - IVA Schmetz

RELIABLE AND INNOVATIVE SOLUTIONS FOR HEAT TREATMENT



New plants
for the entire spectrum of heat treatment



Service
from regular maintenance to predictive maintenance

Digital Story

of IVA Schmetz



IVA

SCHMETZ

The diagram illustrates the Industry 4.0 ecosystem, showing the flow of data and services between various components:

- CUSTOMER PLANT:** The central hub, connected to the ANALYZING CLOUD. It contains a large screen displaying a 3D model of a factory floor, a forklift, and a worker. A worker is also shown holding a tablet.
- ANALYZING CLOUD:** A cloud icon with a magnifying glass and a bar chart, representing data analysis.
- CUSTOMER SITE:** A site with a building and a worker at a computer. The computer screen displays "ORDER NOW" and a bar chart. A worker is also shown holding a tablet.
- CUSTOMER HQ:** A headquarters with a building and a worker at a computer. The computer screen displays "Management" and a bar chart. A worker is also shown holding a tablet.
- HTC HQ:** A headquarters with a building and a worker at a computer. The computer screen displays "Customer Service Manager" and "Digital Diagnostic Center". A worker is also shown holding a tablet.
- Service Technician:** A technician wearing a headset and holding a wrench, connected to a truck.

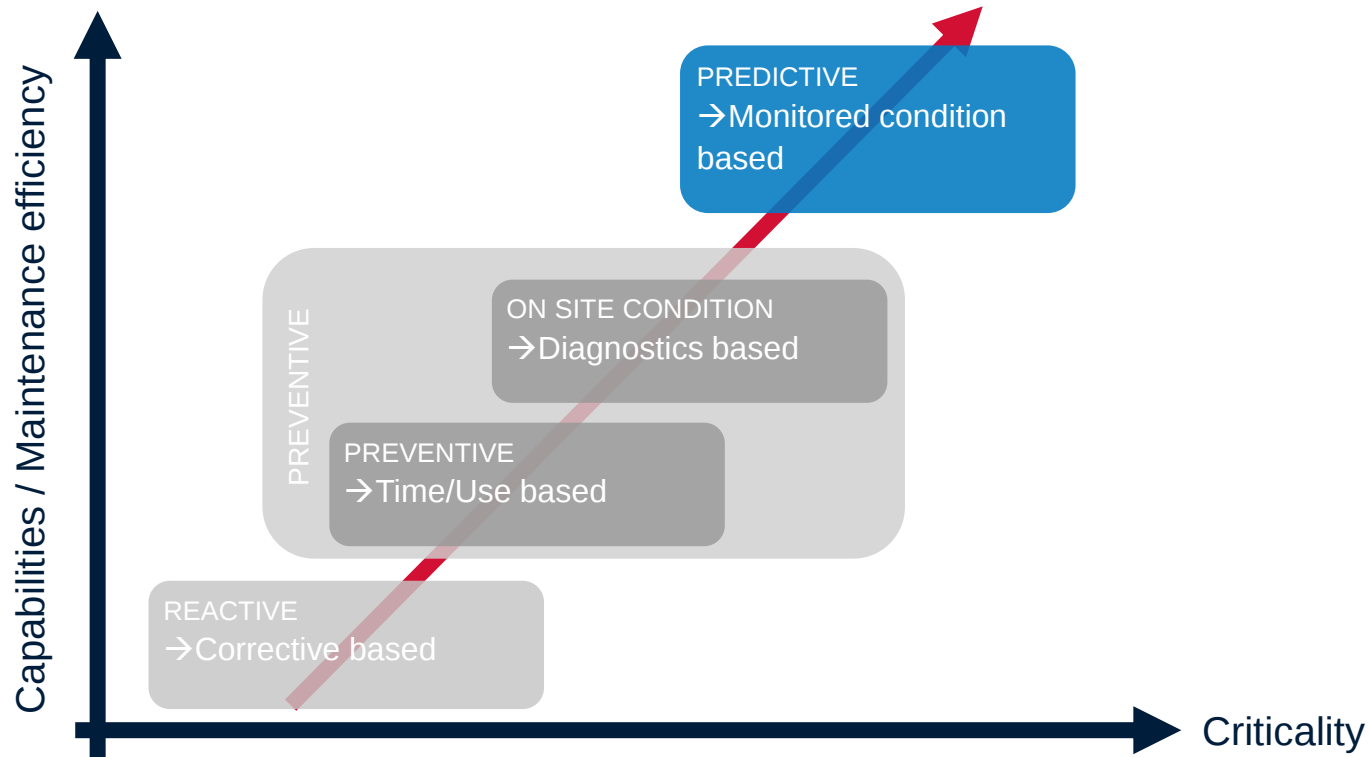
Arrows indicate the flow of data and services between these components, showing a highly interconnected and automated system.

Predictive Maintenance

— What does it mean?

What is Predictive Maintenance?

STAGES OF MAINTENANCE



Potentials

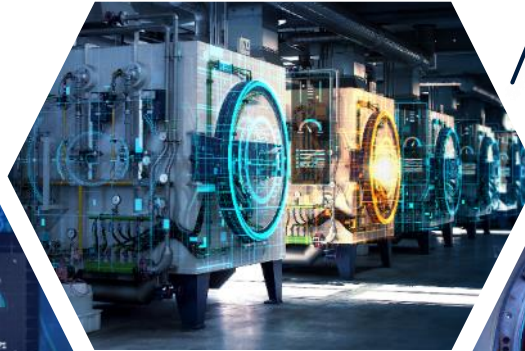
OF PREDICTIVE MAINTENANCE



Planability



Transparency



Downtime



Costs

IoT

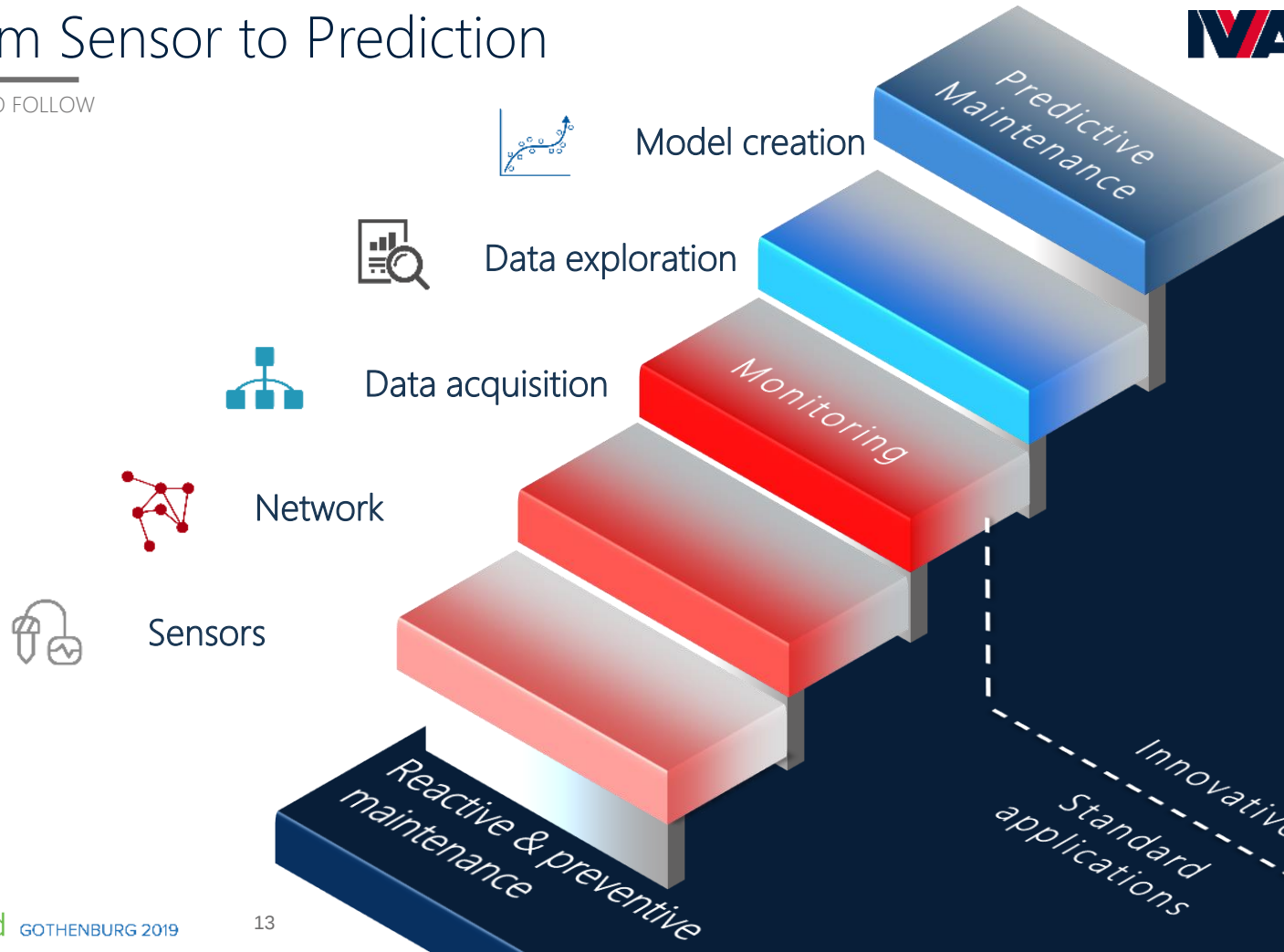
Platform

Predictive Maintenance

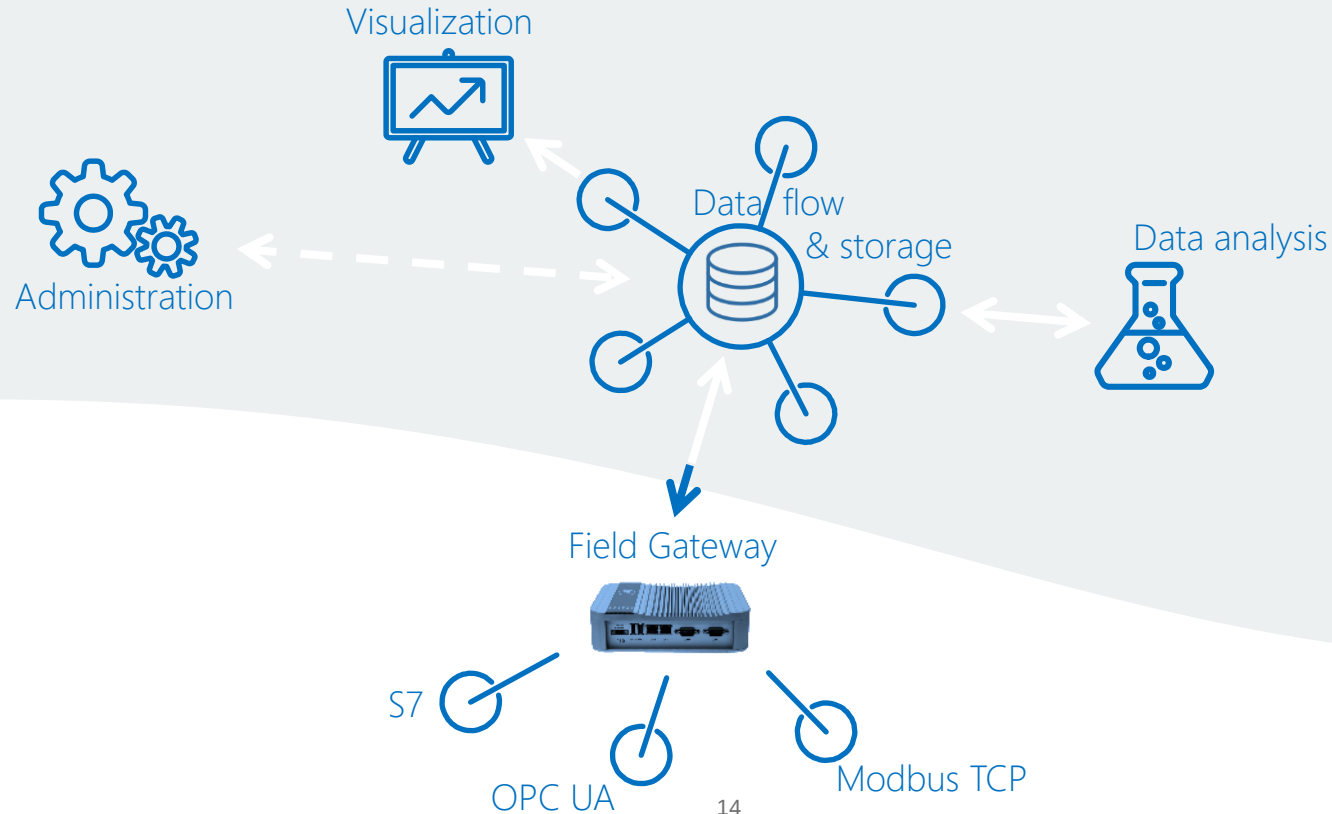


From Sensor to Prediction

STEPS TO FOLLOW



Platform components



IoT Platform

DO NOT REINVENT THE WHEEL - COOPERATE TO SUCCEED



Data collection &
gateway
management

Data management,
user administration,
simple analysis, dash
boarding

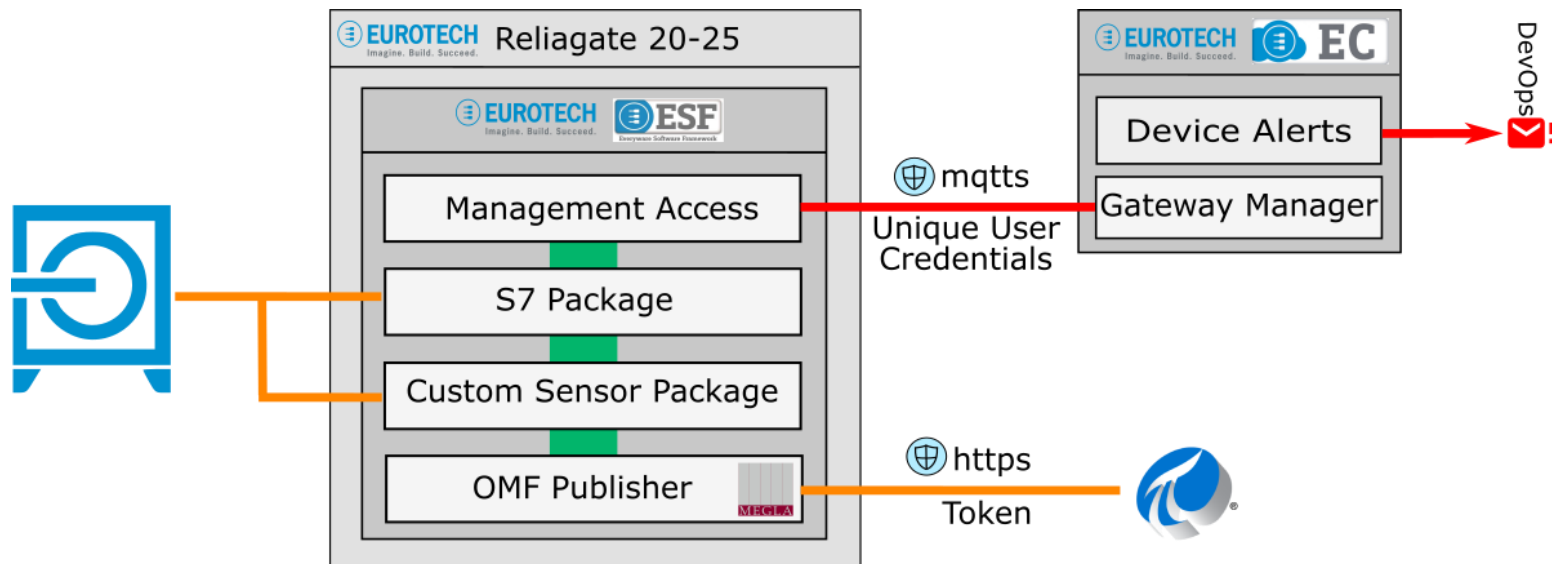
Data Analysis
(Anomaly Detection & Predictive Maintenance)
Data Science



Data Science Consulting

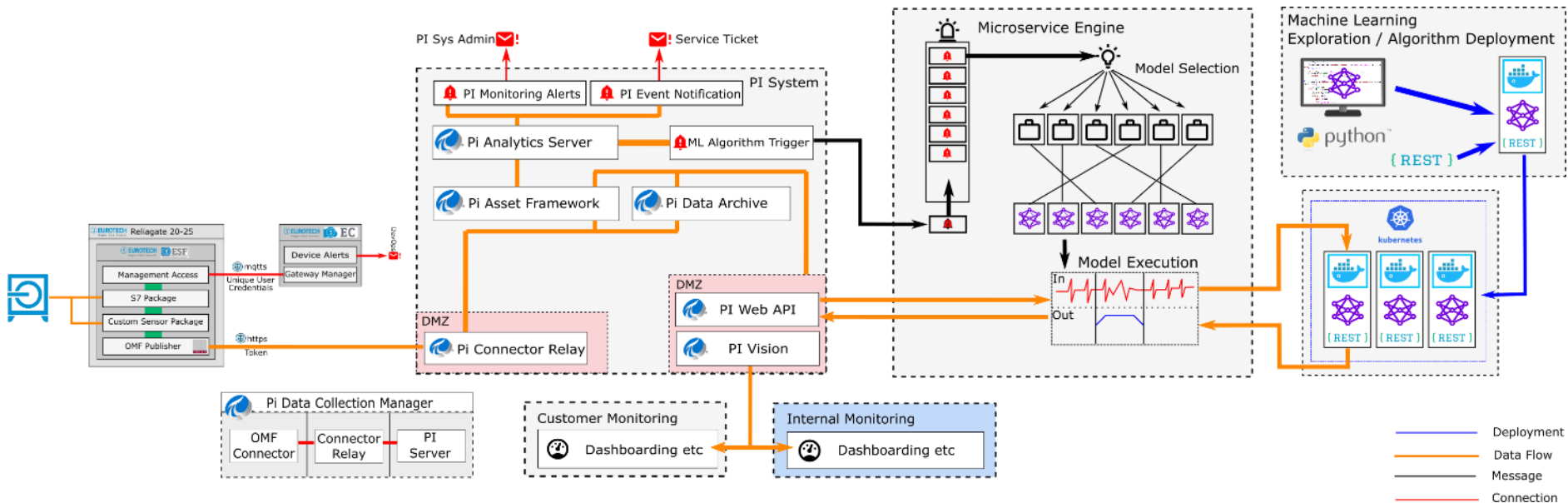
Architecture – Gateway & Field Security

PARTNERSHIPS & MICROSERVICES



Architecture

PARTNERSHIPS & MICROSERVICES



Key takeaways

DIGITAL SERVICE



Predictive Maintenance for

- # high availability
- # sustainability
- # cost cutting
- # plannability

Machine Learning

releases the potential

Thresholds are not enough

No theory!

It's working

Industry 4.0 is around us

Partner, do not reinvent the wheel

- # use good solution from the market
- # Develop further where the customer value is located

IVA Schmetz Digital Service Story



CHALLENGES

- Maintenance and repair cost
- Downtime cost
- Manufacturing performance

SOLUTION

- Remote Condition Monitoring
- Predictive Maintenance to prevent issues
- Simple visualization of KPIs

BENEFITS

- Increased availability
- Transparency & plannability
- Cost cutting



“

“I am convinced that it will be a game changer for the entire industry. [...] with Digital Service we have now achieved a breakthrough. The difference here is clearly made by artificial intelligence” – Peter Lankes, CEO at IVA Schmetz

”

Speakers from IVA Schmetz



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Questions?

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the **microphone**

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