

# presenting

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Automotive



Industrial



IT Networks



**Softing Industrial Automation GmbH**  
Company and Product Overview  
July 2024

# Agenda

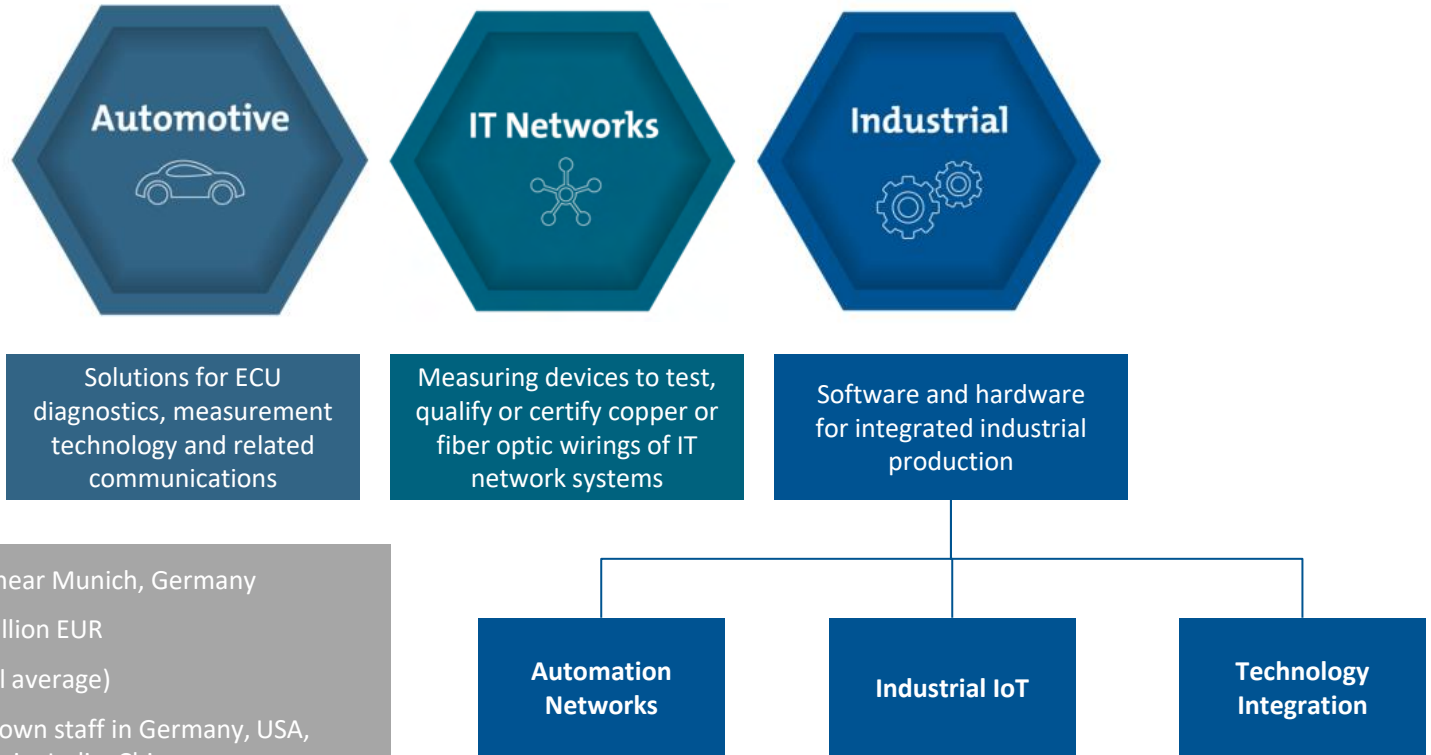
**Softing Industrial Company Overview**

**Product Portfolio**

**Selected Solutions**

**Selected Partnerships and Case Studies**

# Softing AG – Business Units



- Headquartered in Haar near Munich, Germany
- Revenue 2023: ~ 112 million EUR
- ~400 employees (annual average)
- Local presence through own staff in Germany, USA, Italy, France, Austria, Spain, India, China
- Global network of distributors

## Automation Networks



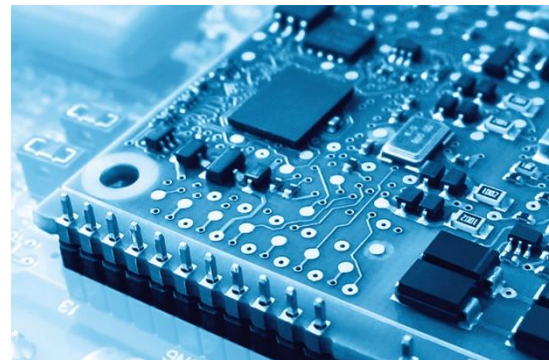
- Machine connectivity for HMI, SCADA, MES, and other applications
- Device connectivity for plant asset management and for control

## Industrial IoT



- Machine- and device connectivity for IoT and cloud platforms
- Deep integration with IT for management and operation

## Technology Integration



- SDKs for OPC UA client- and server development
- Boards and communication stacks for field devices

# References

## End Users & Machine Builders



## OEMs



# Partner- and Memberships

## Industrial Automation



## Industrial IoT



## Consulting & Services



## Memberships



# Agenda

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**Product Portfolio**

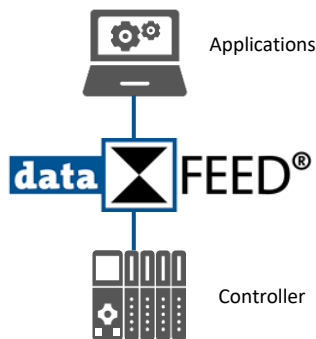
Selected Solutions

Selected Partnerships and Case Studies



**Connectivity for any kind of application and solution environment, brownfield or greenfield, requiring access to tooling machine- and PLC data**

- Communication software and gateways to access controller and machine data for production monitoring, production control, process optimization and IIoT



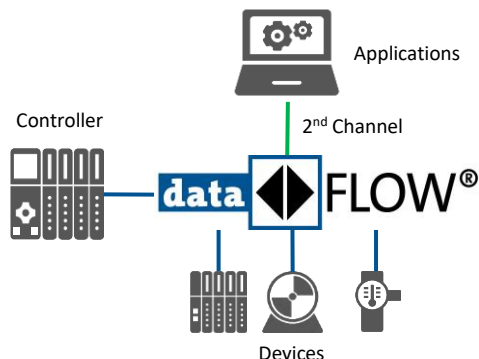
## Product Lines

- dataFEED OPC Suite, Secure Integration Server
- edgeConnector, edgeAggregator, edgePlug
- edgeGate, uaGate, eATM



## Connectivity products for digital plant asset management applications and process control

- Gateways, communication software and mobile interfaces to access field device data from applications for device parameterization, asset management, asset monitoring, process optimization and IIoT. Gateways and switches to connect field devices to Ethernet-based control systems.

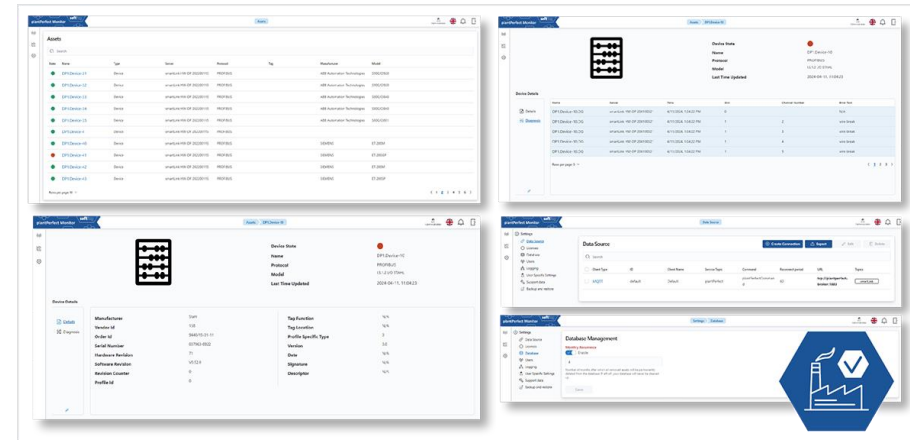


## Product Lines

- smartLINK HW-DP, smartLINK SW-HT, smartLink PN
- epGate, mbGate, pnGate
- apISwitch Field
- mobiLink

## Monitoring production assets and industrial communication networks with controllers and field devices

- Full information about the health of the monitored industrial communication networks and all installed assets
- Monitoring of Profibus networks
- Easy-to-use for shopfloor personnel



## Product Line

- plantPerfect Monitor  
(in combination with smartLink)

## Tools and mobile device for signal and protocol analysis of industrial communication networks

- For automation network trouble shooting, including PROFIBUS DP networks
- For acceptance testing of Ethernet-based industrial communication
- Standardized acceptance reports in accordance with the recommendations of PROFIBUS & PROFINET International (PI)

## Product Lines

- Profibus Tester
- Analyzer IE



**Embedded modules and communication software for the integration of industrial communication protocols into field devices, controllers or applications**

- Complementary services, including training, workshops and integration support
- Softing Industrial also provides services to manufacture devices for customers (ODM business)

## Product Lines

- OPC UA SDKs (client and server development, binary and source code)
- Communication stacks (PROFINET, EtherNet/IP, EtherCAT, Modbus/TCP, FF, PROFIBUS PA)
- FPGA-based communication subsystems (for Intel/Altera, and for AMD/Xilinx)
- Embedded communication modules (Ethernet, Ethernet-APL, MBP), for PROFINET, EtherNet/IP, EtherCAT, Modbus/TCP, FF, PROFIBUS PA



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# Controller- and Machine Connectivity

## Solution

- Access controller and machine data from applications for production monitoring, production control, production data acquisition, process optimization and IIoT

## Softing Products

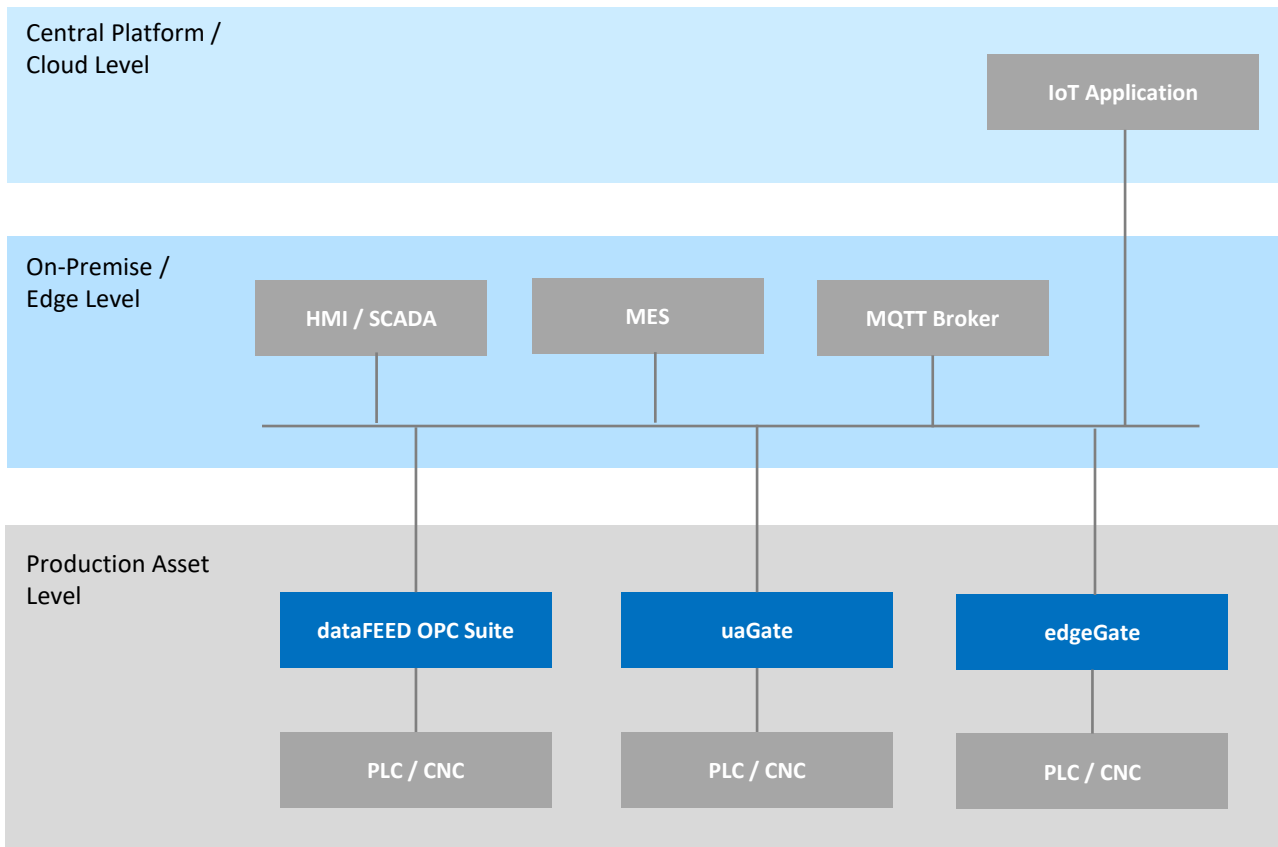
- dataFEED product family (Windows applications)
- uaGate product family (appliance)
- edgeGate product family (appliance)

## Key Features and Benefits

- Easy-to-use for shopfloor personnel, no IT skills required
- Industrial-grade products, mature and proven (+15.000 installations in production environments around the globe)

## Project Examples

- American Food Giant



# Device Connectivity for Digital Plant Asset Management

## Solution

- Access smart field device data from applications for device parameter setting, asset management, asset monitoring, process optimization

## Softing Products

- smartLink product family

## Key Features and Benefits

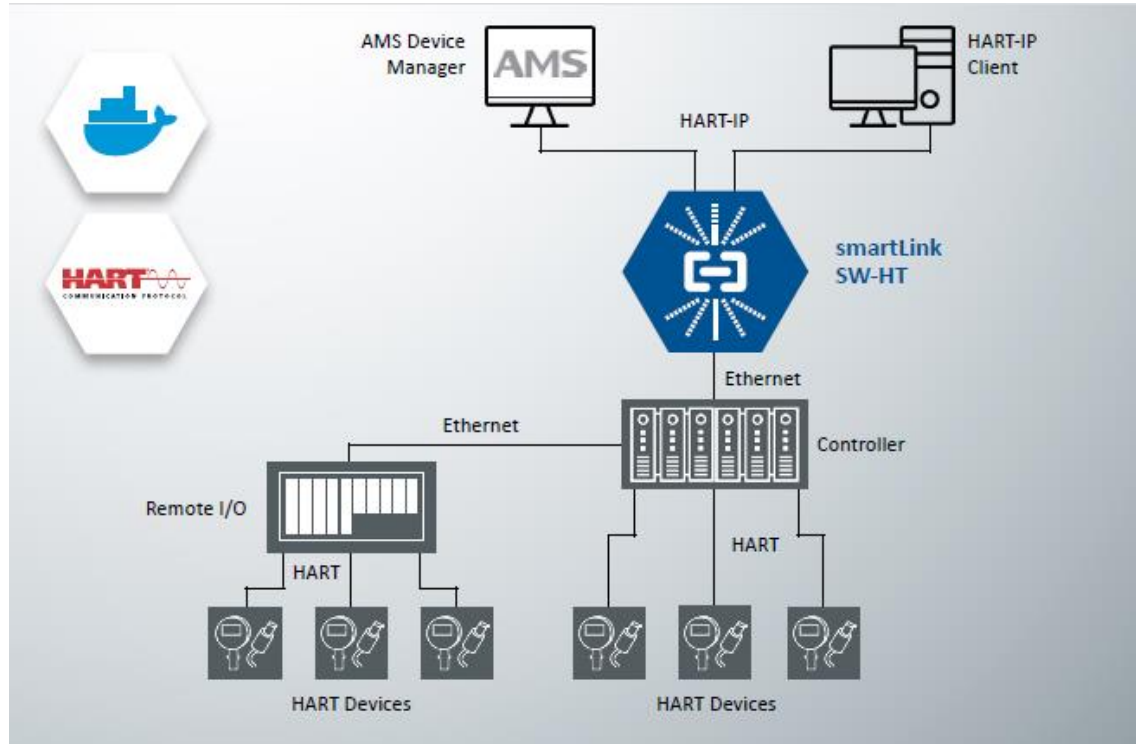
- Support for HART, Profibus and Profinet devices
- Broad range of supported PLCs and Remote I/Os (e.g. connecting HART devices via Allen-Bradley PLCs to Emerson AMS Device Manager)
- Cost-efficient, industrial-grade, proven in large scale projects

## Project Examples

- Pioneer in Energy Industry
- FPSO vessel for oil field development

## More Information

- [Here](#)



Example with AMS Device Manager



# Process Control

## Solution

- Integration of field devices into PROFINET-, Ethernet/IP- and Modbus/TCP control systems

## Softing Products

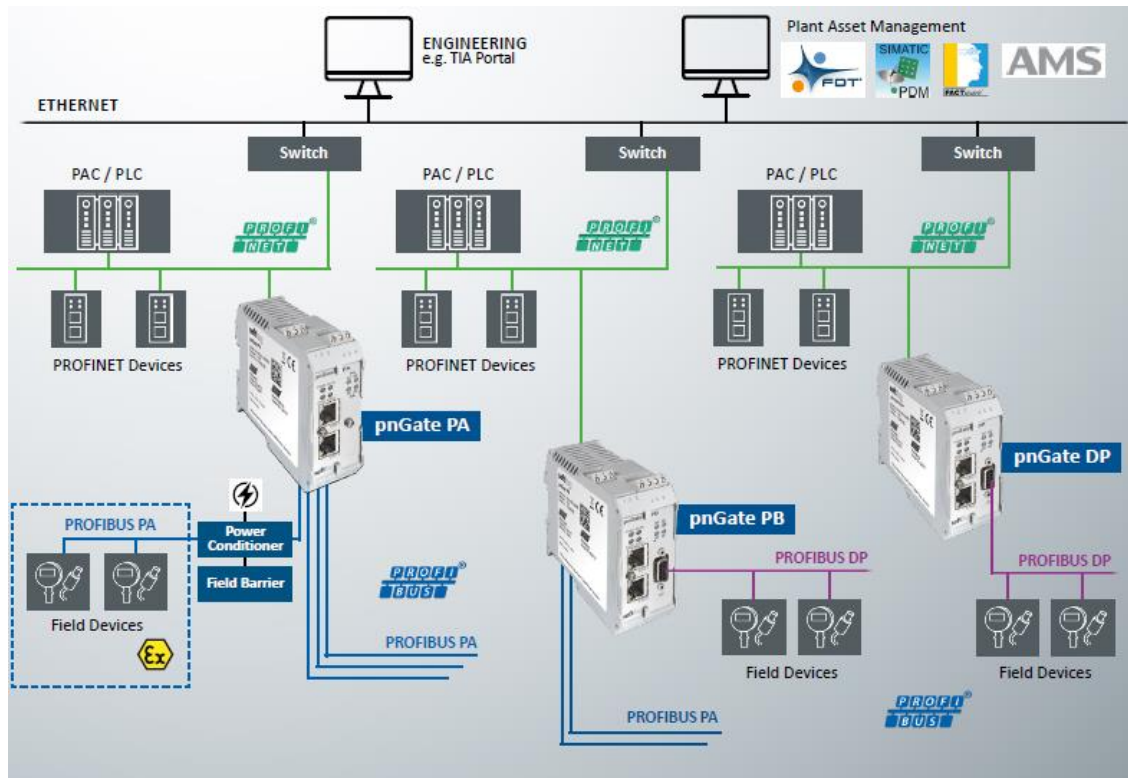
- pnGate product family
- epGate product family
- mbGate product family

## Key Features and Benefits

- Support for Profibus PA, PB, DP devices
- Network segments with field devices can be reused without any changes
- Simple and easy-to-install

## Project Example

- Gostol Group



Example for PROFINET control systems

# Controller- and Machine Connectivity (Industrial Edge)

## Solution

- Access controller-, machine- and device data, managed centrally

## Softing Products

- Containerized software modules
- edgeConnector and edgeAggregator
- smartLink

## Key Features and Benefits

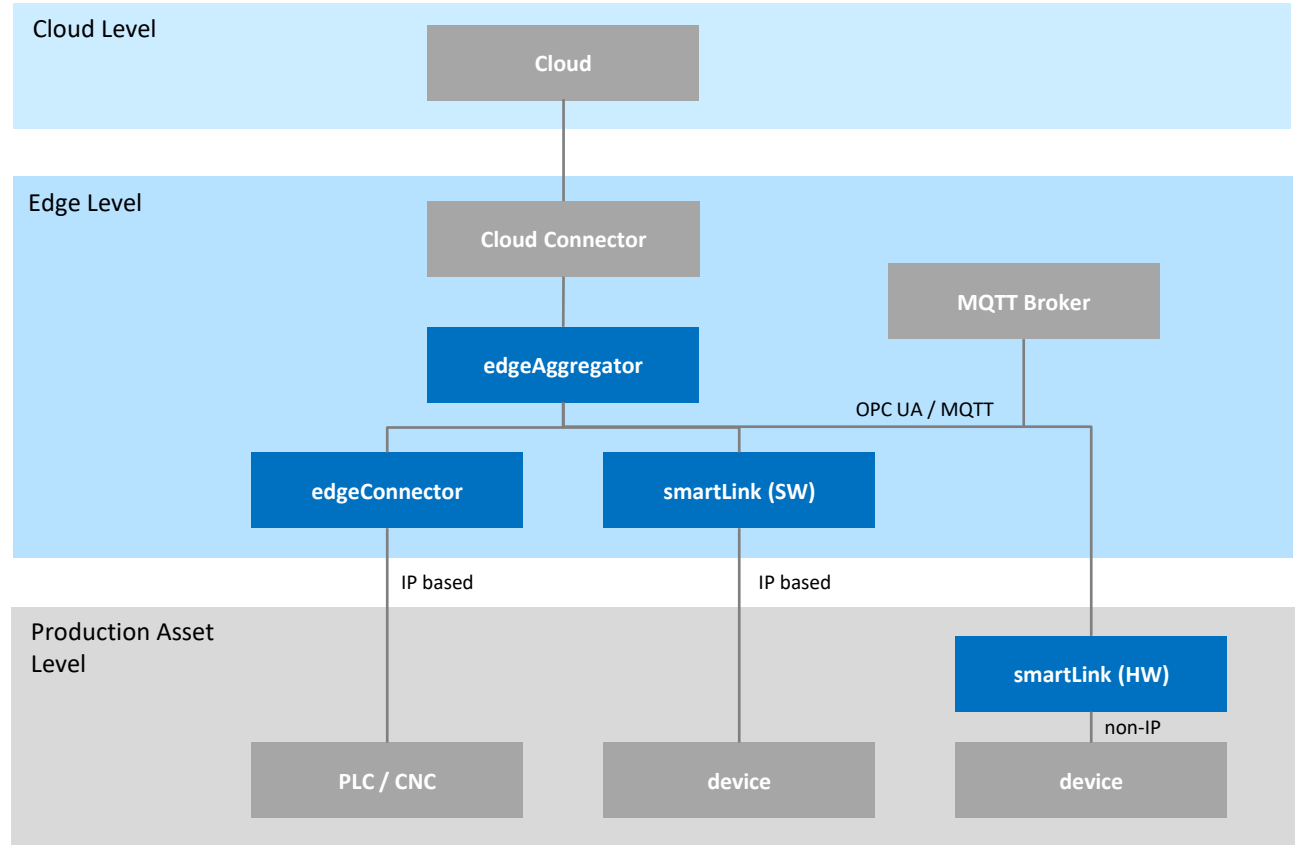
- “best-of-breed” connectivity, integrate with open and standards-based system architectures
- IT driven management and operation
- Integrated GUI

## Project Example

- Volkswagen AG (DPP project)

## More Information

- [Here](#)



# Namur Open Architecture (NOA)

## Solution

- Connectivity compliant with NOA reference architecture for process industries

## Softing Products

- dataFEED products
- smartLink product family

## Key Features and Benefits

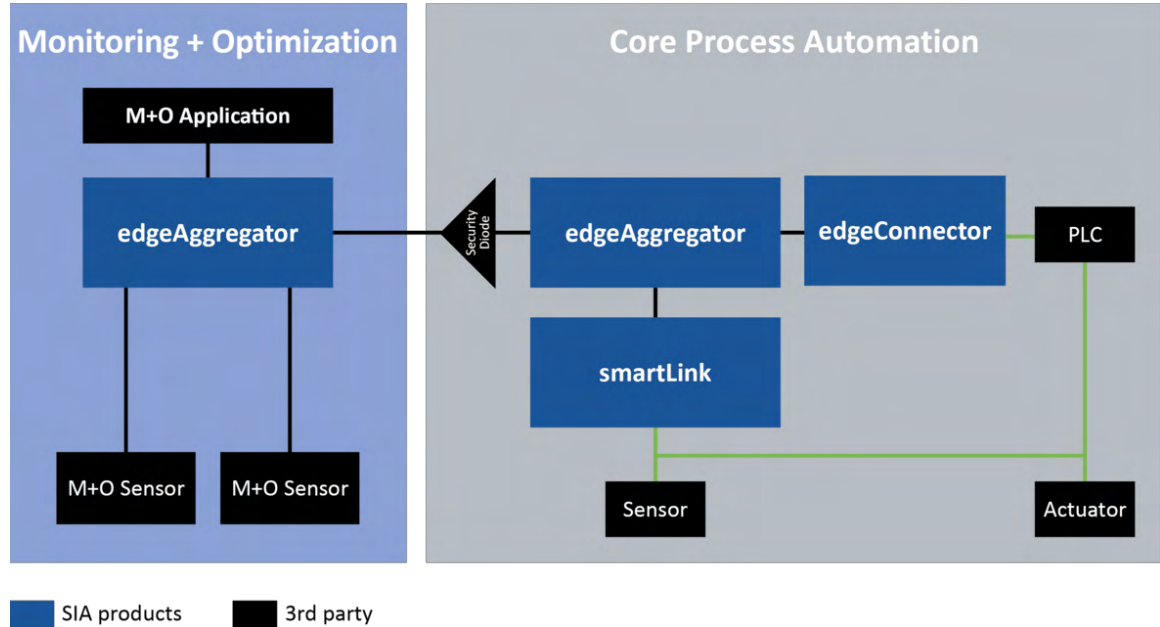
- Controller- and device connectivity
- Mapping of data sources into PA-DIM information model
- OPC UA server aggregation
- Choice between Windows applications, Docker container, or hardware products

## Project Examples

- Böhringer-Ingelheim

## More Information

- [Here](#)



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Softing Industrial Company Overview

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## Softing products complementing the Endress+Hauser portfolio:

### Digital Plant Asset Management

Access to HART field devices for Endress+Hauser Fieldcare SFE 500 Plant Asset Management application

- smartLink HW-DP



### Digital Plant Asset Management

Access to Endress+Hauser's HART, PROFINET devices connected to 3rd party Plant Asset Management applications

- smartLink HW-DP
- smartLink HW-PN and smartLink SW-PN
- smartLink SW-HT



### Mobile Device Parameterization

Mobile and USB interface for HART, Profibus PA, and Foundation Fieldbus devices for FieldXpert SMT70

- mobiLink and mobiLink Power



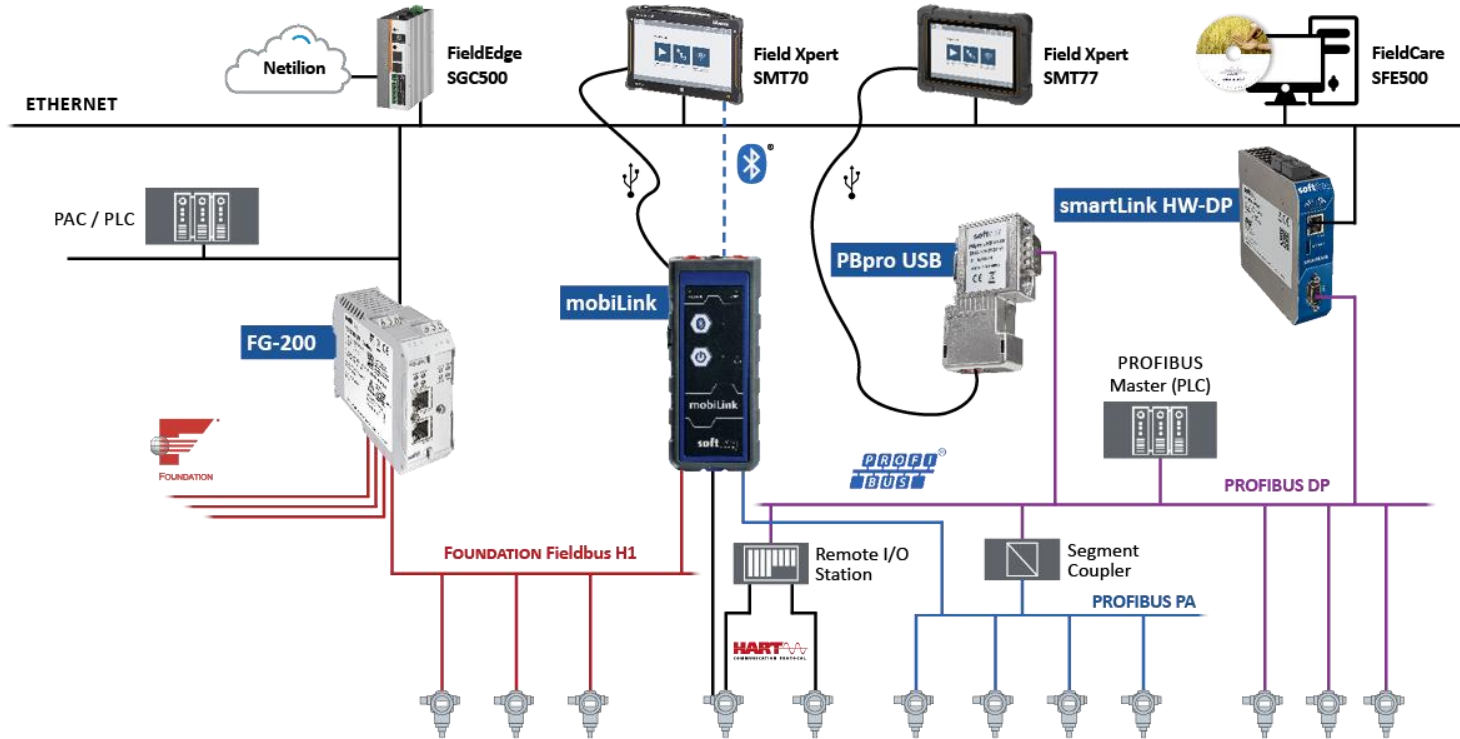
### Process Control

for Endress+Hauser field devices (HART, Profibus PA, Foundation Fieldbus)

- pnGate PA, epGate PA
- FG200



# Endress+Hauser



<https://industrial.softing.com/expertise/automation-partners/endress-hauser-connectivity-solutions.html>

## Softing products complementing the Rockwell Automation portfolio:

### Process Control

Multi-protocol process control through Rockwell's Allen Bradley control systems

- epGate PA, epGate PB, epGate PN, epGate DP



### Digital Plant Asset Management

Access to HART devices connected via Allen Bradley Remote I/Os and PLCs

- smartLink SW-HT



### Controller- and Machine Connectivity / Industrial Edge

Connecting Rockwell's Allen Bradley PLCs to shopfloor applications and MES

- eATM tManager CompactLogix
- eATM tManager ControlLogix
- dataFEED OPC-Suite
- edgeConnector Allen-Bradley, edgeAggregator





## Softing products complementing the Schneider Electric portfolio:

### Process Control

Multi-protocol process control through Schneider Electric control systems

- mbGate PA, epGate PA, mbGate PB, pnGate DP
- FG200



### Digital Plant Asset Management

Access to HART devices connected via Schneider Electric Remote I/Os and PLCs

- smartLink SW-HT



### Controller- and Machine Connectivity

Connecting Schneider Electric PLCs to shopfloor- and IoT applications

- uaGate MB
- edgeConnector Modbus
- edgeGate
- dataFEED OPC-Suite



# Schneider Electric

Connect Foundation Fieldbus H1 field devices to  
Foxboro SCADA RTUs solutions with Modbus/TCP

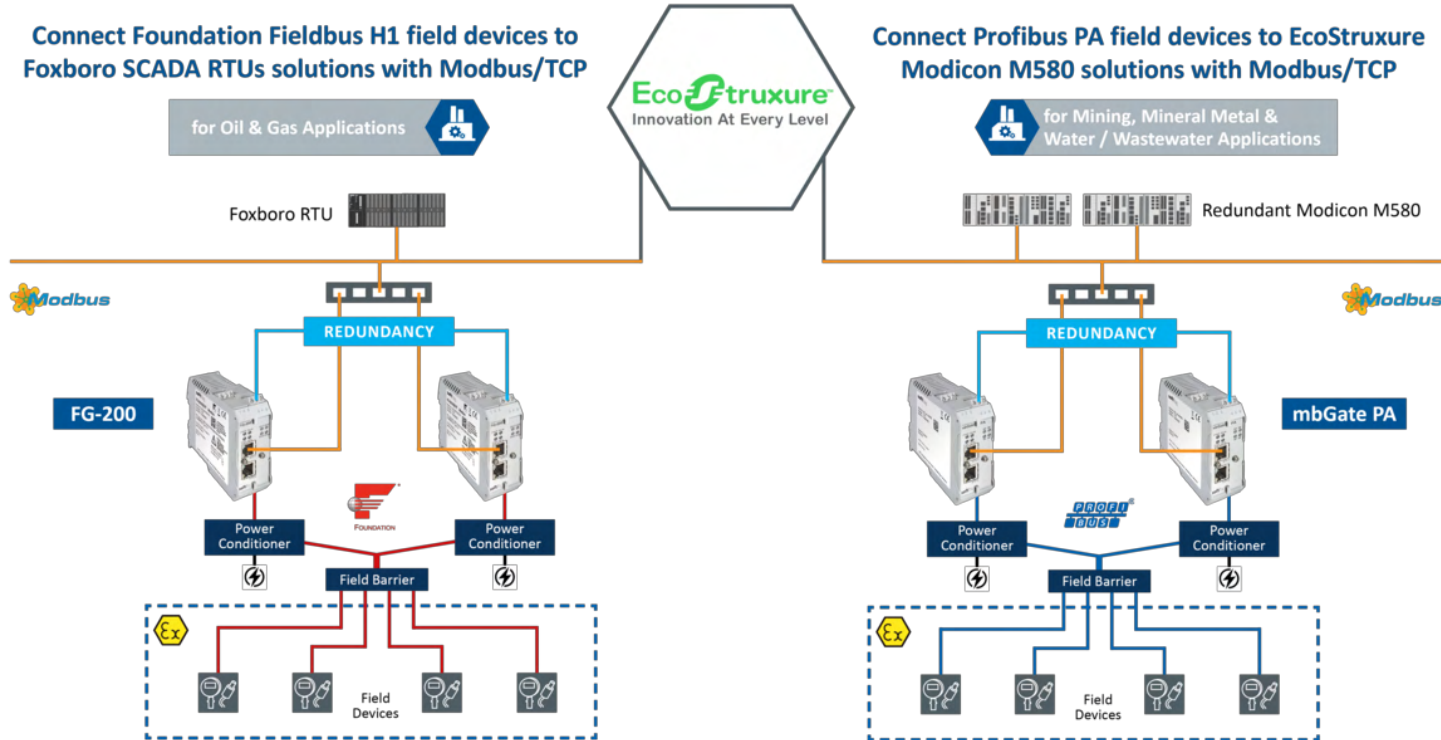
for Oil & Gas Applications



EcoStruxure  
Innovation At Every Level

Connect Profibus PA field devices to EcoStruxure  
Modicon M580 solutions with Modbus/TCP

for Mining, Mineral Metal &  
Water / Wastewater Applications



<https://industrial.softing.com/expertise/automation-partners/schneider-electric-connectivity-solutions.html>

## Softing products complementing the Siemens portfolio:

### Digital Plant Asset Management

Access to HART devices connected via Siemens Remote I/Os and PLCs, including FDT applications

- smartLink HW-DP
- smartLink HW-PN, smarLink SW-PN
- smartLink SW-HT



### Controller- and Machine Connectivity / Industrial Edge

Connecting Siemens PLCs and CNC machines to shopfloor and IoT applications

- uaGate, edgeGate
- dataFEED OPC-Suite, Secure Integration Server
- edgeConnector, edgeAggregator



### Process Control

Multi-protocol process control through Siemens control systems

- pnGatePA, epGate PA
- FG200



## Partner Offer

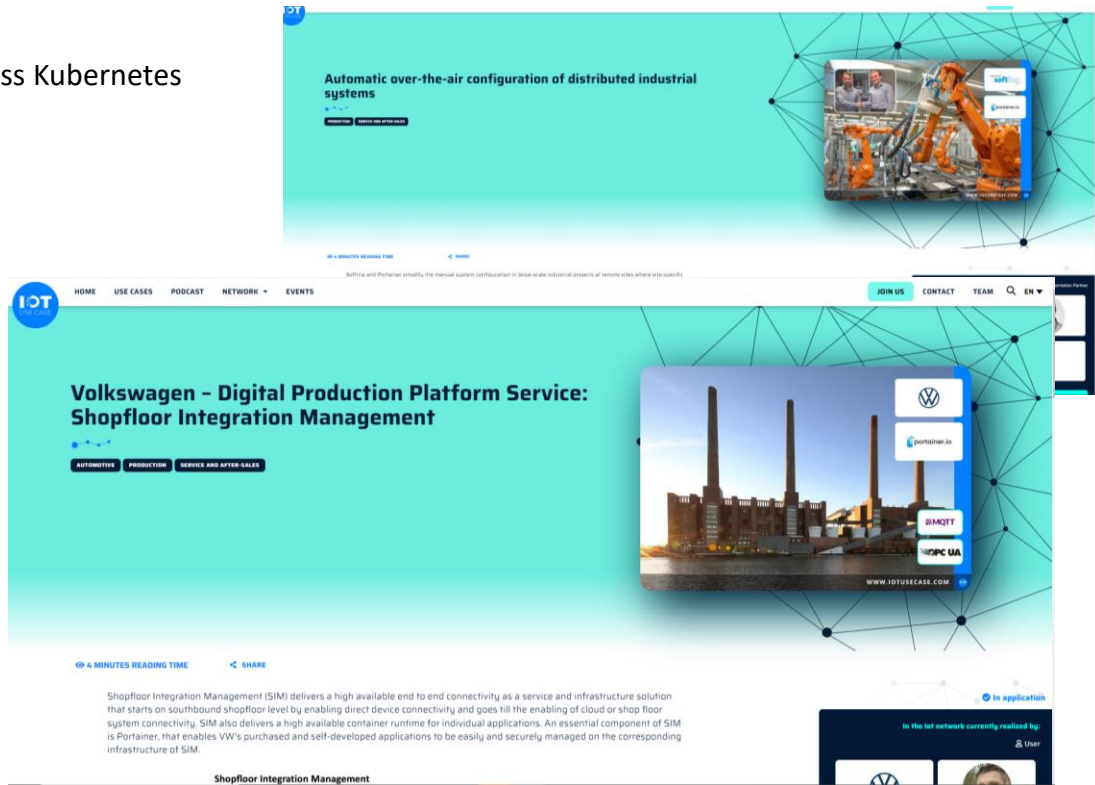
- Portainer platform for container management across Kubernetes and Docker

## Softing Industrial Offer

- Machine- and Device Connectivity
- edgeConnector product family
- edgeAggregator
- smartLink software products

## Milestones

- Member in Portainer IoT partner program
- Joint customer Volkswagen AG (DPP project)



<https://iotusecase.com/en/use-cases/volkswagen-digital-production-platform-service-shopfloor-integration-management/>

## Partner Offer

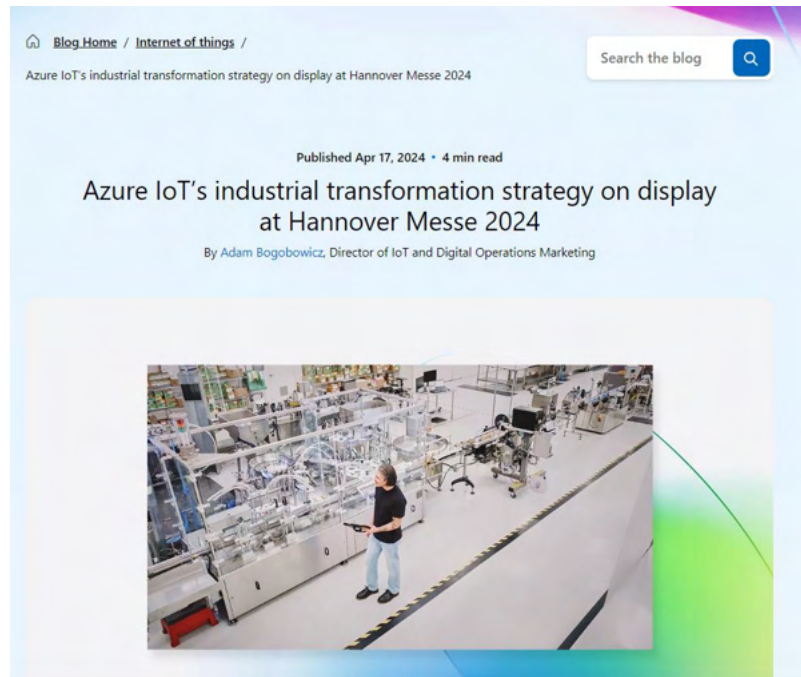
- Microsoft Azure Cloud platform

## Softing Industrial Offer

- Machine- and device connectivity
- dataFEED products
- smartLink product family

## Milestones

- First joint demo at SPS 2016
- Recent validation of edgeConnector products with Azure IoT Operations, launch partner at HMI 2024
- Joint activities in OPC Foundation



[Azure IoT's industrial transformation strategy on display](#) | [Microsoft Azure Blog](#)

[Unlocking industrial data for AI: Microsoft partners with leading connectivity providers - Microsoft Community Hub](#)



**Global digital factory project at 150+ locations, connecting applications running on-prem and in the cloud**





## Situation

### Background

- Renowned American multinational food giant specializing in confectionary, food and beverage products
- Plant operations in more than 150 locations globally
- Four IoT applications defined at project start, mix of on-prem and cloud-based deployment (for eg., comparability of product sites and identification of weak performers)

### Business need

- Cloud-based solutions shall be deployed whenever possible (reduced CAPEX)
- Future-proof architecture, customer plans to add more applications and to migrate on-premise solutions to cloud with same components for machine connectivity

### Technical requirements

- Heterogenous brownfield: Mix of Siemens-, Rockwell- and other PLCs
- Use OPC UA standard to interface with software applications
- Deploy machine connectivity on standardized rack system, to be rolled-out at all locations

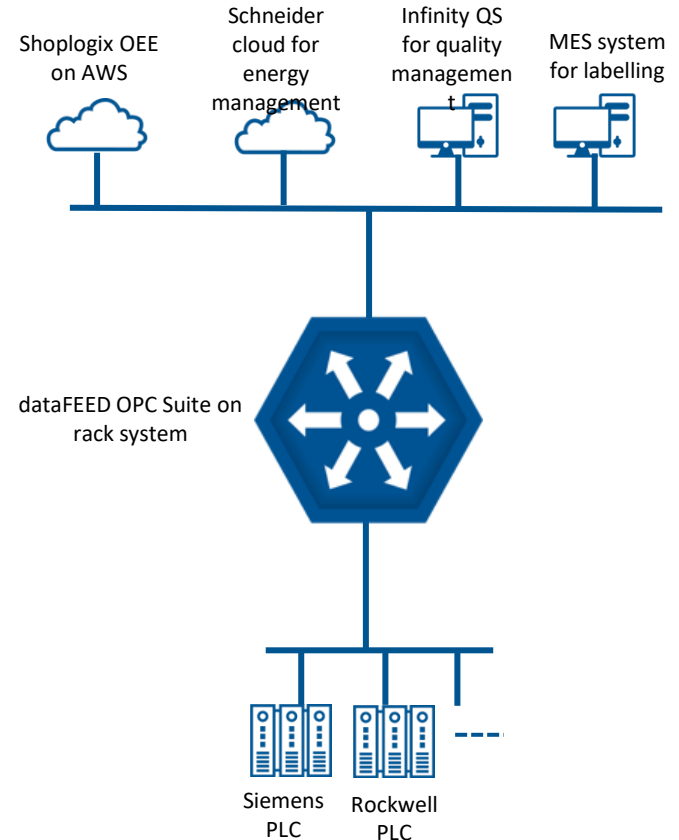


## Solution

- Softing dataFEED OPC Suite and OPC Tunnel used to acquire data from PLCs
- Connecting Shoplogix OEE application running on AWS, Schneider application for energy management and Infinity QS for quality management
- Connectivity with package labelling application planned (production critical process requiring SLA, under discussion)
- Pre-assembly of rack system with dataFEED and other components by third party system integrators

## Benefits

- Cost-efficiency (same machine connectivity shared across multiple applications, shared across all locations)
- Future proof architecture based on standards
- Easy to use for shopfloor personnel
- No changes to automation network or PLC



# A Pioneer in Energy Industry



## Plant Asset Management with AMS Device Manager for HART Devices – Three Refineries, USA

# A Pioneer in Energy Industry



## Situation

### Background

- A global energy company headquartered in the US involved in the exploration, production, refining, and transportation of oil and gas, more than 40.000 employees worldwide
- Using Emerson AMS Device Manager for digital plant asset management, wishes to connect additional HART devices
- Initially deployed at three production sites. Central team defines the solution architecture; evaluates and selects products for all sites
- IT-driven project and system architecture

### Business need

- Implement plant-wide diagnostic tools that tap into the heartbeat of the operation and bring machine and process statistics into focus
- Cut down on operations costs by incorporating condition-based maintenance based on equipment performance data
- IT security critical

### Technical requirements

- HART devices are connected directly to Rockwell PLCs, or via remote I/Os
- Instrumentation data needs to be communicated to AMS Device Manager via HART-IP
- Connectivity solution shall be installed via VMs (virtual machines) on vSphere (Vmware)
- Single Sign On (SSO) support for configuration

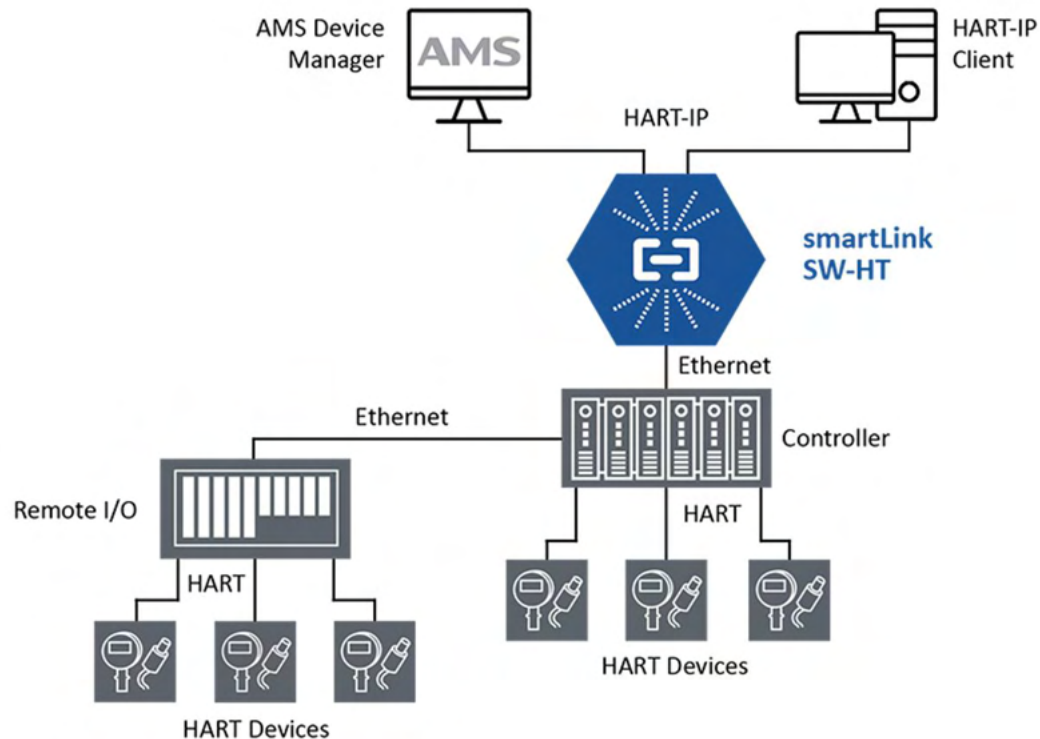
# A Pioneer in Energy Industry

## Solution

- Customer decided to use Softing smartLink SW-HT with VMware installation
- smartLink SW-HT enables communication with instrument configuration and diagnostic data between HART I/Os and AMS Device Manager
- Customer initially deployed smartLink SW-HT as a pilot installation at one production site
- Deployment at two more production sites planned, connecting 8000 instruments in total

## Benefits

- Ease of use of smartLink SW-HT
- Good scalability, simple and automated deployment
- smartLink SW-HT meets all mandatory security requirements
- Suitable for large organizations







**Machine modernization with Profinet Controller, maximizing reuse of existing automation network components**



## Situation

### Background

- Global provider of integrated industrial solutions for middle-sized and large industrial bakeries
- Wants to modernize machines, in particular use modern state-of-the-art PLCs

### Business need

- A complete redesign of the automation network and a selection of new vendors and components for all automation network components would be too costly.
- So the customer would like to maximize reuse of selected and proven components.
- Components need to be readily available, give the current status of the industry with supply chain issues.

### Technical requirements

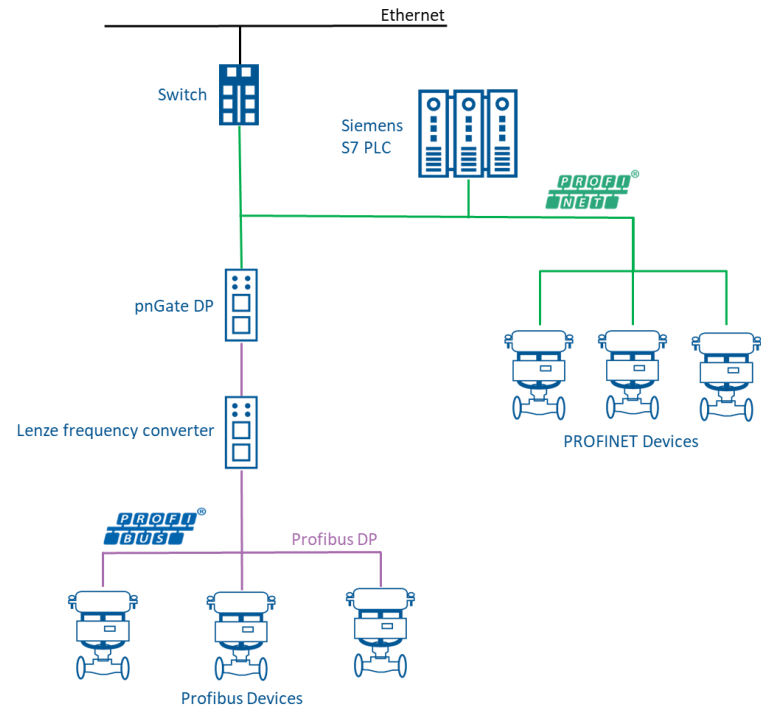
- The customer decided to use new Siemens S7 PLCs. .
- A Lenze frequency converter connecting Profibus devices shall be reused. However, the frequency converter does not support Profinet.
- The Lenze frequency converter needs to be connected by a Profibus master.

## Solution

- The customer decided to use Softing's pnGate DP products.
- pnGate DP acts as Profinet device for the new Siemens S7 PLC, and as Profibus DP master for the Lenze frequency converter
- Profibus DP network below Lenze frequency converter can be reused “as-is”, while new Profinet devices can be connected in parallel.
- pnGate DP will be deployed with all new machines.

## Benefits

- pnGate DP enables simple and easy-to-install retrofit installation of modern Siemens S7 PLC while Profibus DP segment can be reused without any changes
- pnGate DP helps to reduce total cost for modernization project
- The customer can work with available components





# Automotive OEM: Automated Filling Station



**Bi-directional communication with shop-floor controllers for MES-type application, based on open and standardized architecture**

# Automotive OEM: Automated Filling Station



## Situation

### Background

- Automotive OEM plans to update filling station application
- In a first step, deployment in one location. Other locations to follow.
- In parallel, the customer is working on a largescale deployment of cloud-based IoT platform. Ideally the solution architectures are compatible.

### Business need

- Customer does not want to deploy proprietary hardware for the new filling station application.
- Instead, the customer decided to build the new filling station solution based on the new and open IoT platform architecture, using standardized interfaces and protocols.
- The new solution shall be designed such that it scales easily.

### Technical requirements

- Gateway component must support MQTT, for communication with local MQTT broker
- Bi-directional data exchange, to implement MES-like functionality
- Access to machine data from Siemens S7-300/400 PLCs (majority), plus a small number of Siemens S7-1200 PLCs
- Security requirements, incl. user management with LDAP

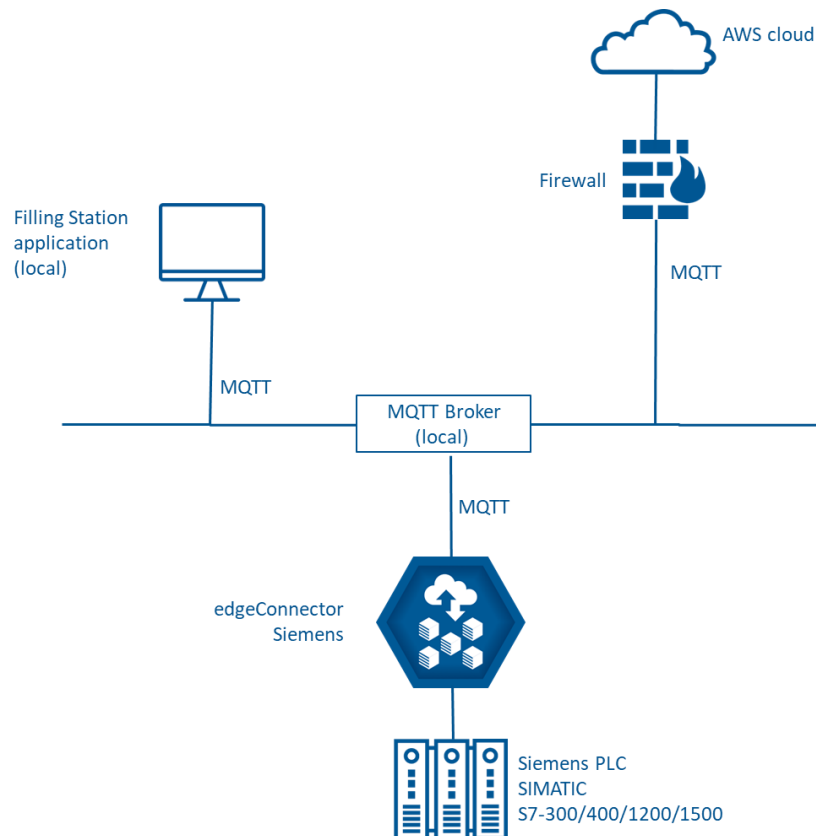
# Automotive OEM: Automated Filling Station

## Solution

- For a roll-out of the new filling station application, the customer decided to deploy 50+ instances of Softing's edgeConnector Siemens running on standard IPCs.
- The customer uses the container management platform Red Hat OpenShift to manage the installation. For PoCs and test installations, the customer also uses portainer.

## Benefits

- Robust machine connectivity, bidirectional for MES-type application.
- Flexible architecture based on standards, no vendor lock-in
- Connectivity with PLCs can be management by standardized and well-known IT tools
- Easy to scale and to migrate to other locations



# Thank you!

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