SIMATIC PCS 7

Med fokus på smart instrumentering

mikael.borjesson@siemens.com & daniel.moertsjoe@siemens.com

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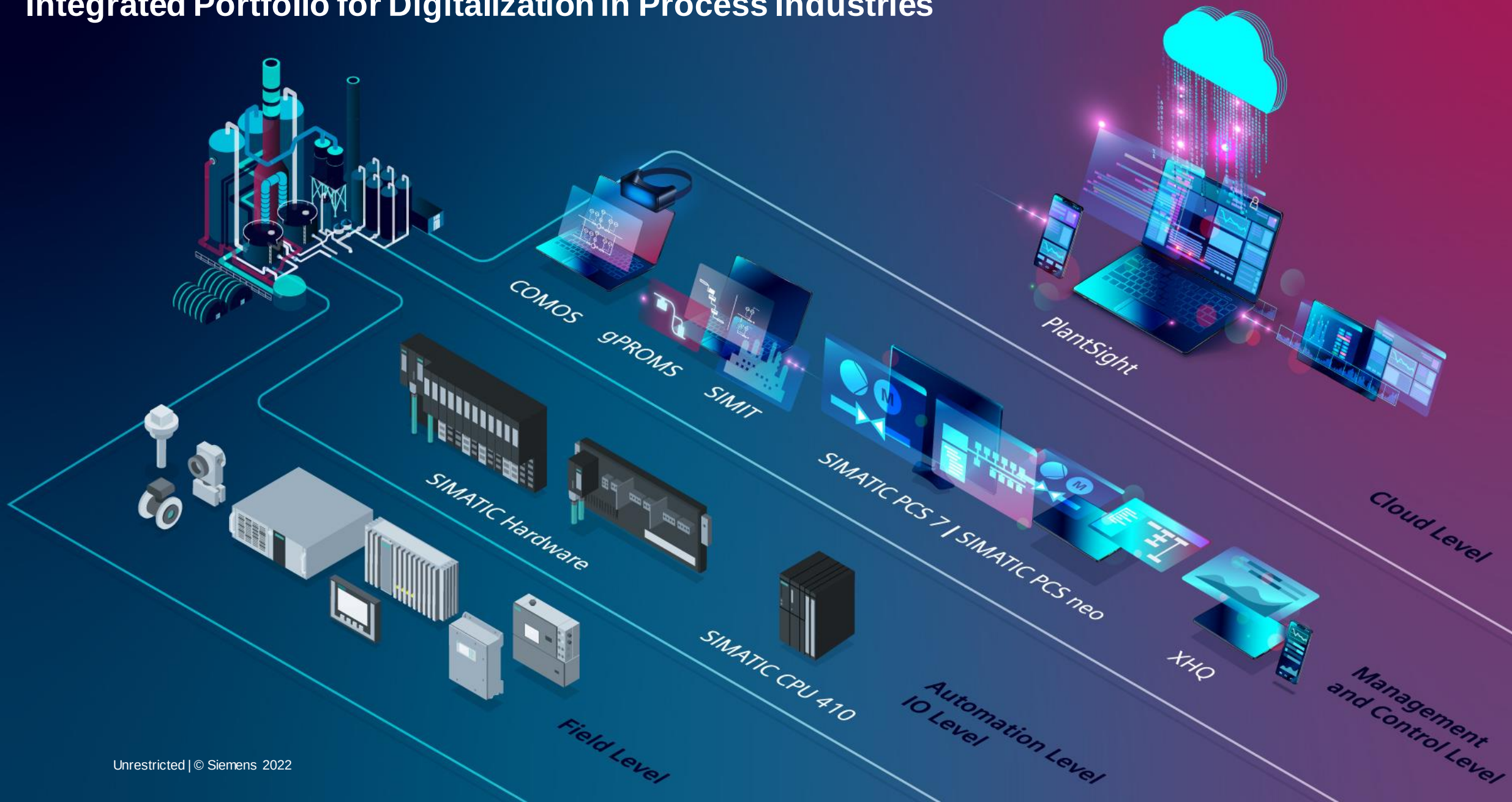
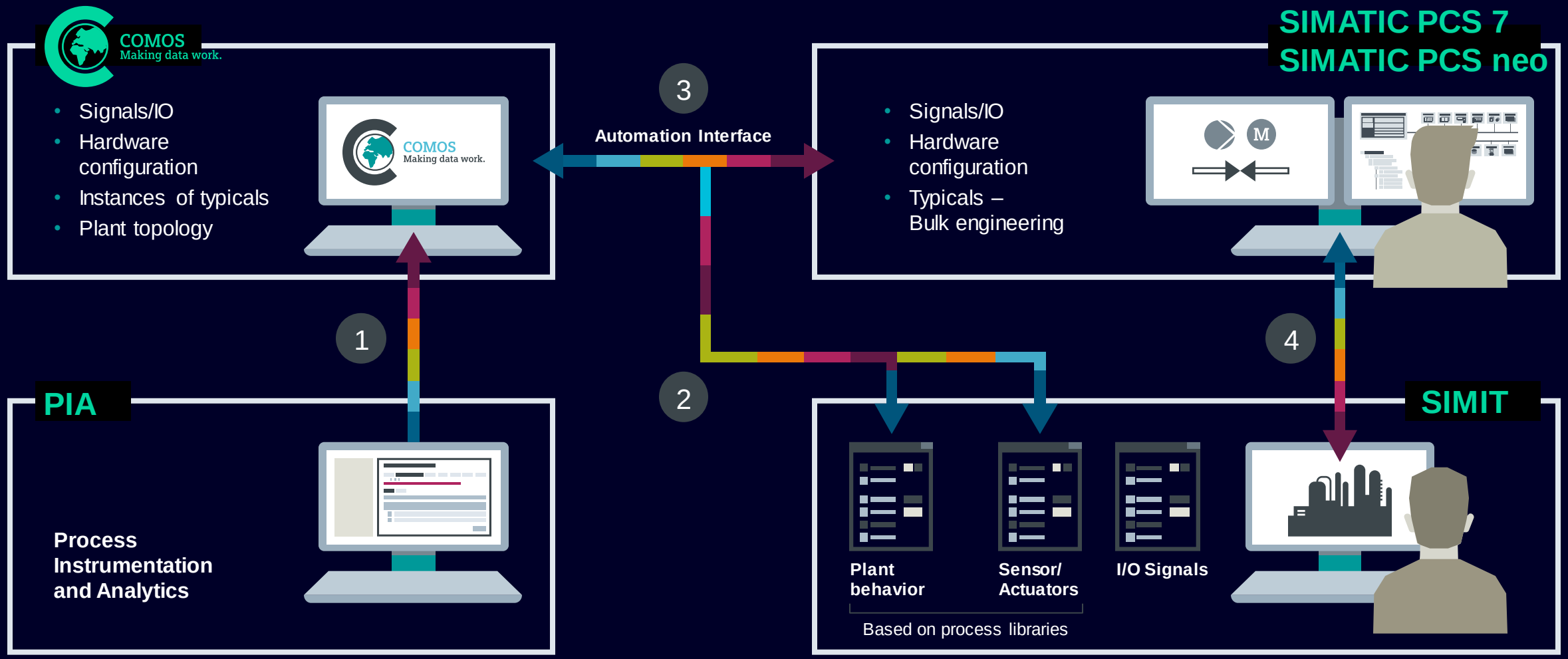
Integrated Portfolio for Digitalization in Process Industries



Integrated Engineering and Integrated Operation with COMOS, PCS 7, SIMIT and PIA Portal



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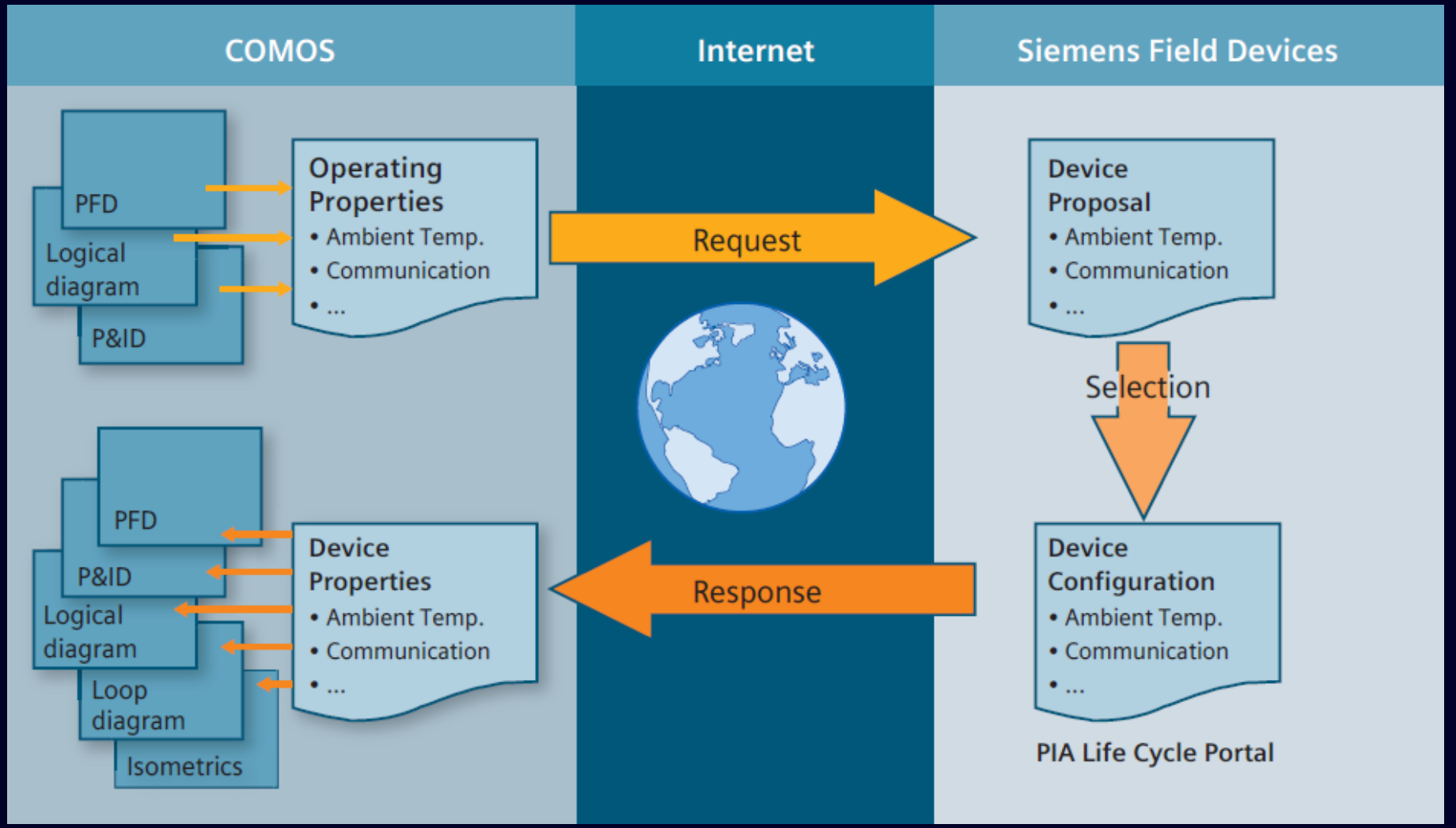
Features COMOS EI&C – Basic Engineering



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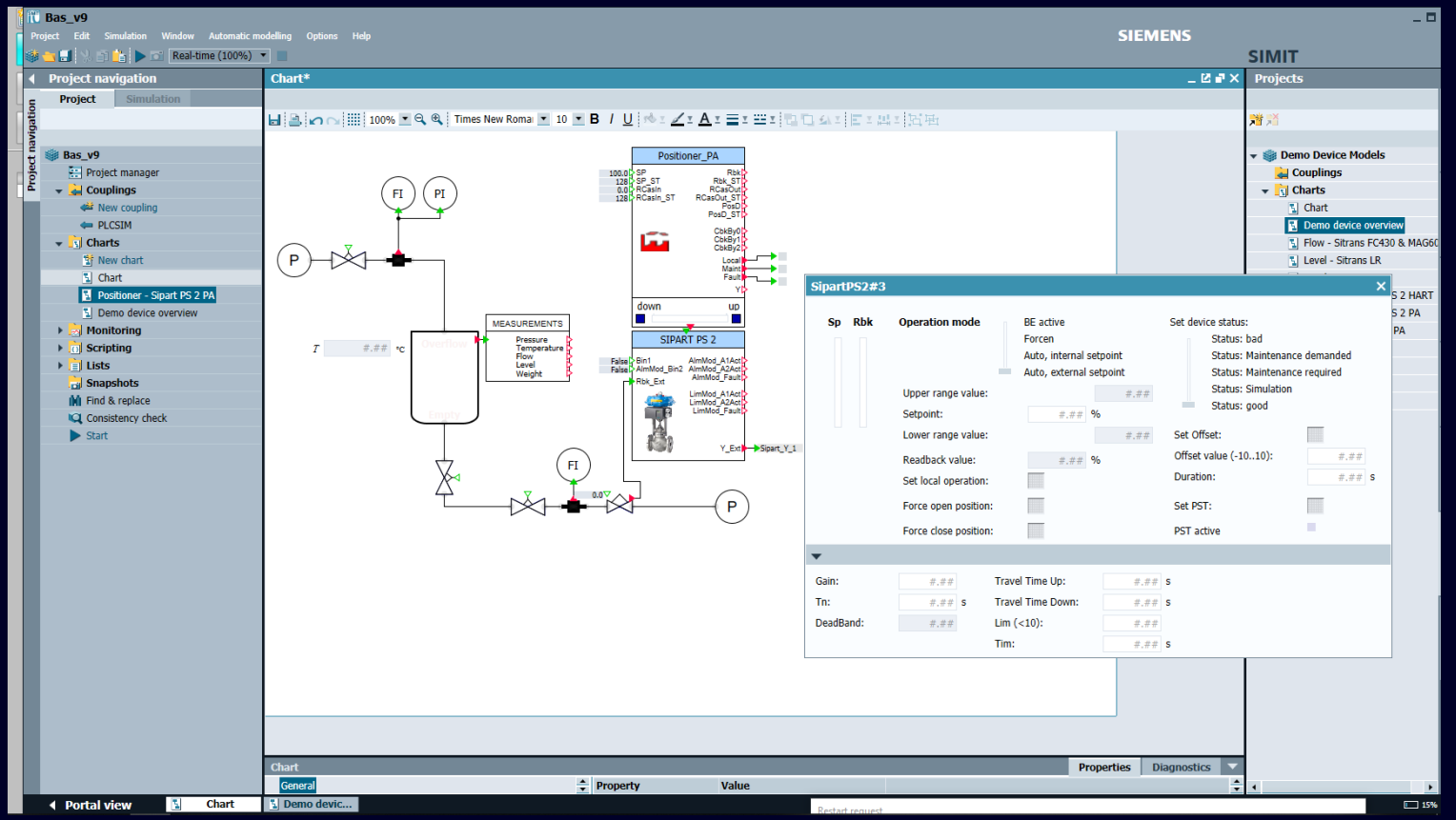
SIMIT
Digital Twin on device level

Device models

- Higher engineering quality by enabling early detection of errors and more comprehensive automation checks
- Faster commissioning including specific field device functions tested early without final HW



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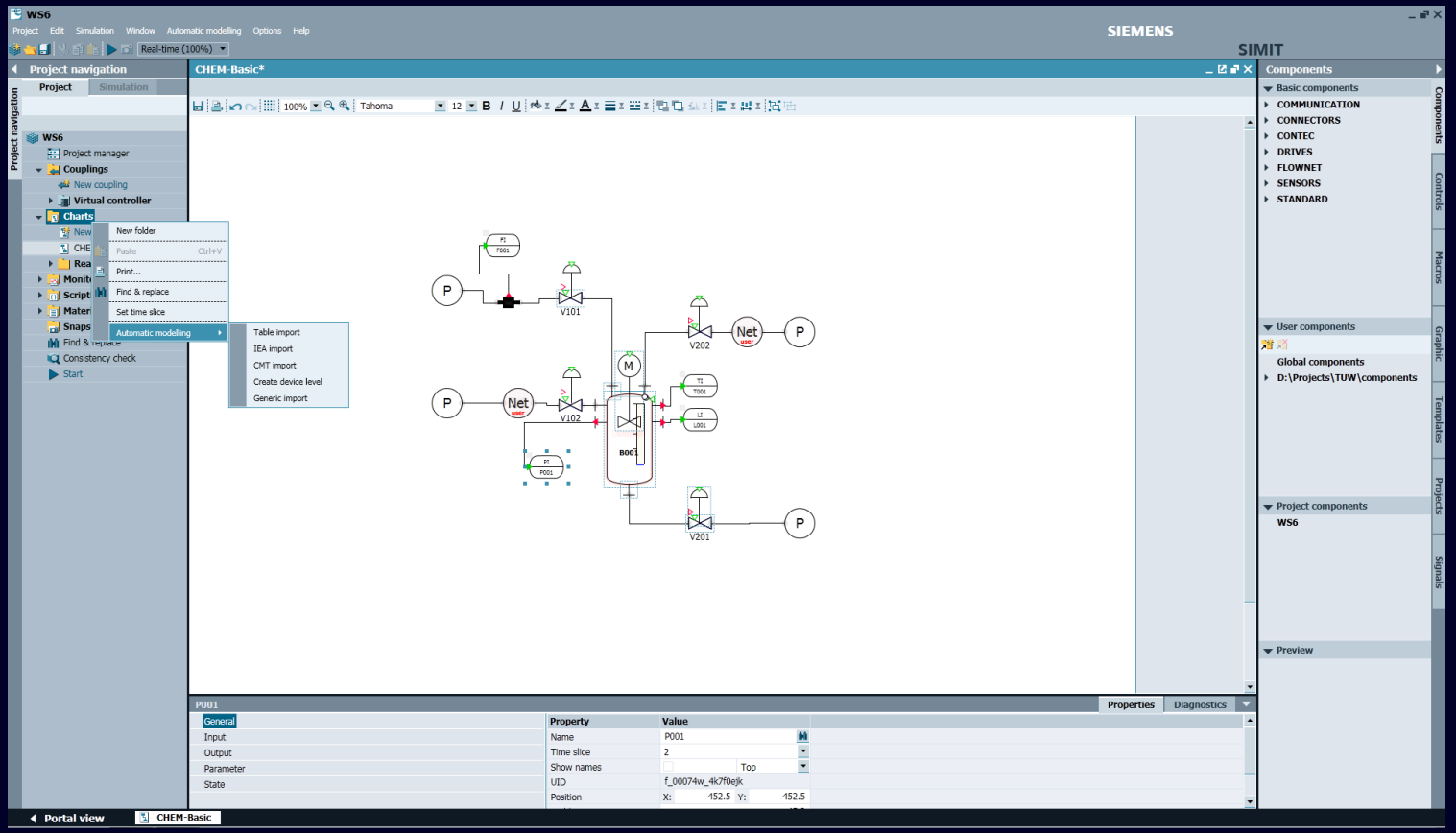
SIMIT
Simulation based Engineering from Virtual Commissioning to Operator Training

Simulation of technical behavior

- Simulation model can be created out of COMOS via the generic import
- Components can be placed via drag-and-drop on diagrams to model the simulation model
- Components can be connected by drag-and-drop



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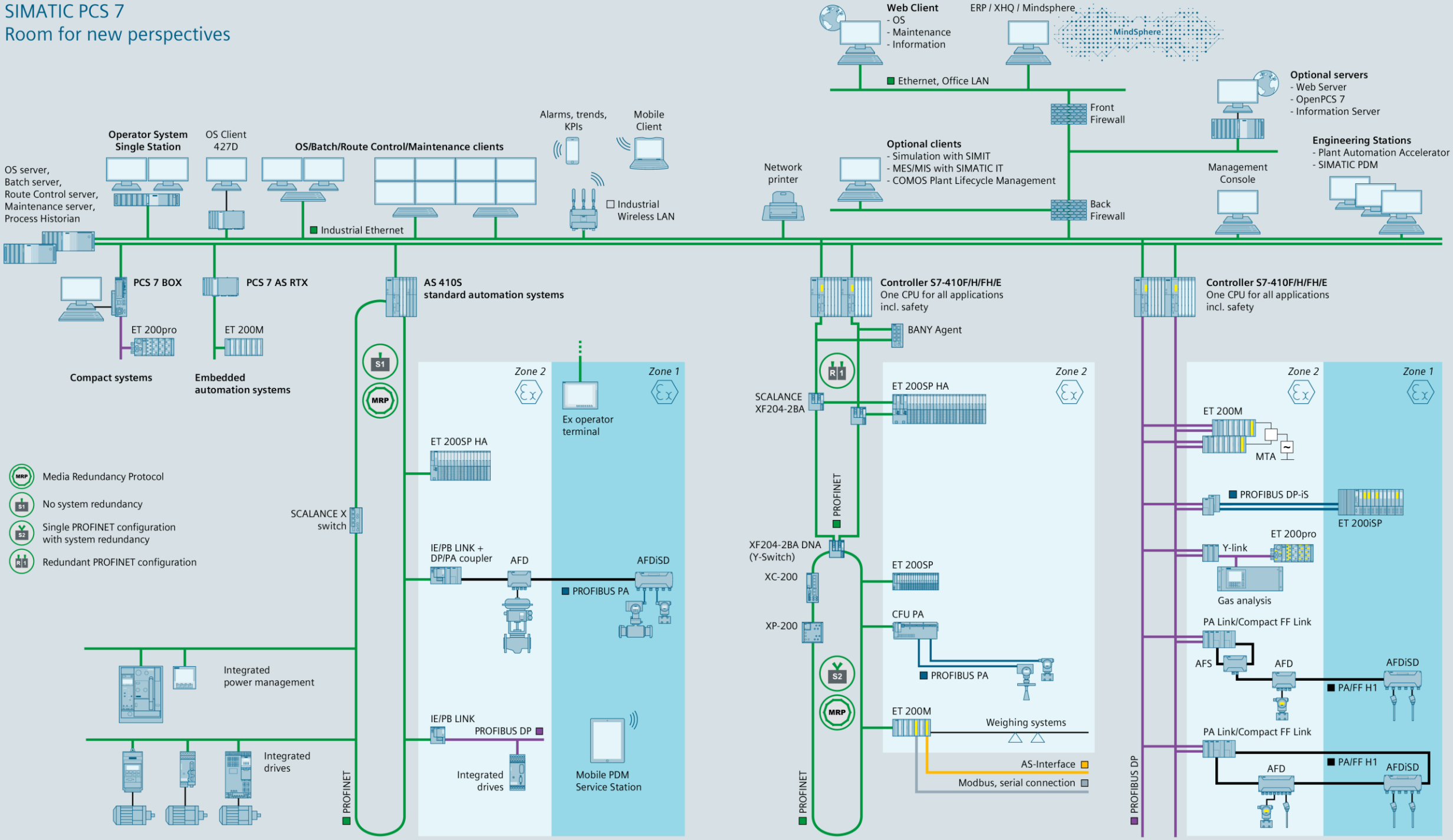
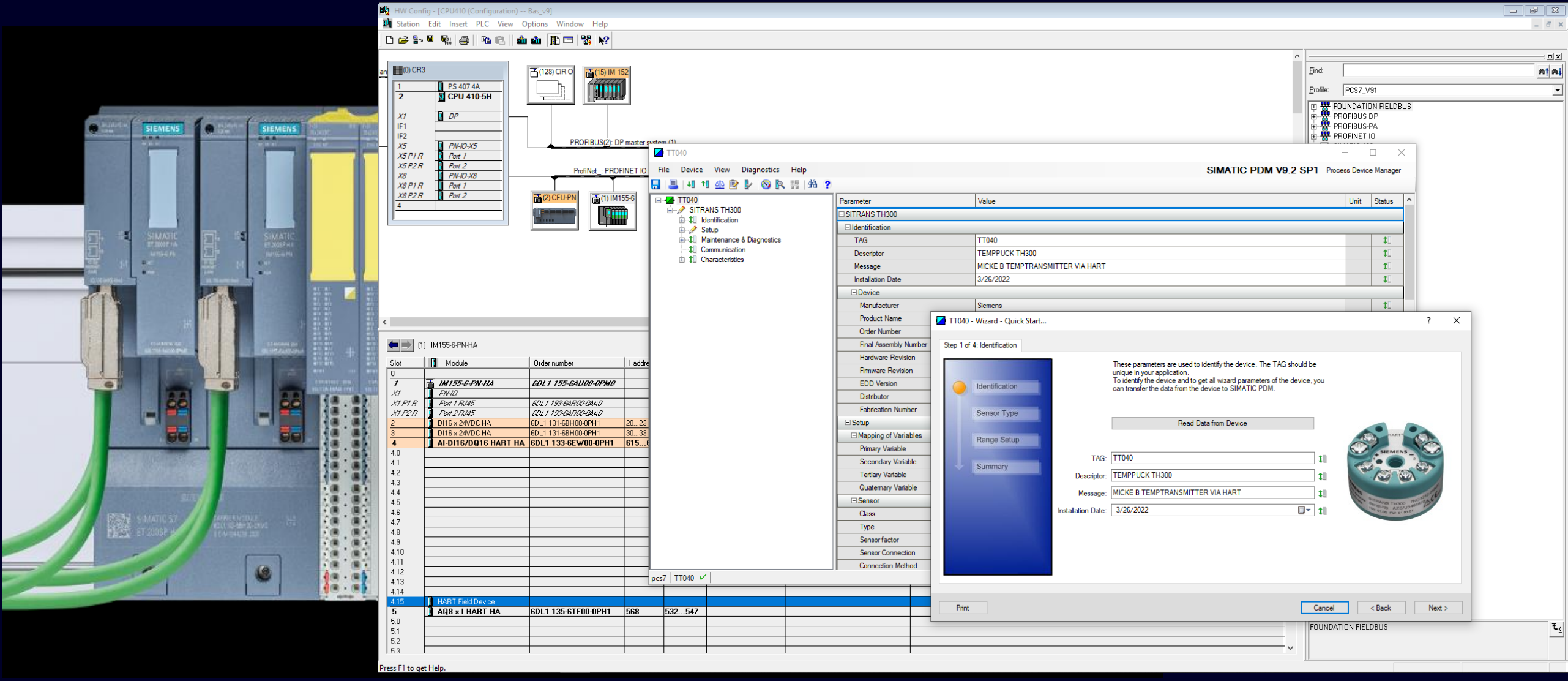
SIMATIC PCS 7
Room for new perspectives



SIMATIC PCS 7 – Hardware
Process I/O with standardized communication



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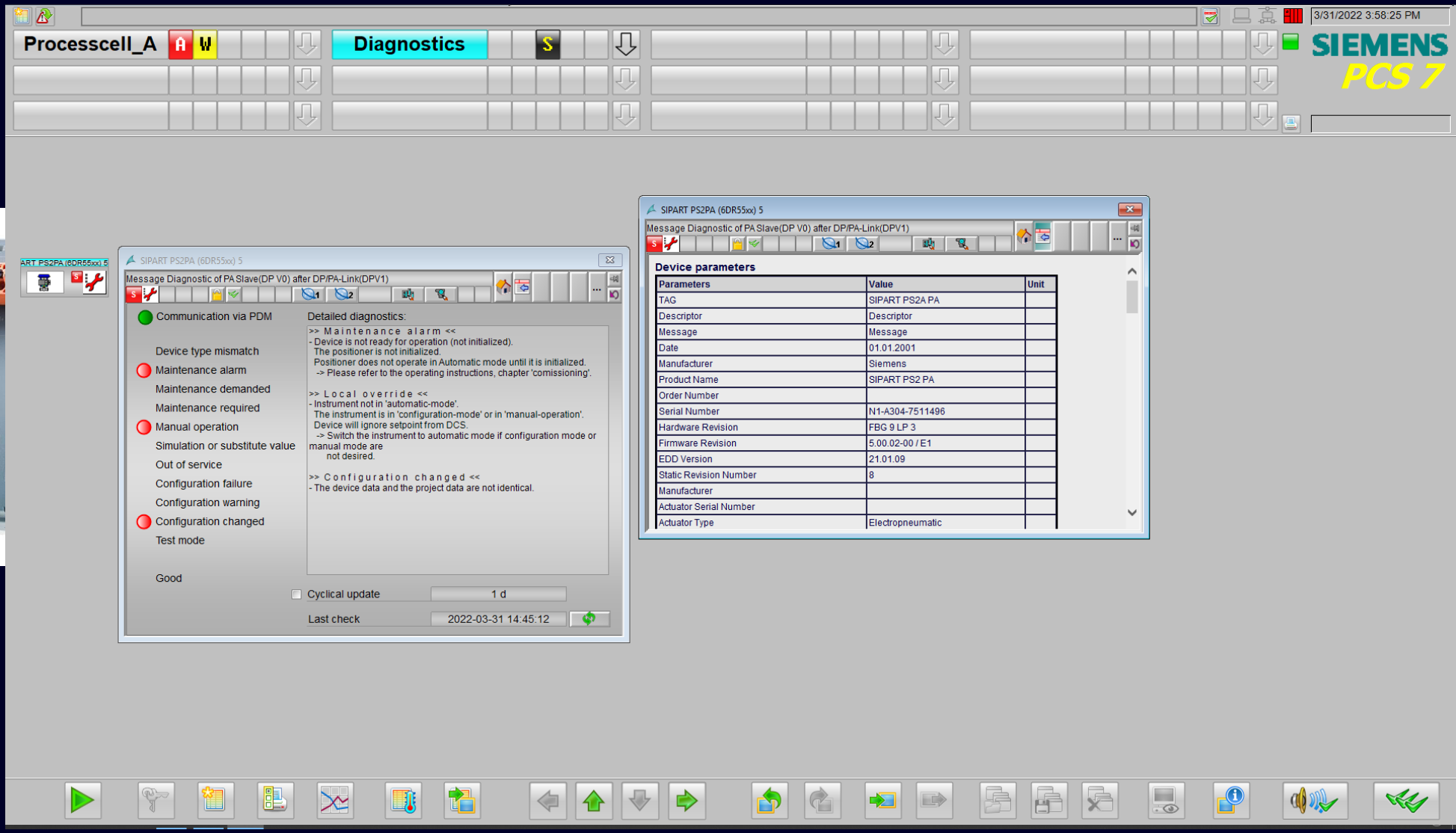
Compact Field Unit (CFU) -
The smart digitalization terminal block



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Field Device Integration (FDI) for Process Automation

A new technology, a new standard…

Field Device Integration (FDI) is a new technology and a new internationally standardized solution for **process automation device** and systems **integration** that dramatically simplifies software installation and maintenance as well communication between enterprise level systems and technologies.

FDI brings standardization to the packaging and distribution of all the software and tools necessary to **integrate** a **device** with a host **system**, thus the tagline:

“ONE DEVICE – ONE PACKAGE – ALL TOOLS”

Key objective of the specification is to combine the simplicity of the text-based EDD technology with the flexibility of user interface programing such HTML5.

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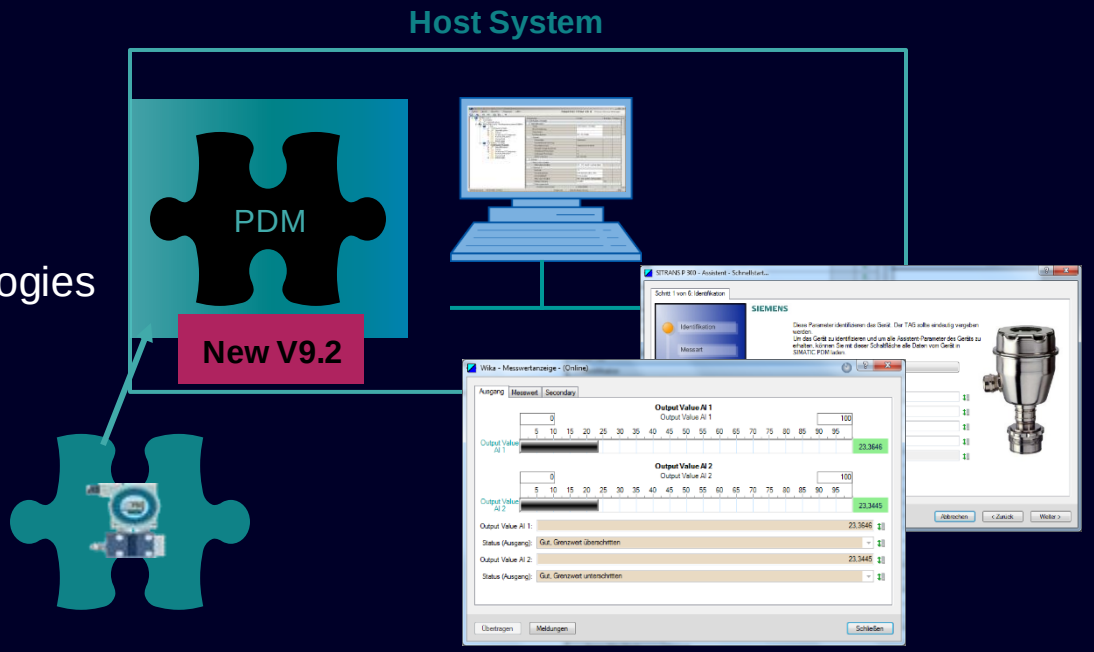
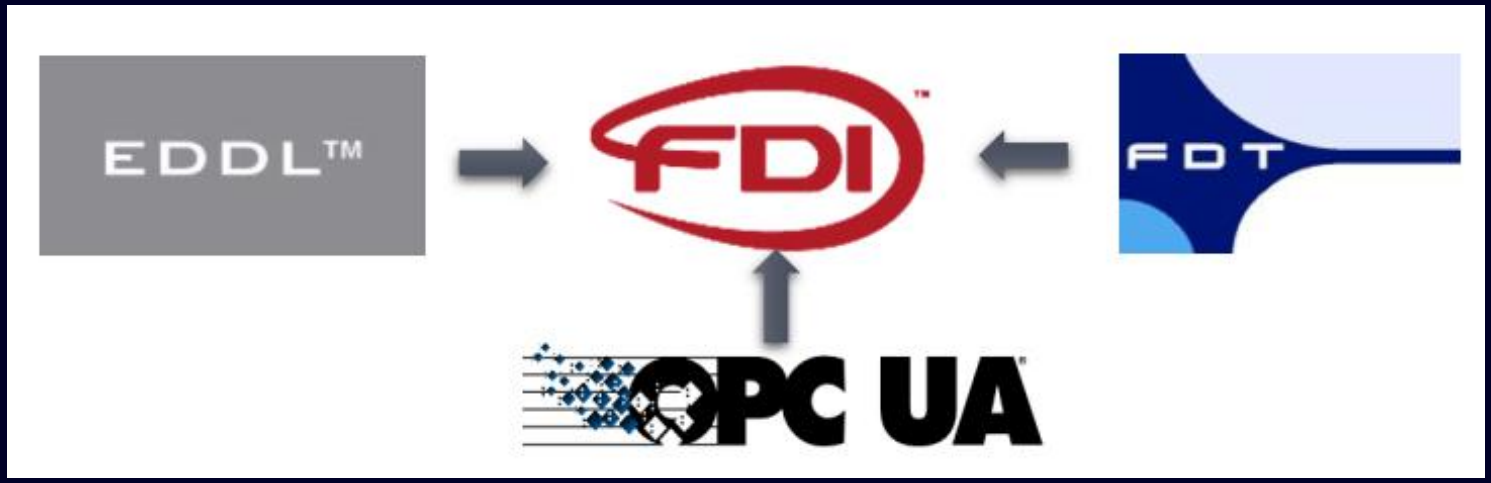
FDI Motivation

- A single technology that leverages the best of both existing technologies
- Enables open architectures (e.g. NOA, I4.0)
  - Standardized access to device information through OPC UA
- Up to date cyber security features
  - Signing, Sandboxing





Source: PROFIBUS & PROFINET International (PI)

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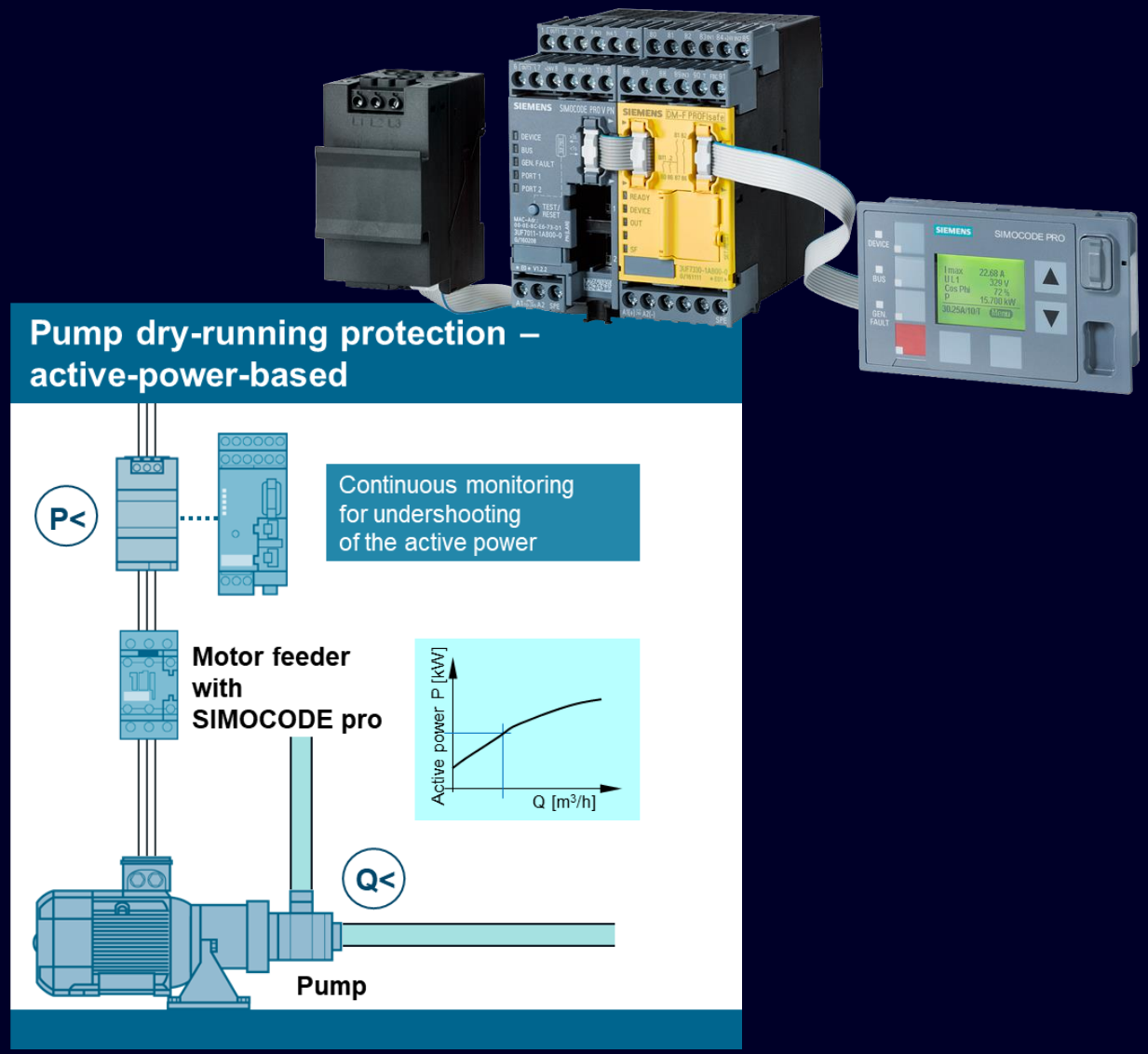
PDM & FDI
Not only for instruments and positioners



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Ethernet-APL -
The Communication of the Future in the Process Industry

ethernet-apl™
advanced physical layer

- **2-wire Ethernet for process automation**
- **Digitalization into Field Level (10Mbps)**
- **Up to 1000m cables**
- **Robust incl. power and communication in one cable**
- **Intrinsically safe**
- **Standardized diagnosis tools**
- **Topology & Protocols for Plug´n play connectivity**

Customers will benefit due to simplified installation, configuration and maintenance of instruments

Source: Fieldcomm Group • ODVA • PI – Introducing Ethernet APL / March 2021

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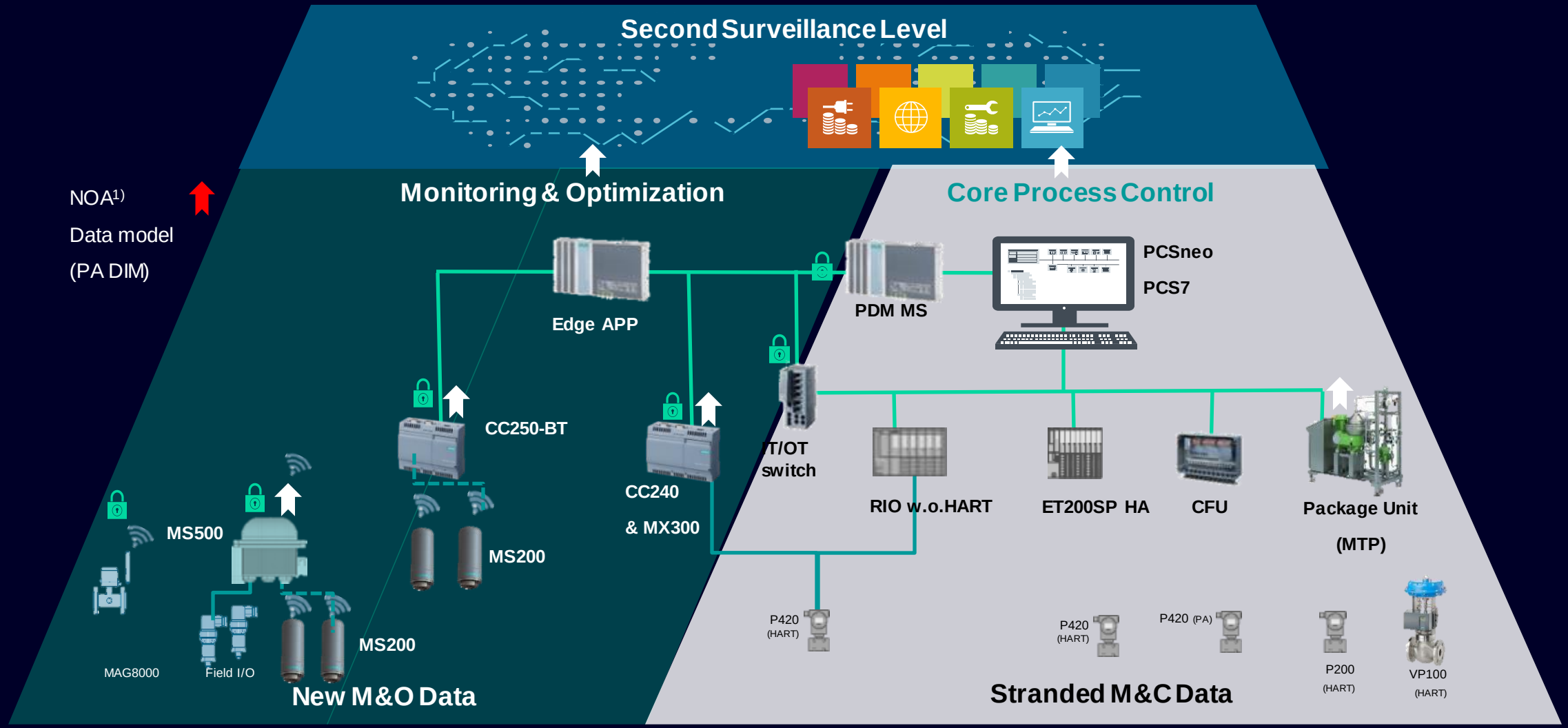
Namur Open Architecture (NOA) as driver for Asset Monitoring and Optimization



[1)]NOA: Namur Open Architecture

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Exempel

1. SCM IQ – Smart Condition Management
2. SAM IQ - Smart Asset Management

SITRANS SCM IQ

Smart Condition Monitoring with IIoT Sensors and Machine Data

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Customer Situation

Unplanned downtimes lead to **10 – 30% performance losses** in a production line.

But, smart IIoT solutions can help to **increase performance** of up to **10%**.

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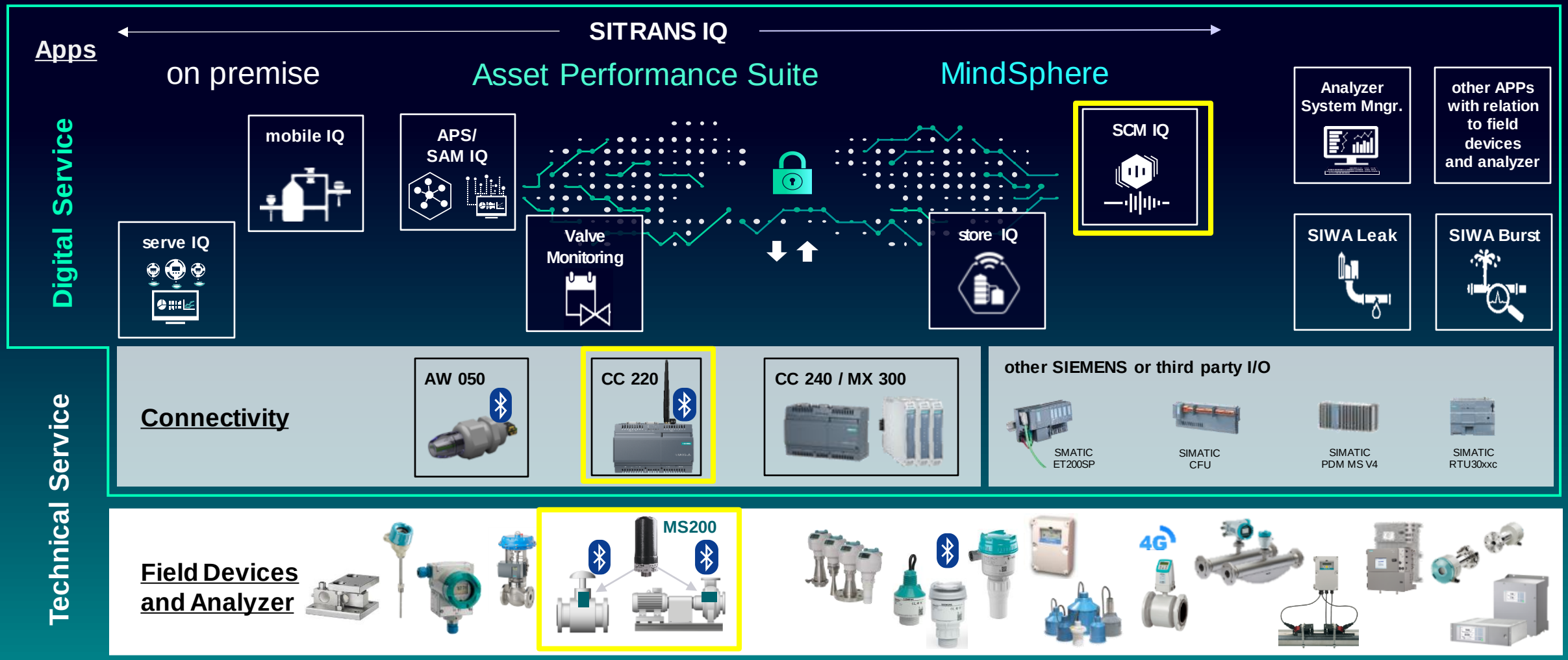
SITRANS IQ platform contains connectivity and analytics tools for enhanced performance and reduced downtime



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Features – SITRANS MS200

Temperature sensor:
- -30 to 80°C
- resolution of 0.01°C
- repeatability +/- 0.1°C

Exchangeable battery
- AA 3,6 V industrial battery
- up to 3.5 years battery life

- IP68 certified
- integrated antenna
- ruggedized design

SITRANS MS200
IIoT multi sensor

Vibration sensor:
- 3-axis (13 to 3.3kHz)
- nom. resolution of 0.488mg
- measuring span 16 to -16g

Bluetooth Low Energy:
- sampling rates of
  1 transmission / 100 sec.
- range appr. 30 m

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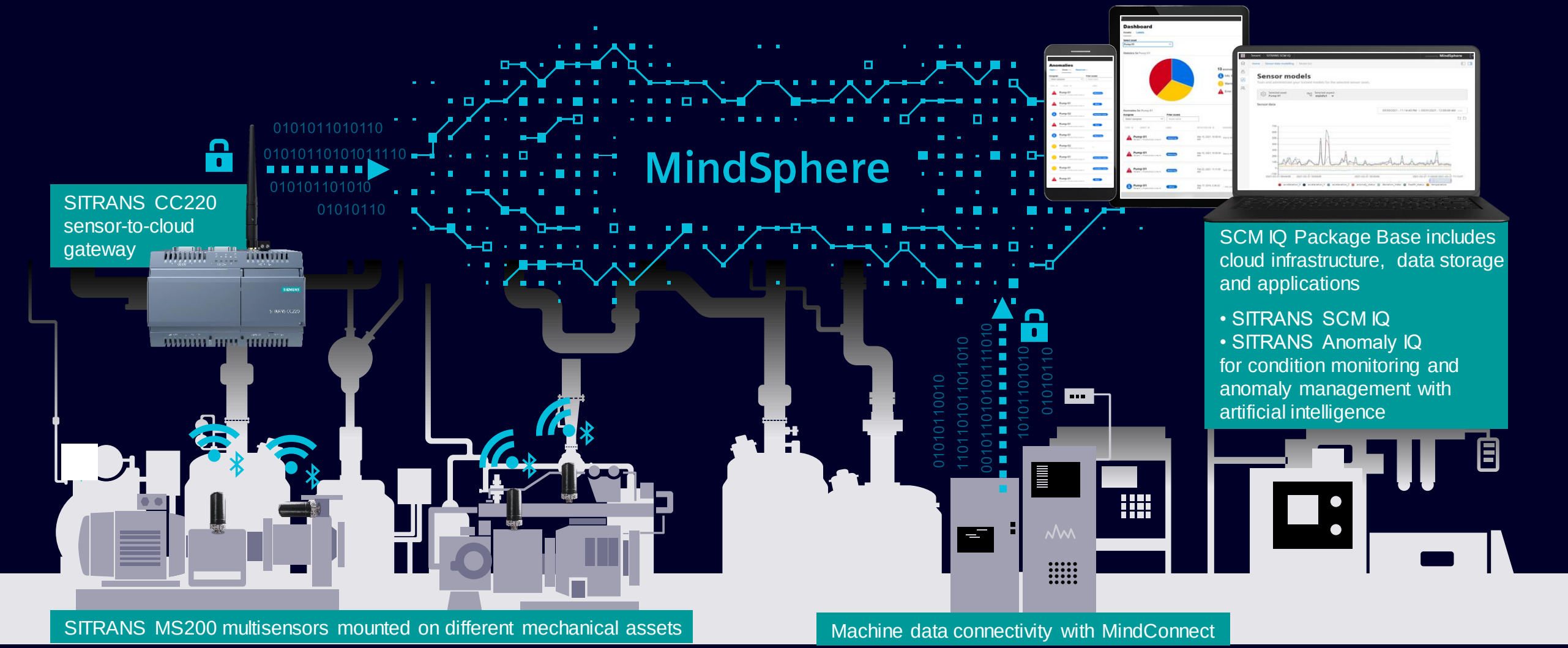
System overview of SITRANS SCM IQ



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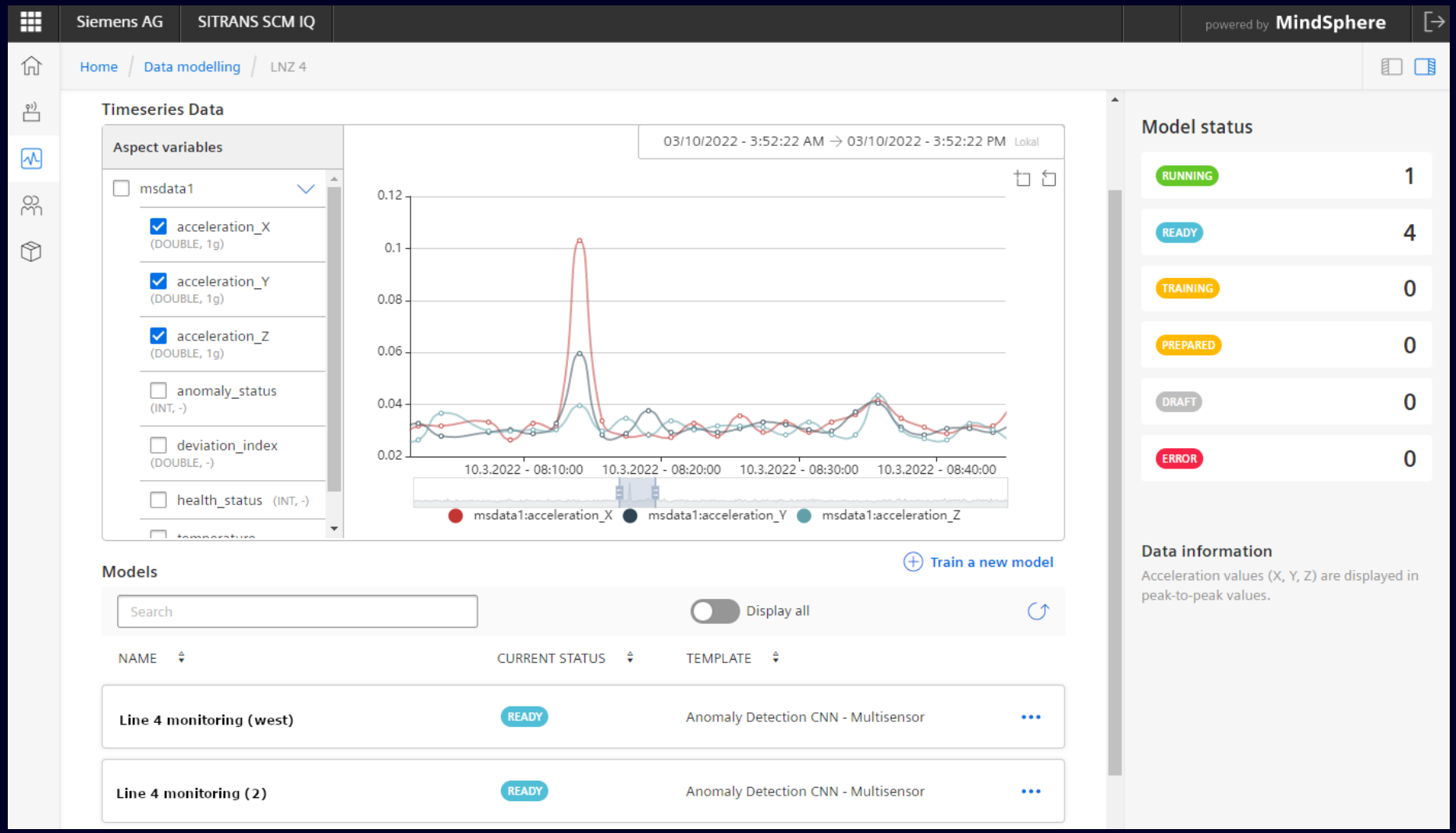
Sneak peak into the apps
SITRANS SCM IQ: Data Modelling



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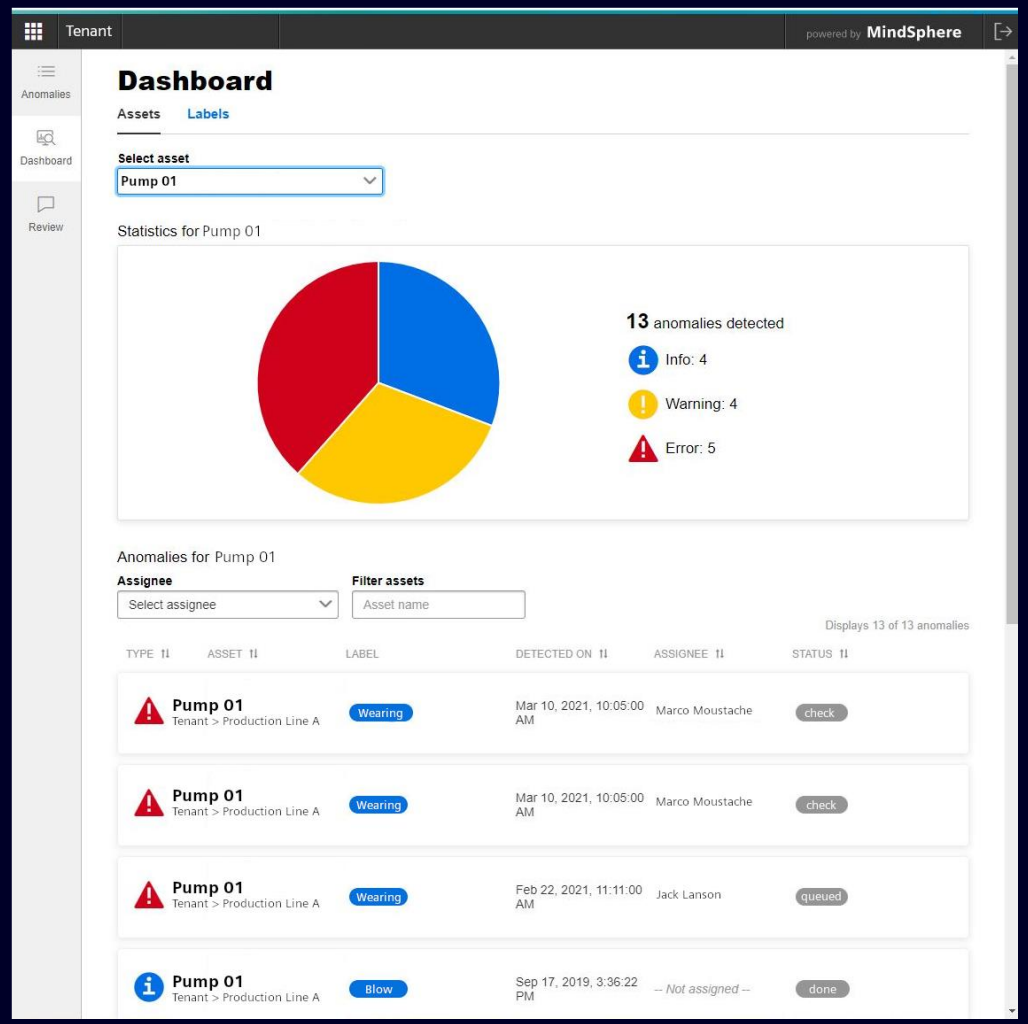
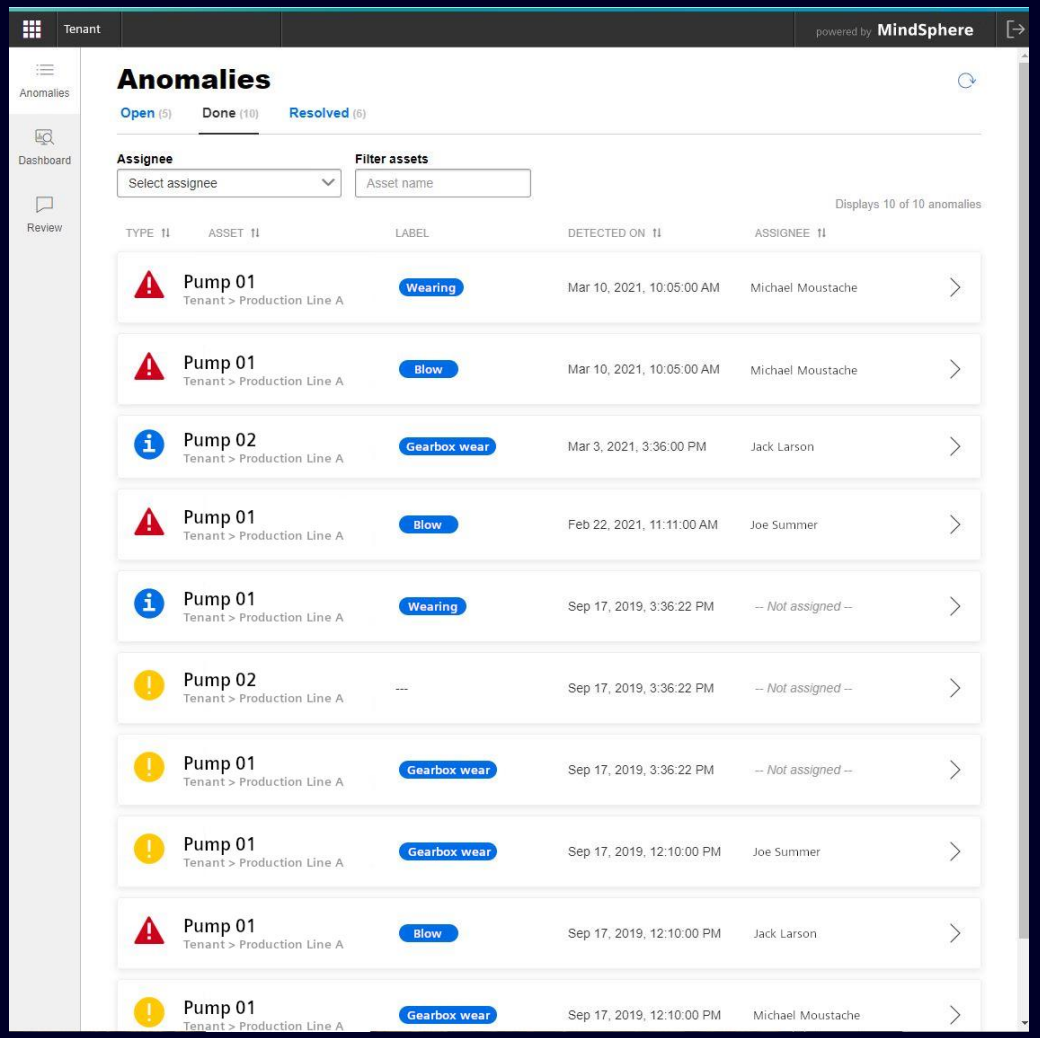
Sneak peak into the apps
SITRANS Anomaly IQ: Dashboard and List View





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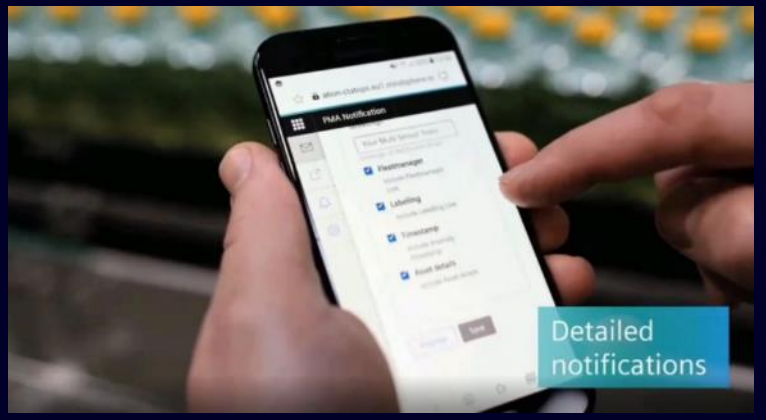
Turning data into value @Coca-Cola Hellenic Bottling Company Reference Facts



Prevented 4 major downtimes

Reduced line downtime by 2%

Return on invest in 6 months

Turning data into value

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Summary

Used for initial configuration and model training

> IT, Head of Maintenance, …

Machine learning based anomaly detection which adapts over time for MS200 and other MindSphere assets

Configurable SMS and e-mail notification with customizable user groups

MS200 & CC220 device connectivity management and device state at a glance

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SITRANS SCM IQ app

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SITRANS Anomaly IQ app

Daily used for anomaly management & labelling

> Usually Maintenance Engineer in the field

Anomaly and machine failure management and documentation for instant sharing in your team

Asset state visualization and asset performance overview

MindSphere

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SITRANS SAM IQ
Smart Asset Management
SIEMENS

Customer Situation

Field devices and actuators are significant for operation and safety of production processes.

But, up to **90%** of field device information in a process plant is unused.

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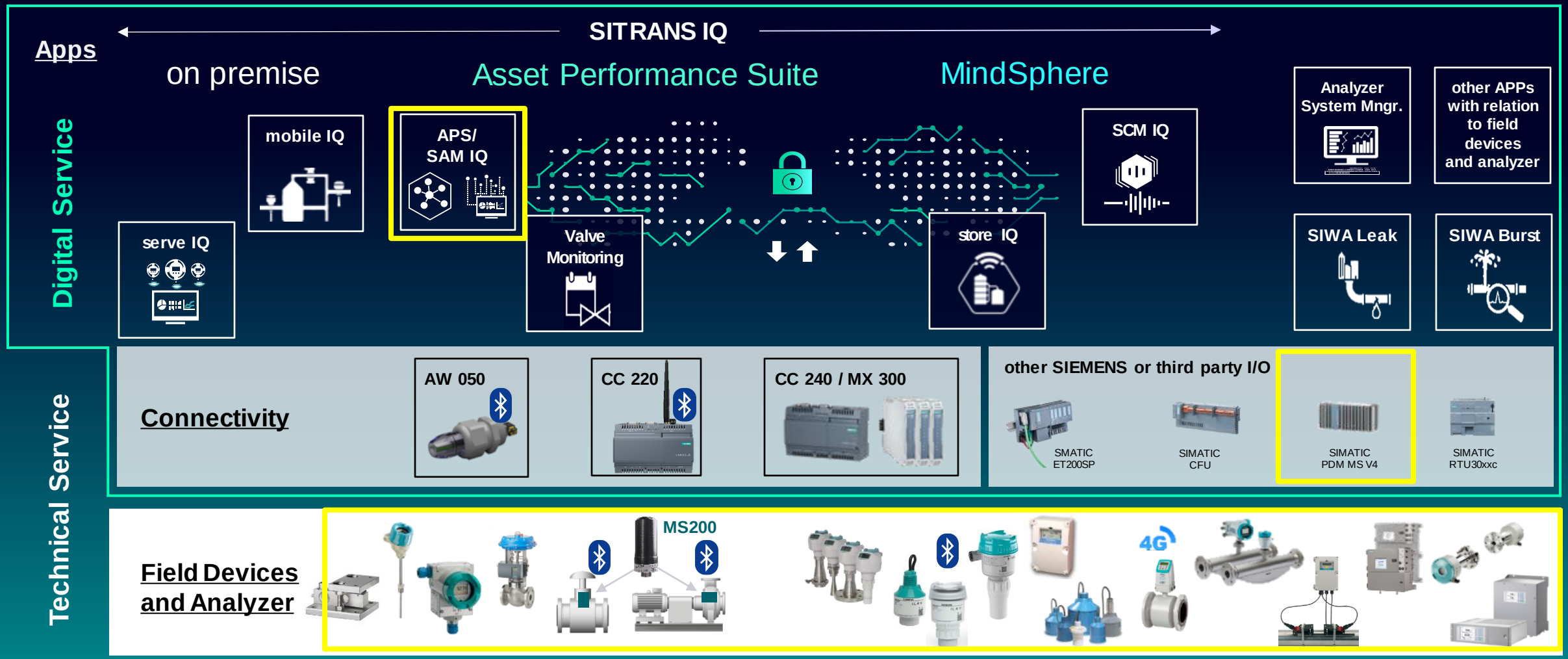
SITRANS IQ platform contains connectivity and analytics tools for enhanced performance and reduced downtime



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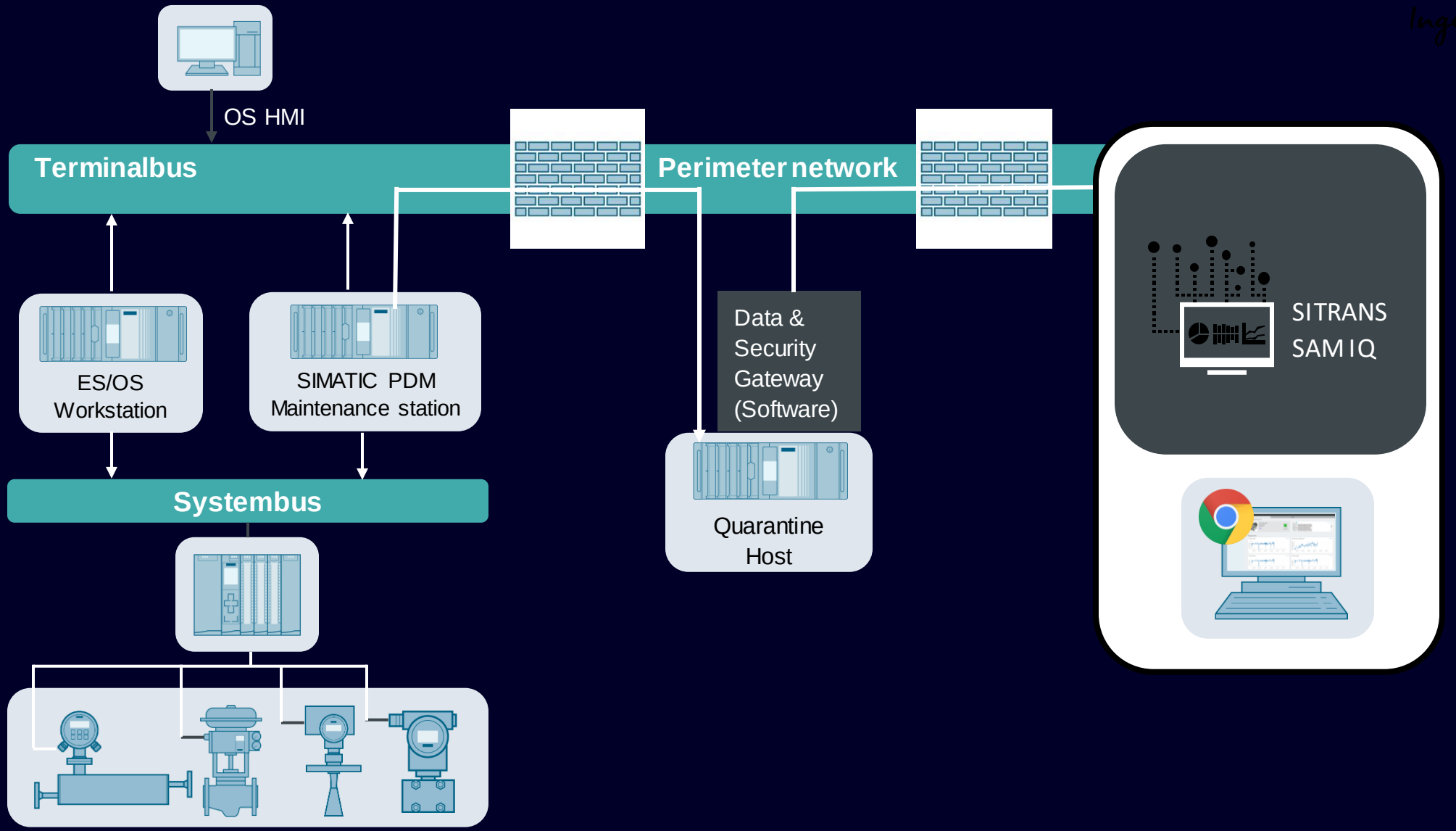
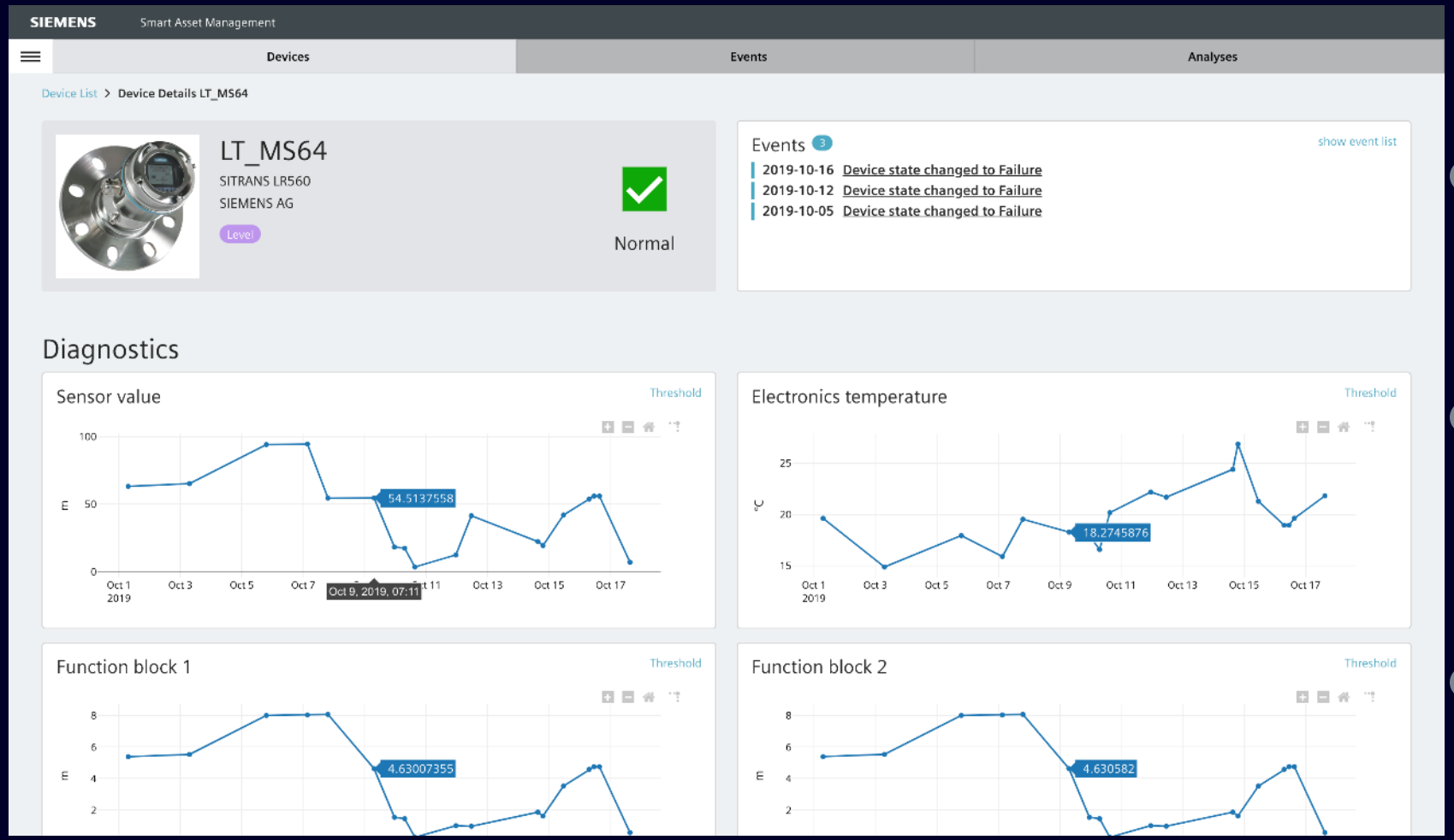
Cloud Installation infrastructure



SAM IQ – Device detailed view



Detailed monitoring and trending of all process values and diagnostic data

Access to device-specific KPIs

Easy comparison of actual working range with measurement range of the device

Features – Customized Monitoring & Diagnostics

Key Customer Benefits

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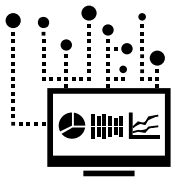
Ingenuity for life

One application for all field devices and protocols

Reduction of maintenance costs trough event driven maintenance



SITRANS SAM IQ

Increase plant uptime by avoiding upcoming device failures

Increase transparency of measurement reliability and ensure product & process quality

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Dags för frågor ☺

mikael.borjesson@siemens.com
&
daniel.moertsjoe@siemens.com

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