Digitale instrumenterings-løsninger

- til SIMATIC og andre åbne systemer

SIEMENS

Dagens værter

Niels Christian Christensen, Technology Specialist
Jesper Juul Jørgensen, Technology Specialist
Henrik Skibsted, Technology Specialist

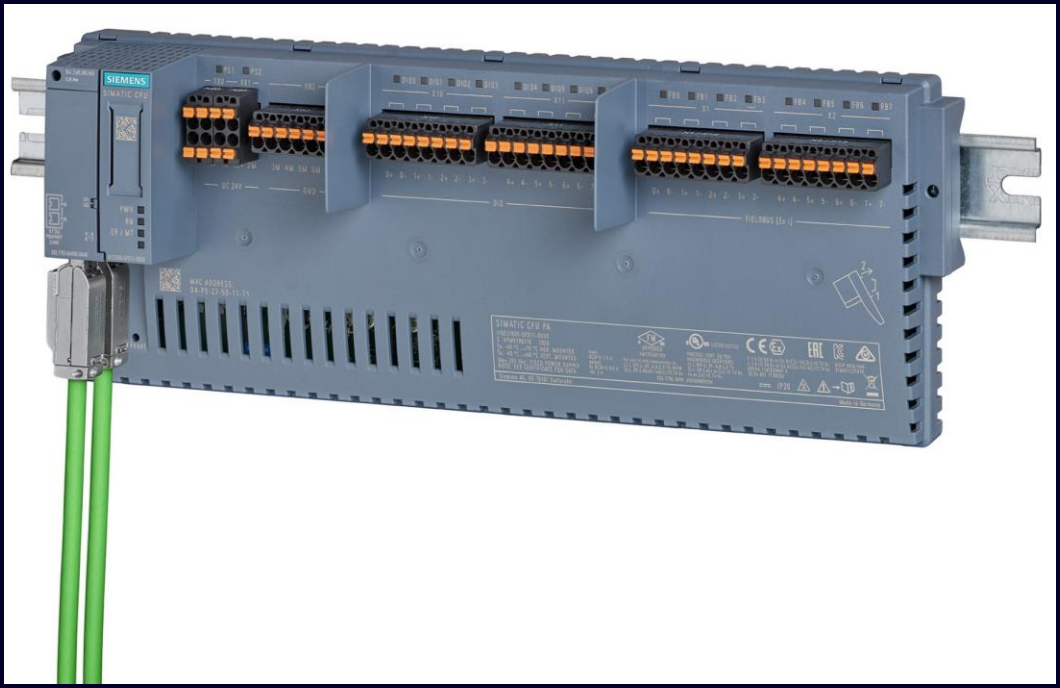
SIEMENS

Agenda

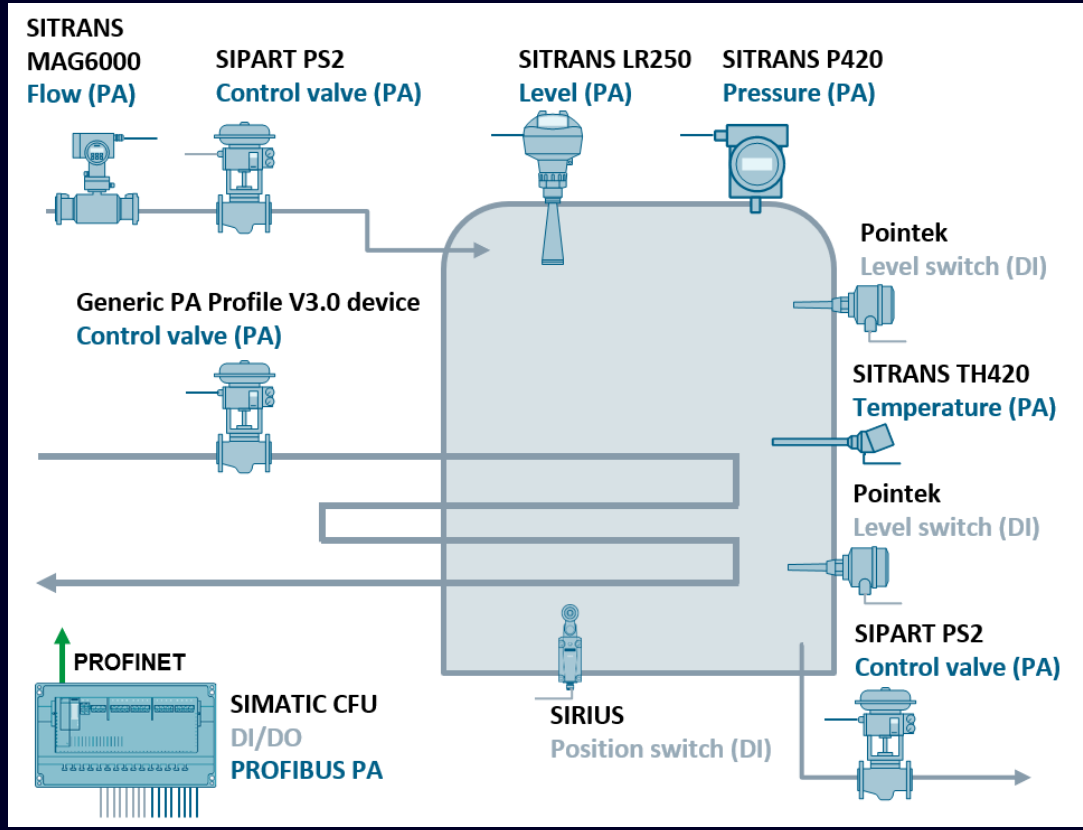
PROFINET til instrumenter (CFU) incl. PDM
Flow, teknologimoduler
SIWAREX-nyt, SIMATIC og IOT
SITRANS Library / SIMIT
SITRANS mobile IQ
Niveau og Positioner
Multisensor
Mag8000 IIOT-modul

SIEMENS

SIMATIC Compact Field Unit … the cornerstone for digitalization at the field level



Example Storage tank



Integrated in TIA Portal V17 (V16 via GSDML)
Integrated in PCS7

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SIMATIC PDM – Process Device Manager

Flexible

Supports all types of applications

- Single point
- Local
- Central
- Integrated in PCS 7

Universal

Supports a lot of communications

- PROFINET
- PROFIBUS-DP/PA
- HART
- Foundation Fieldbus
- Modbus

Safe and Secure

According concept of SIMATIC security developed

- User management
- Function rights for system functions

Open

Integration of field devices based on norms and specifications

- Data export via standard XML interface
- Prepared for I4.0

Comprehensive

- Device library content more as 4.500 device descriptions
- Extensive system functions for commis-sioning and service

Cost effective

- Significantly shorter commissioning time
- Parallel work on common database

Easy of use

- Uniform self-explanatory user interface
- Common system functions for all types of field devices

Innovative

Support modern technologies for

- Field busses
- Web technologies
- Device integration

SIMATIC PDM at a glance

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SIMATIC Technology Modules

SIMATIC S7-1500

SIWAREX WP52x

SIMATIC S7-1200

SIWAREX WP2x1

SIMATIC ET 200SP

FCT070, FST070, WP3x1 & AI2xSG

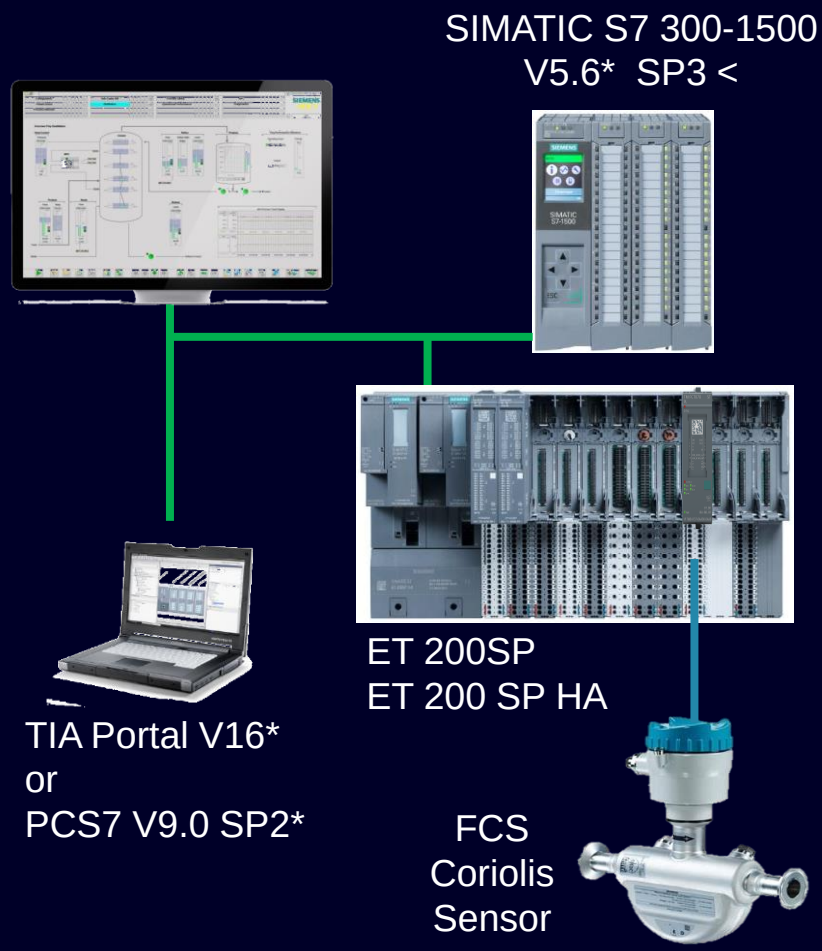
Coriolis Flow Meters with integrated DSL or analog sensor with Digital Sensor Link (DSL)

One cable for data communication and power supply

SIWAREX junction box and load cells

SIEMENS

SITRANS FCT070 - Direct access to the SIMATIC world



Feature / Function		Benefit
Easy integration into automation process control (TIA portal and PCS7)	▶	No transmitter between automation and flow meter required. Cost effective integration for PLC controlled machines
SITRANS FCT070 ET 200SP technology module	▶	Easy combination of the transmitter with other ET 200SP modules (flexible periphery system)
Digital data communication between PLC and flowmeter	▶	Fast and safe measuring data exchange between flowmeter and PLC
In combination with the DSL usable for analog Coriolis flowmeter with low diameter	▶	Low flow measuring with full Coriolis flowmeter range
SITRANS FCT070 and ET 200SP have the ATEX Zone 2 approval. With barrier SITRANS I300 the flowmeter can used in Ex Zone 1	▶	Easy and safe installation in explosion proofed areas

*or higher ** WinCC V7.4 (PCS7) WinCC RT Professional V15 (TIA Portal)

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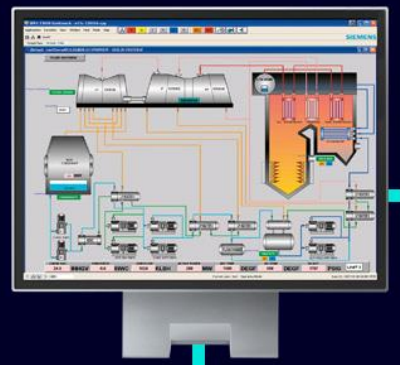
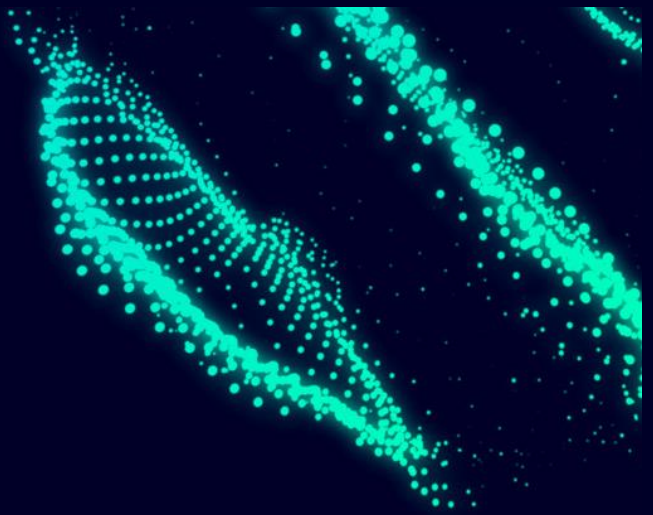
New Technology Module fully integrated into the ET 200SP SITRANS FST070 for Ultrasonic Sensors



WinCC Faceplates for
PCS 7 and TIA Portal**

SIMATIC S7
300-1500
V5.6* SP4 <



Ultrasonic device
SITRANS FST070

TIA Portal V17*or
PCS 7 V9.1 SP2*

SIMATIC ET 200SP

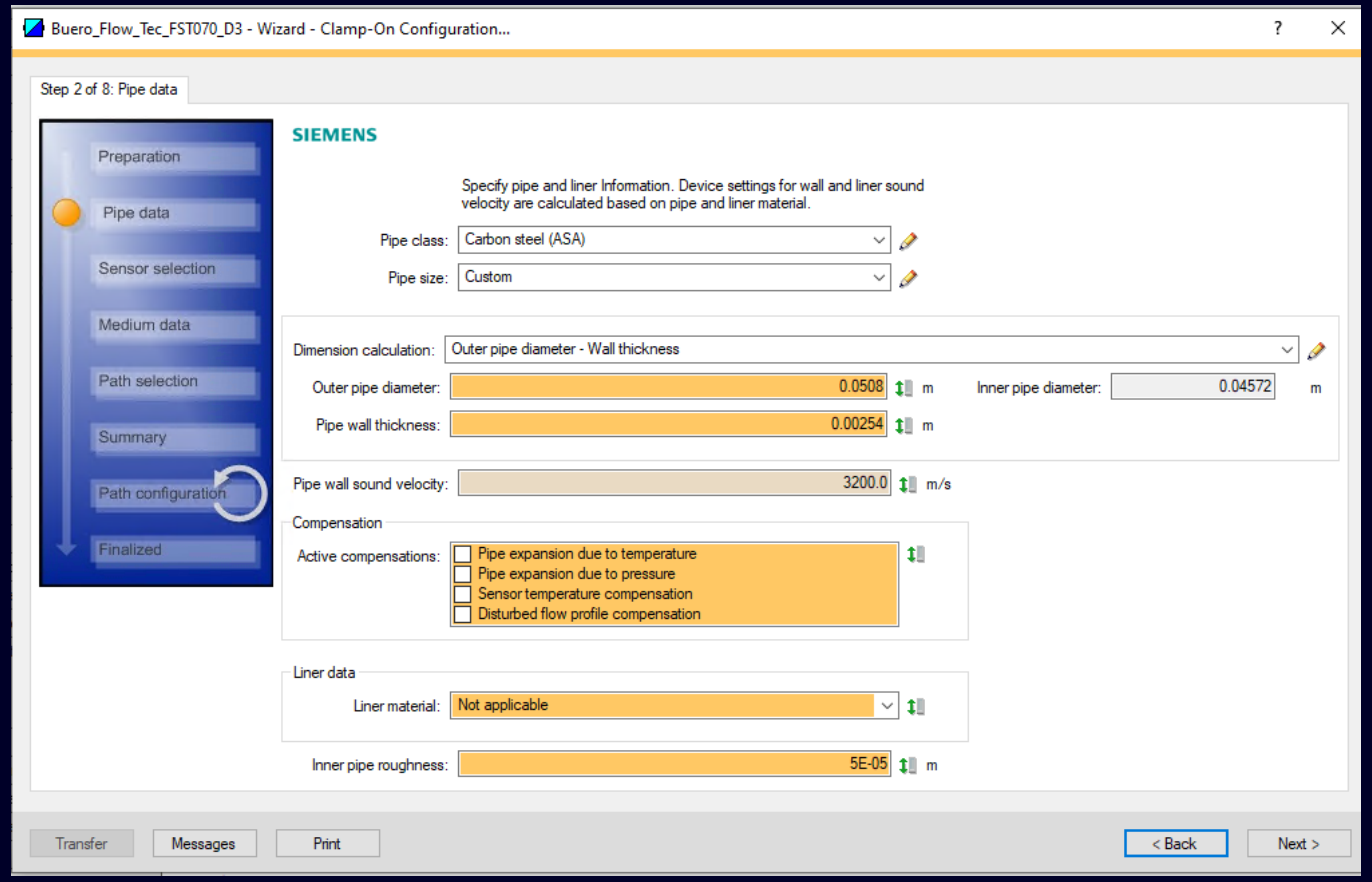
SITRANS FS DSL

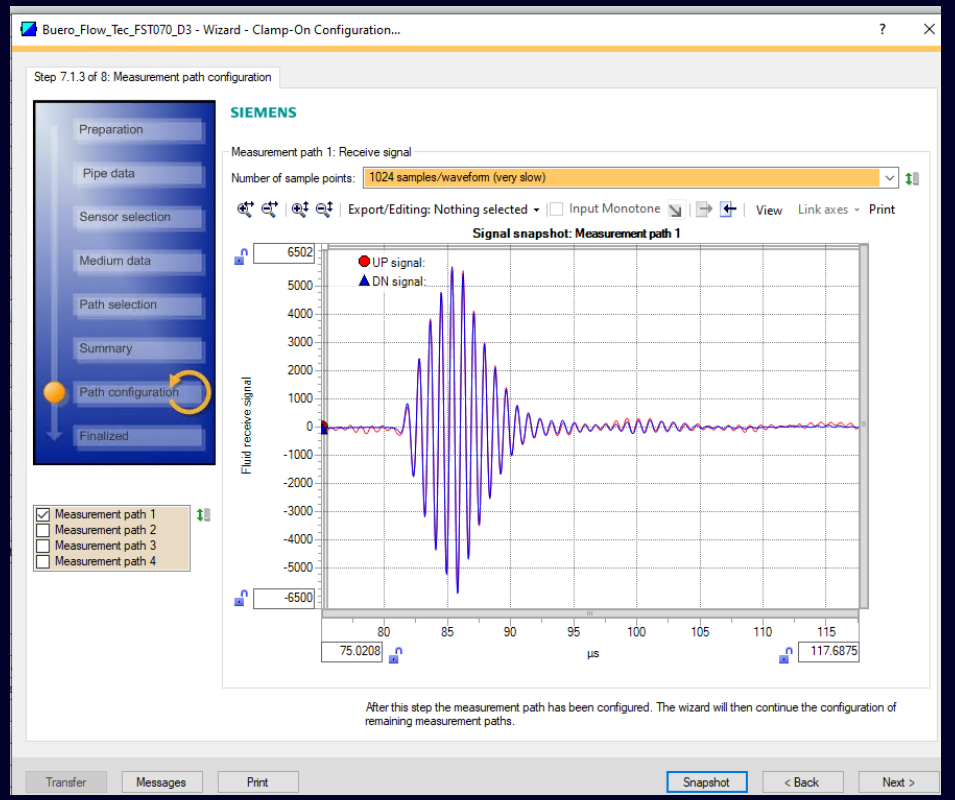
SITRANS FSS200

*or higher ** WinCC V7.4 (PCS7) WinCC RT Professional V15 (TIA Portal)

SIEMENS

SITRANS FST070 - 3.2 Plug and play: Start the Wizard Clamp On Configuration in SIMATIC PDM





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SITRANS FST070
2. Explosion proofed installation

SITRANS FST070 - ATEX
ATEX Zone 2 ▪ SIMATIC ET200 SP TIA Selector ▪ FST070 Transmitter 7ME4138-6AA00-0BB1 ▪ SITRANS I300 Barrier A5E39832532
ATEX Zone 1/0 ▪ FS DSL ▪ Transducer FSS200

SITRANS I300

Zone 2

Zone 1 / 0

SITRANS FS-DSL

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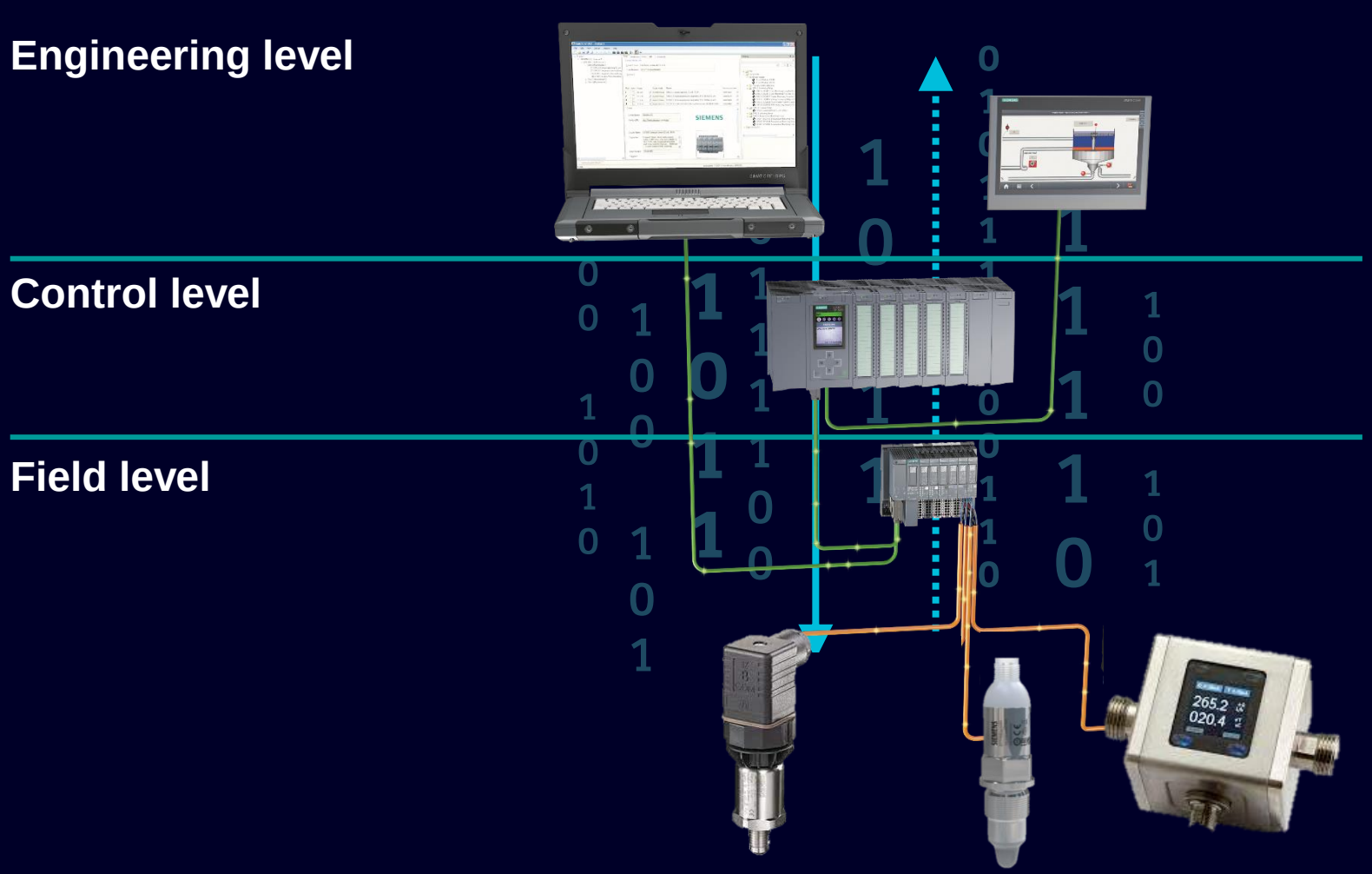
SIMATIC IO-Link



Communication is possible with both simple and advanced sensors

Bi-directional transfer of cyclic and acyclic data

SITRANS FM100
SITRANS LCS050

Coming soon:
SITRANS P200/P220

SIEMENS

New Technology Module fully integrated into the ET 200SP SIWAREX WPs

SIWAREX WP341 for continuous weighing

- Most compact electronics for belt weighing, weighfeeder, and solids flowmeter
- Such as platform or hopper scales
- Mining, Minerals, Food and Recycling
- Webserver and SIWAREX DB

SIWAREX WP351 for dynamic check weighing

- Dynamic check- and catch weighing electronic for SIMATIC ET 200SP
- Integrated into existing ET 200SP controller
- Stand alone with own CPU, Interface module, or open controller
- Integrated within TIA Portal and PCS 7

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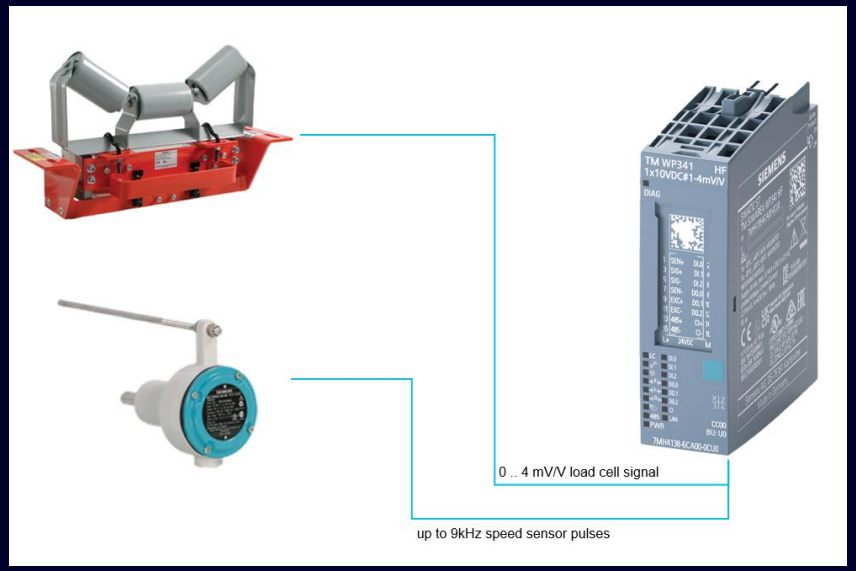
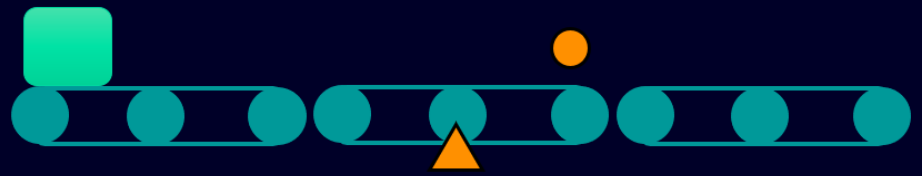
SIWAREX update





225g

SIWAREX WP 341:

- Vejebånd til SIMATIC SP-serie
- Nyt projekt med nye features
- Med WEB-server

SIWAREX WP 351:

- Checkvejer til SIMATIC SP-serie
- Nyt projekt med nye features
- Med WEB-server
- Siemens kan tilbyde komplet løsning

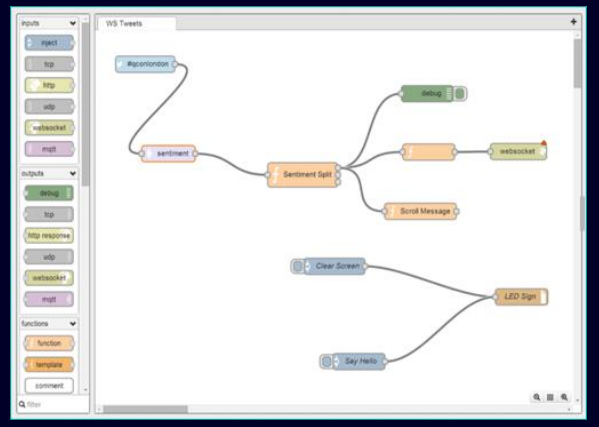
SIEMENS

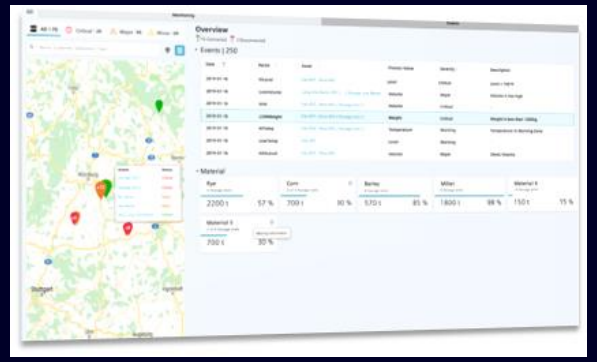
SIWAREX update

SIMATIC IOT2000 SG-Shield

Available nodes

- MQTT
- Twitter
- Modbus
- GPIO
- OPC UA
- S7
- IBM Watson IOT
- Microsoft Azure
- SIWAREX
- …





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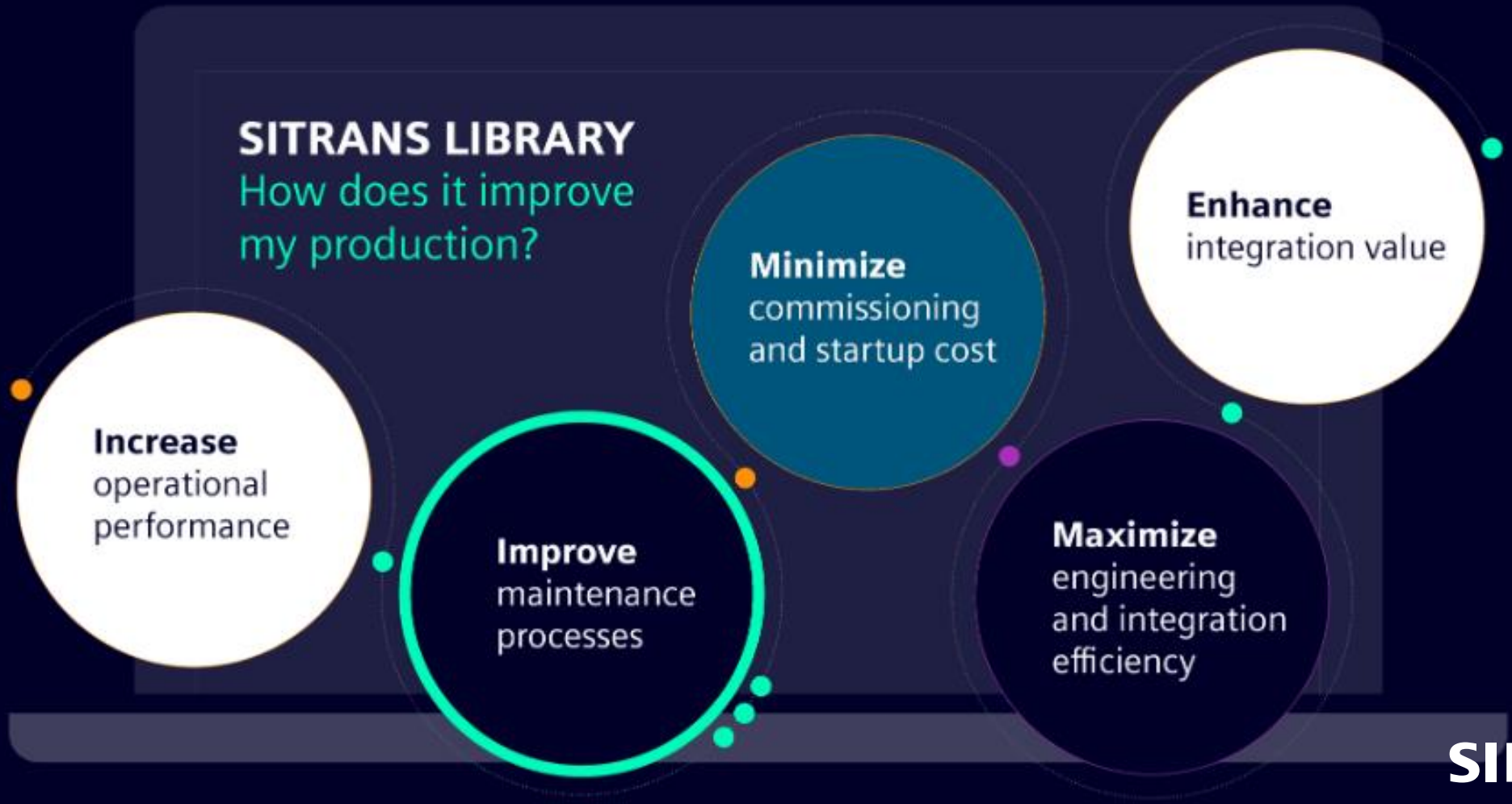
SITRANS Library



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TIA integration

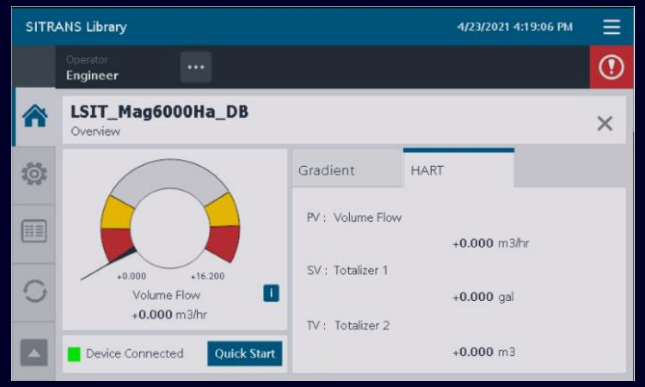
Temperature
- SITRANS Tx320 HART
- SITRANS TH300 HART

Flow
- SITRANS FC430 PA
- SITRANS FCT070 / FST070
- SITRANS MAG 6000

Pressure
- SITRANS P320/420 HART

Level
- SITRANS LR560 HART
- SITRANS LU240 HART
- SITRANS LR1xx HART

Weighing
- All SIWAREX WP electronics
- Ready to use for projects with function blocks and HMI visualization



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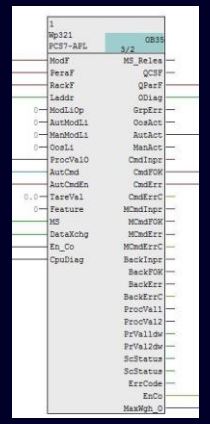
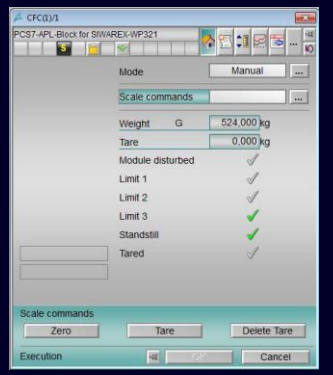
PCS 7 integration

SITRANS Library with Faceplates

Integration of SIMATIC software, SITRANS and SIPART process instruments into the SIMATIC PCS 7 based on APL





SIMATIC ET 200SP / HA

Technology modules for weighing and flow

SIMATIC CFU

Field distributor brings PROFINET down to the field level

Exchange of field devices and expandability during operation without interruption

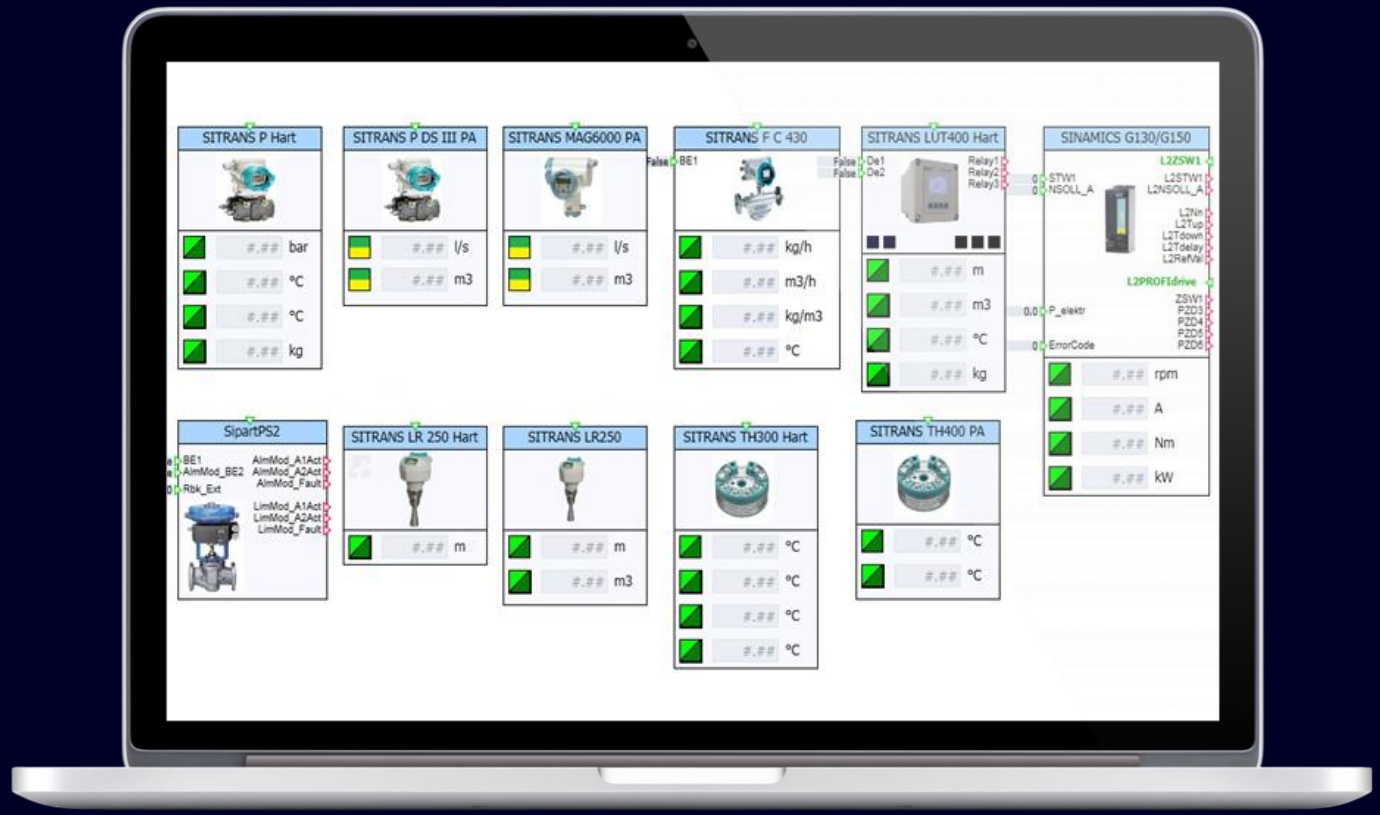
Low commissioning, servicing and life cycle costs

SIEMENS

SIMIT - Simulation based Engineering from Virtual Commissioning to Operator Training

Device models
Siemens field device

- **Available with application example**
- Specific field device models
- 11 models will be available in the first step
- Continuous update via SIOS
- Higher engineering quality by enabling early detection of errors and more comprehensive automation checks
- Faster commissioning including specific field device functions tested early w/o final hardware



SIEMENS

SITRANS mobile IQ

Understøtter pt.:

- SITRANS LR1xx serie (niveau)
- SITRANS Probe LU240 (niveau)
- SIPART PS100 (ventil positioner)

SIEMENS

SITRANS LR1xx / LU240

SITRANS LR1xx & LU240

- Opsætning via mobiltelefon
- SITRANS AW050 Bluetooth adapter
- SITRANS mobile IQ app

SIEMENS

SIPART PS100

SIPART PS100

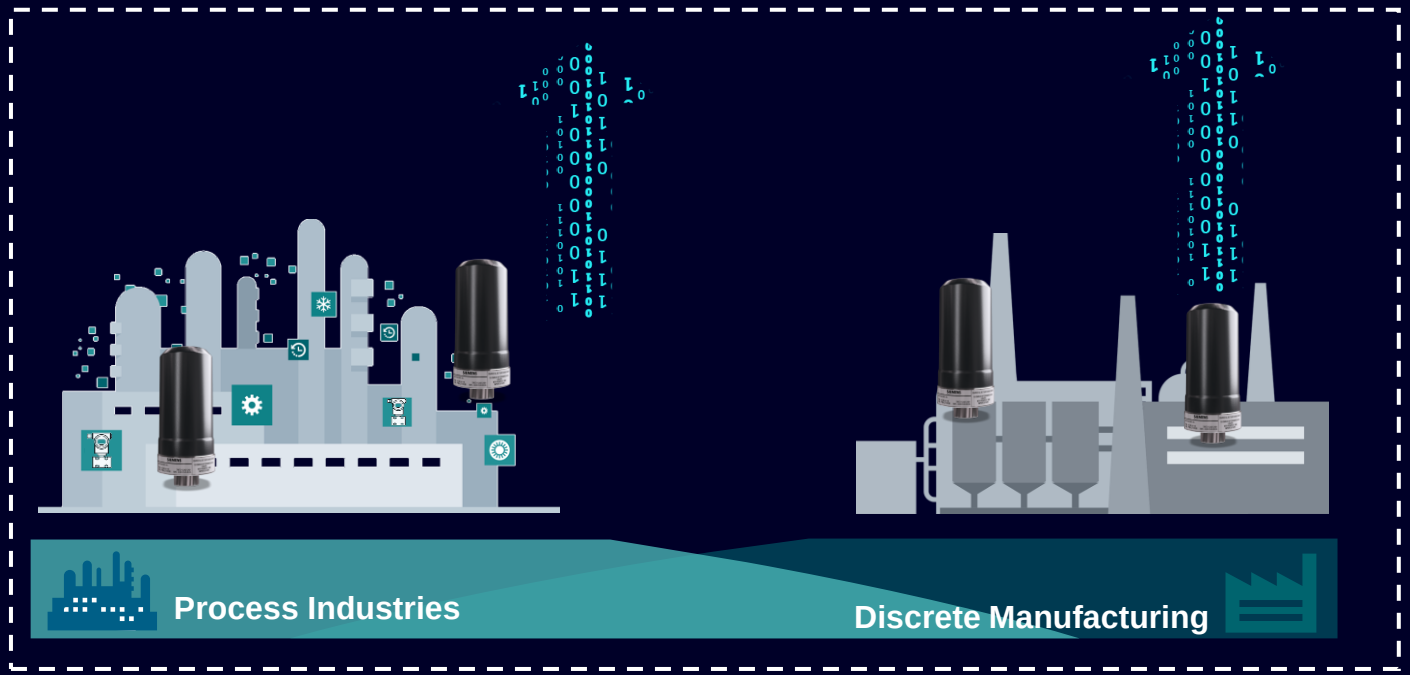
- Opsætning via mobiltelefon
- SITRANS AW050 Bluetooth adapter
- SITRANS mobile IQ app

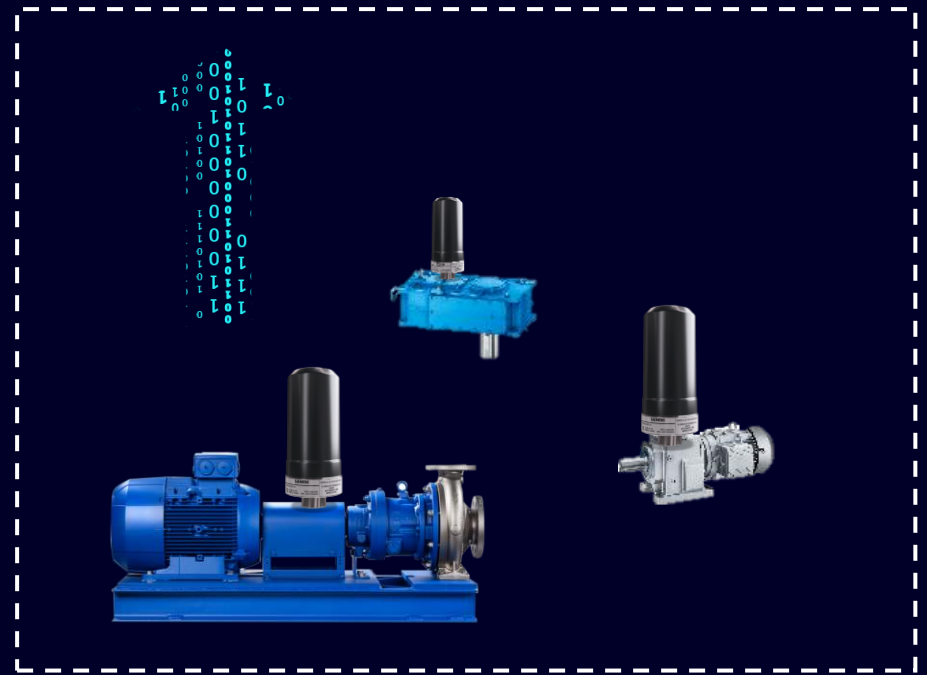
SIEMENS

SITRANS SCM IQ - Overvågningskomponenter

Self-serviced operation of SITRANS SCM IQ
Customers operate their application on their own

Supervision as a service
OEM delivers assets equipped with SITRANS MS200 and offers continuous supervision of assets via SITRANS SCM IQ





Brownfield / Retrofitting

OEM / new parts business

SITRANS MS 200 + CC 220

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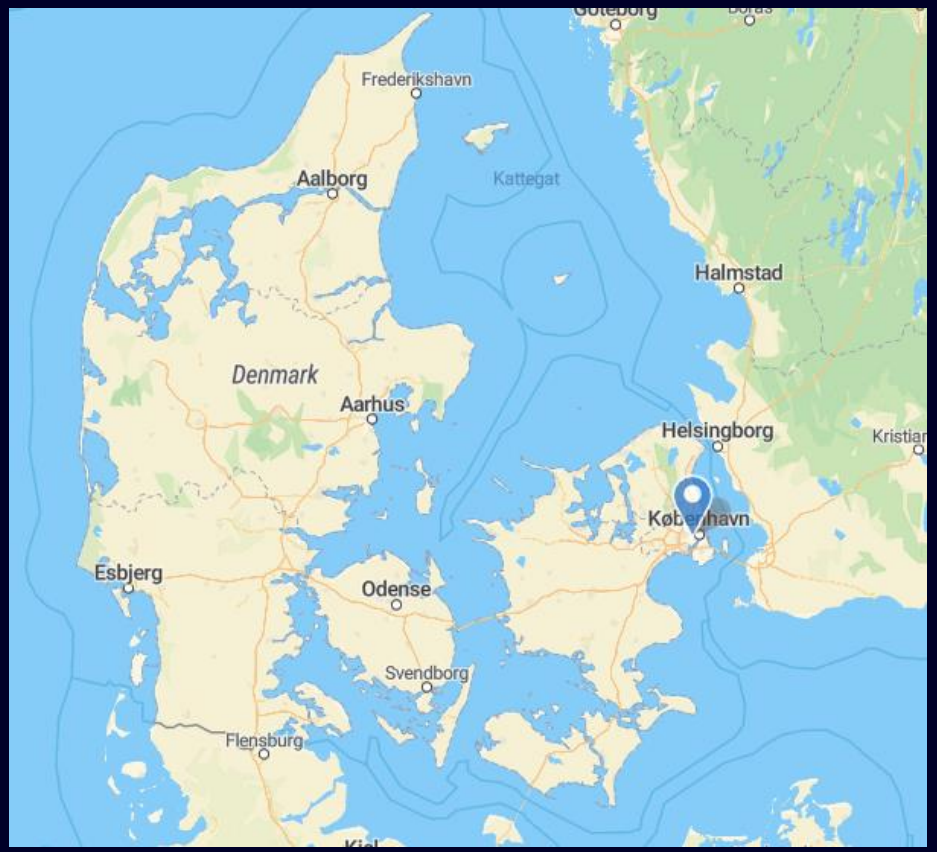
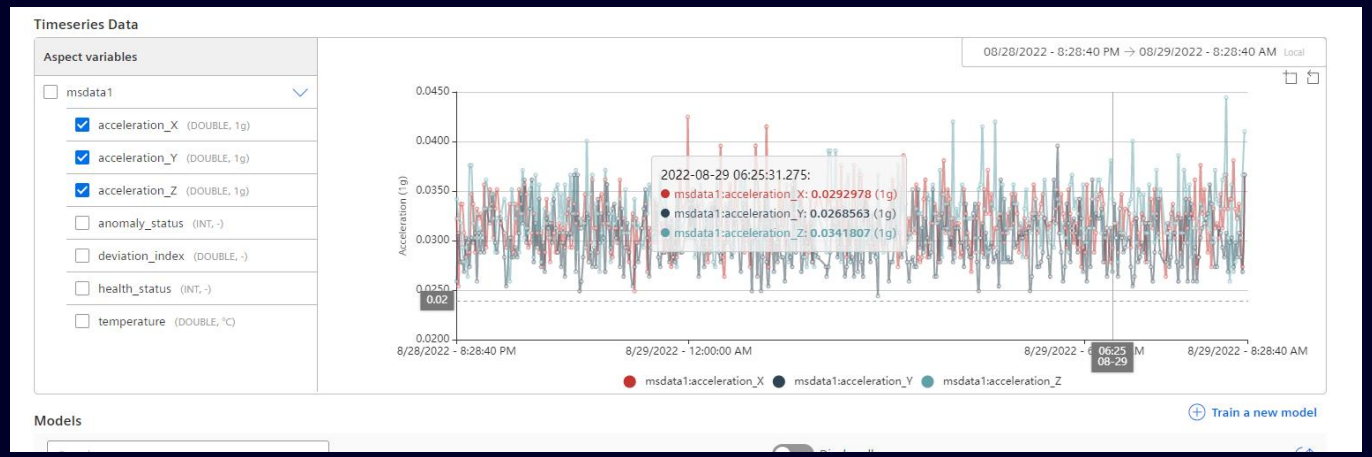
SITRANS MS 200 + CC 220





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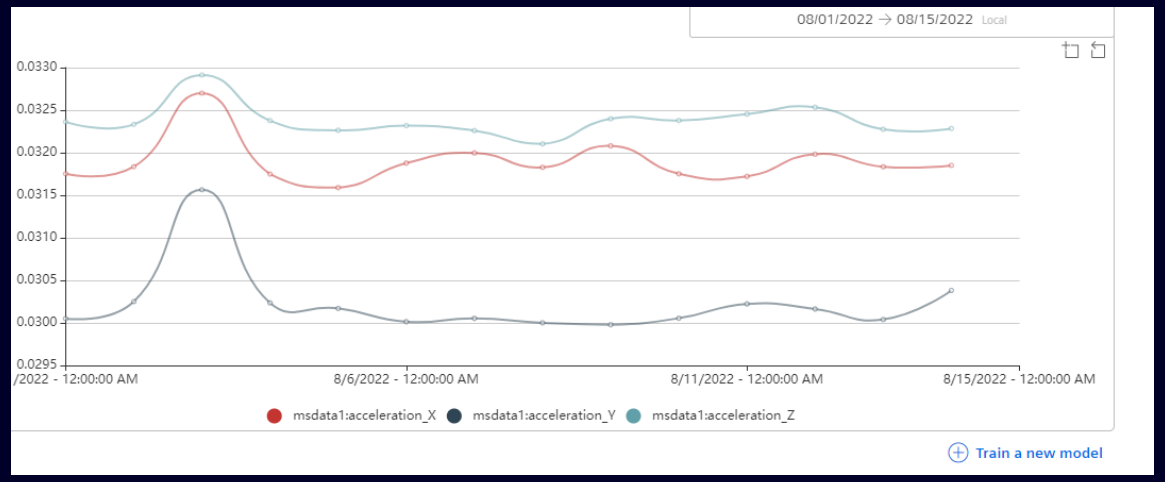
SITRANS MS200



Multisensor

- Opsætning via mobiltelefon
- SITRANS AW050 Bluetooth adapter
- SITRANS mobile IQ app
- Hvem skal have vagt
  (man bestemmer selv rækkefølge)

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SITRANS FM MAG8000
IIoT Wireless Communication Module

SIEMENS

MAG 8000 3G Module – Migration Plan
3G turns into IIOT

3G Module

3G network sunset

- Network carriers shut off service in MAG 8000 key countries
- 2G remains for simple data usage (Email, M2M)

3G

Migration

3G Module

2G fallback (RAT)

- 3G module supports 2G auto-fallback function

2G GSMA

IIOT Module based on 4G

- 1-on-1 replacement of 3G modules
- LTE IoT technology with 5G ready
- Usability improvement
- PI digital solution
- No 3G fallback (RAT)

4G NB-IoT LTE-M

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SITRANS FM MAG 8000 IIoT Wireless Communication Module

How the system works

Get access to your MAG 8000 from anywhere in the world

Simply route the required data to your own systems

Get your measurement data without headache about the network connection

Discover the possibility of a real remote commissioning

4G based technologies

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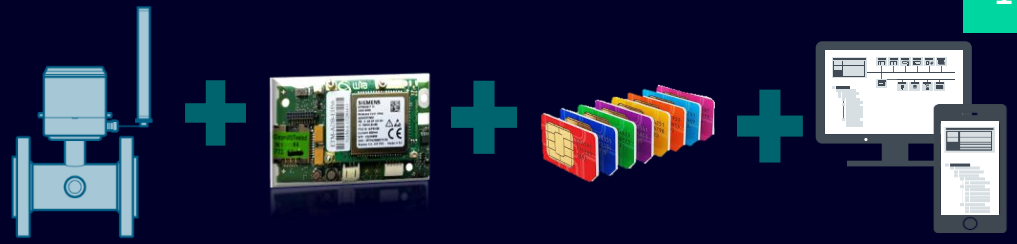
SITRANS FM MAG8000 IIoT Wireless Communication Module

Siemens

1



MAG8000 | IIoT WCM | Connectivity | Access

Delivers MAG8000 with IIoT WCM as a system

- MAG8000 water meter
- IIoT Wireless Communication Module
- SIM card
- 3-year license for IIoT Web Application and connectivity

Siemens

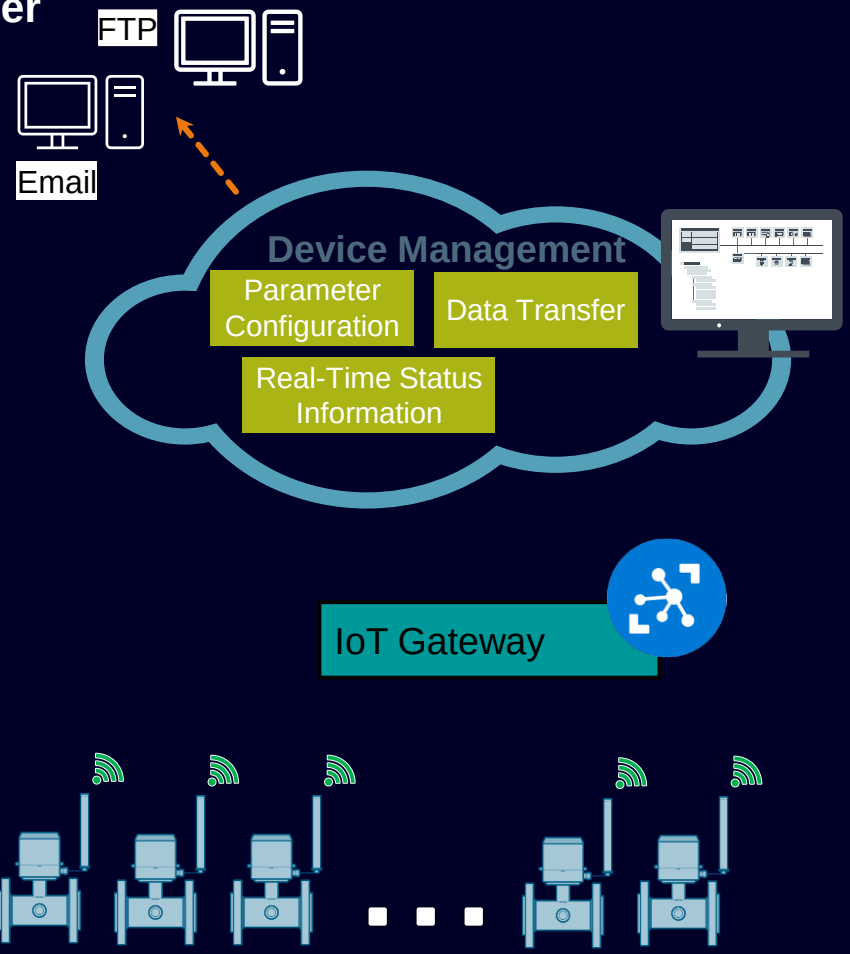
1.1

User License

- Relicensing option for 1, 2 or 3 years or a subscription

Customer

2



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