Velkommen til Siemens Webinar: Simit Simulation Framework

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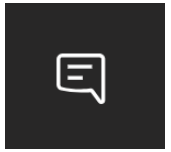
Velkommen! Vi begynner 10:05

- **Vi tar opptak av webinaret (blir delt senere)**

- **Anbefaler aktivering av full-skjerm:**

- **Vi tar gjerne spørsmål i chatten og vi går gjennom disse til slutt.**



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Simit Simulation Framework

Optimize your plant,
increase your competitiveness

siemens.com/simit

Steffen Andreassen

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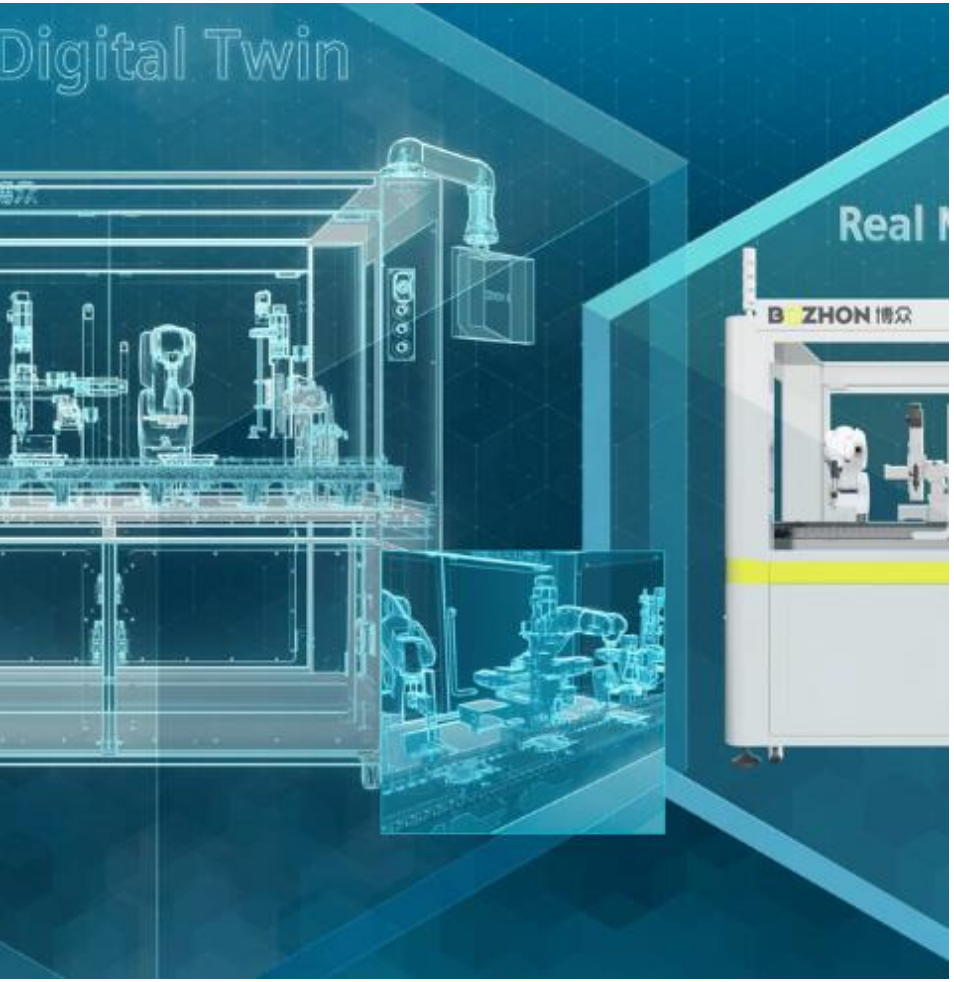

SIMATIC PCS 7

S7-400 PLS med tilbehør

ET 200iSP – Egensikker I/O for montering i Ex sone 1

ET200SP HA – robust og fleksibel I/O med fokus på tilgjengelighet

Feltbussløsninger for prosessinstrumentering

Prosess-sikkerhet

Simulering med SIMIT Simulation Framework

Simulatorens bruksområder

- Utvidet test/feilsøking før nedlasting av endring, eventuelt før FAT/SAT
- Operatøropplæring og erfaringsoverføring mellom skift
- Prosessoptimalisering, test av ulike parametre og drifts-situasjoner underveis i programkonfigurering.
- Kontinuerlig evaluering av drift (gi operatør eller kontrollsystem direkte beslutningsdata basert på simulerte scenarioer

- Det er viktig å definere hva man ønsker å oppnå tidlig!

Simulering av et automatisert anlegg

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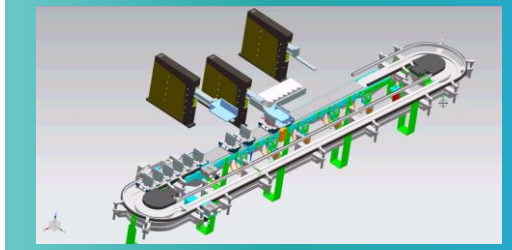
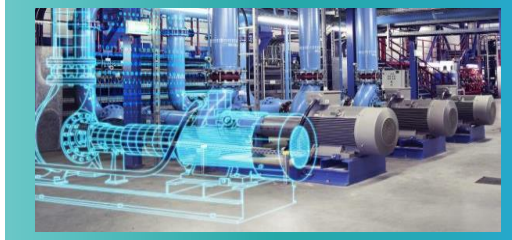
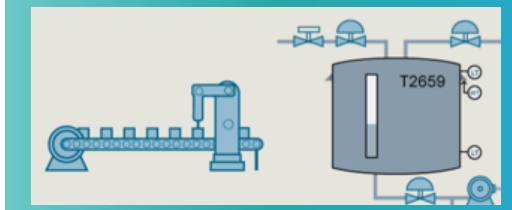
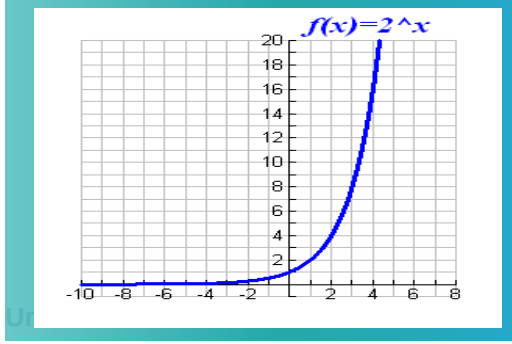
Modell









I/O

PLS-program

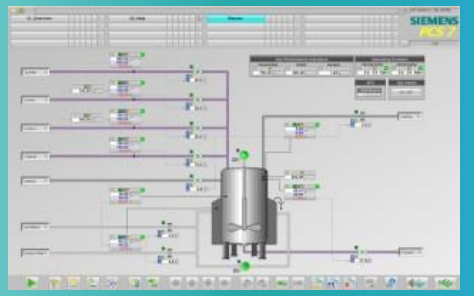
PLC-sim (classic)
PLC-sim Advanced
Virtual Controller
HW-PLS med “Simulation Unit”

HMI/PLS kobling

Grensesnitt for test

Feil på utstyr
Feil fra operatør
Test av avhengigheter, forriglinger, sekvenser, alarmer, teste forskjellige parameteroppsett, teste tidsfaktorer
…osv

HMI



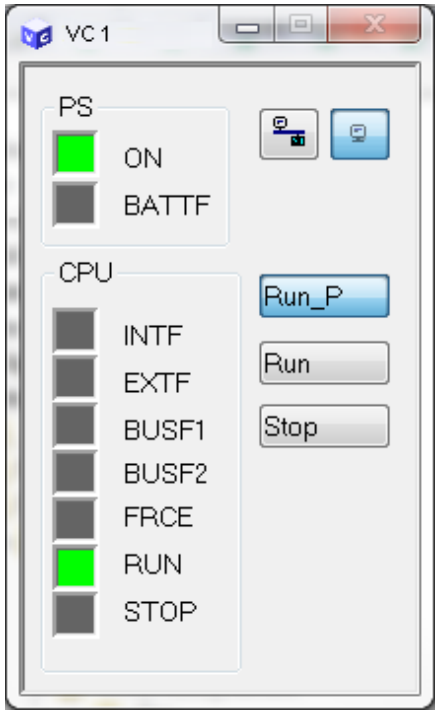
Koblinger til SIMIT

Hardware-in-the-Loop

- Koble til Profibus eller profinet via Simit Unit

Software-in-the-Loop

- S7-1500 via PLCsim Advanced
- S7-300/400 i classic via PLCsim
- S7-300/400 kan emuleres av SIMIT Virtual Controller



Datakoblinger

- OPC
- Shared Memory for kommunikasjon med annen SW
- Remote control interface

Live Demo

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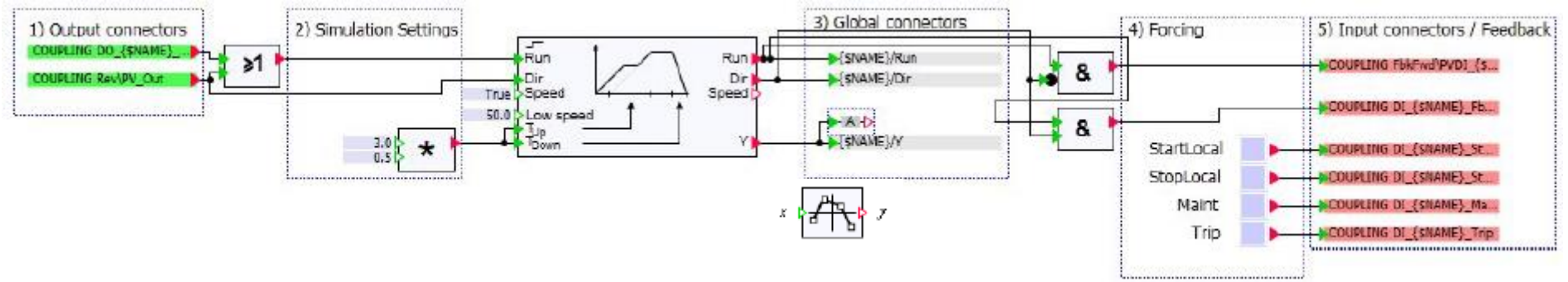
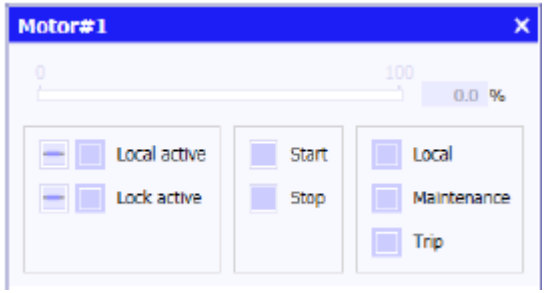
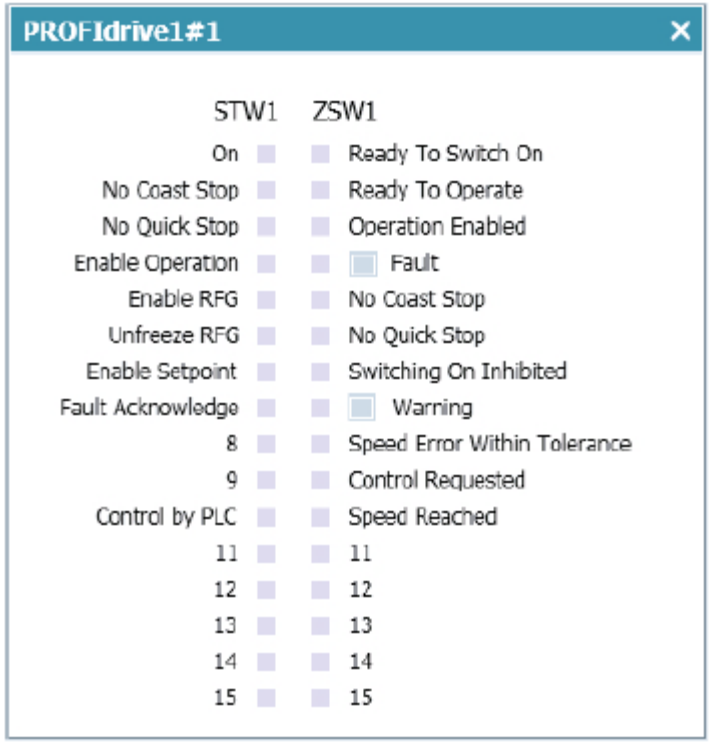
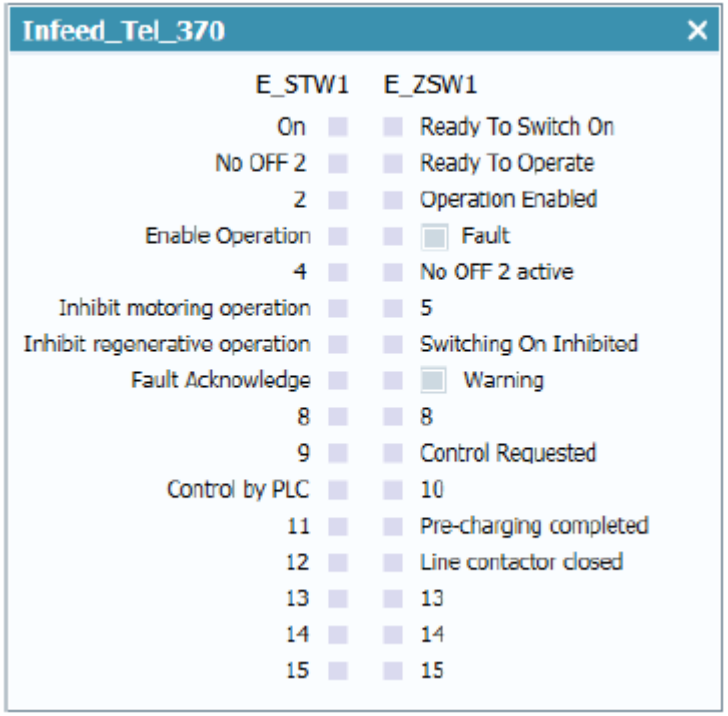
SIMIT som simulator (Modell og Grensesnitt for test)







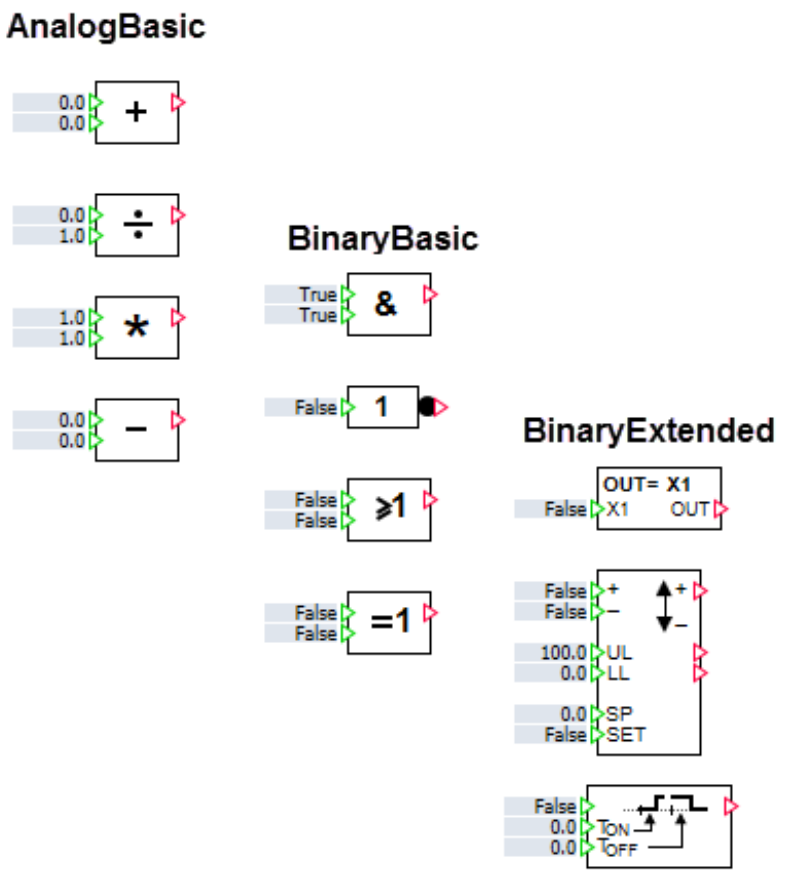


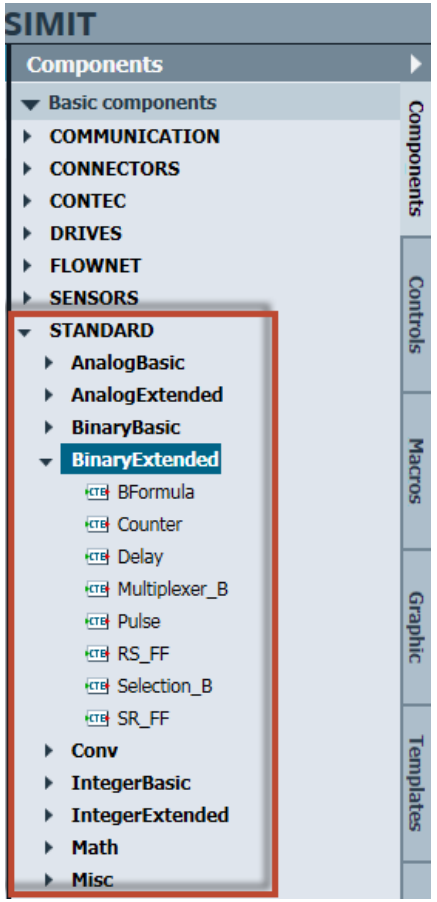
Biblioteker

Simulation
STANDARD Library

Library containing simulation models for

- Motors, valves
- Frequency converters
- Mathematical models
- …





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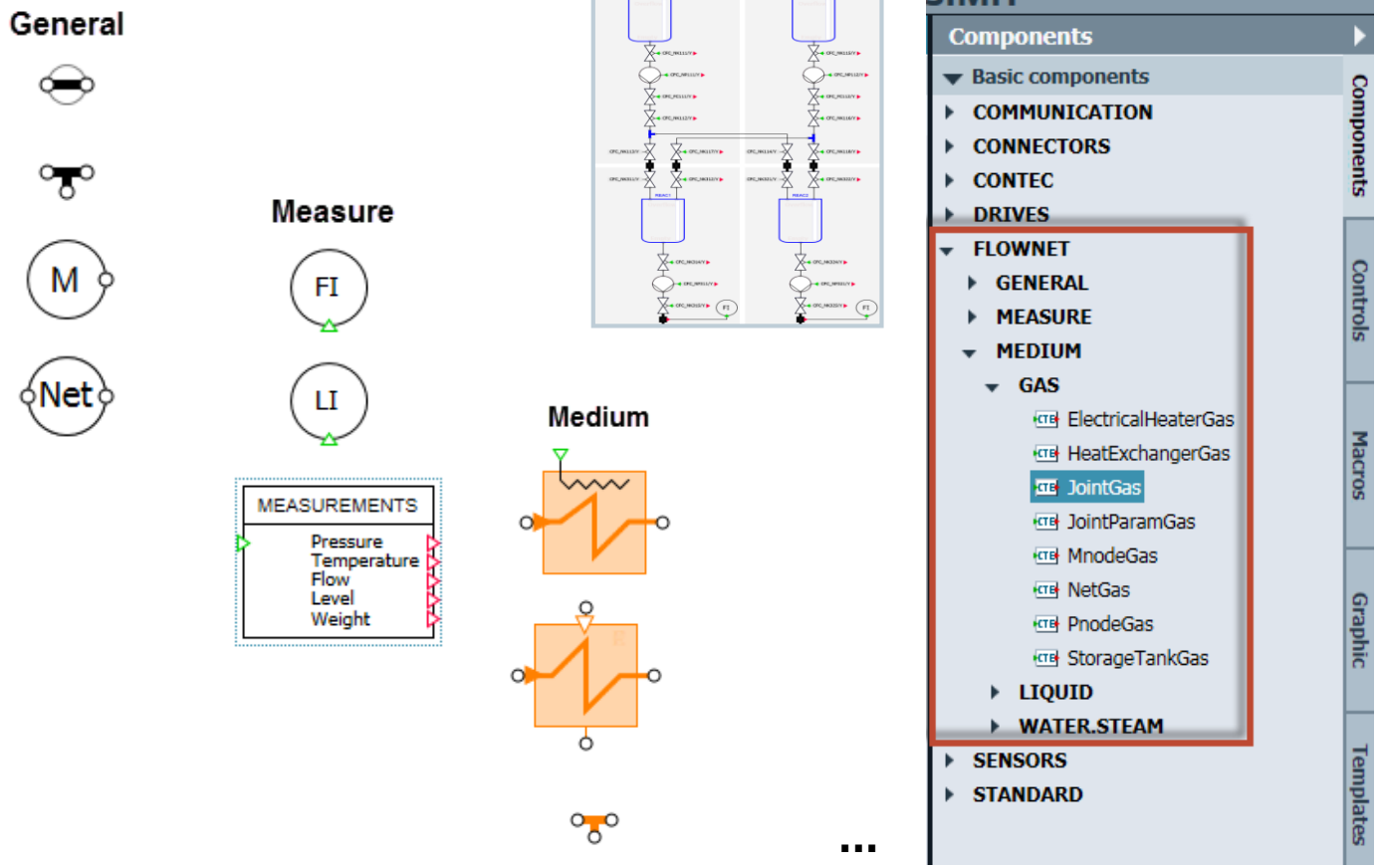
Simulation
FLOWNET Library

- Library to build models in the schematics of a P&ID
- Library to simulate a piping network with single component liquids/gas (e.g. water) including pressure, temperature and flow



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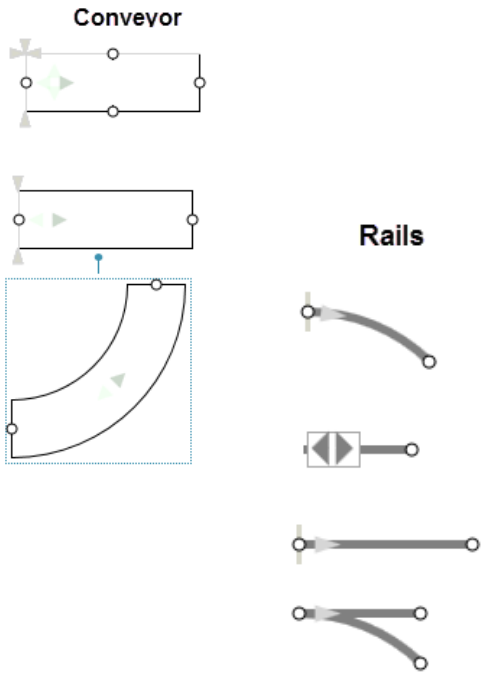
Simulation
CONTEC Library

Library to build conveyor simulation models



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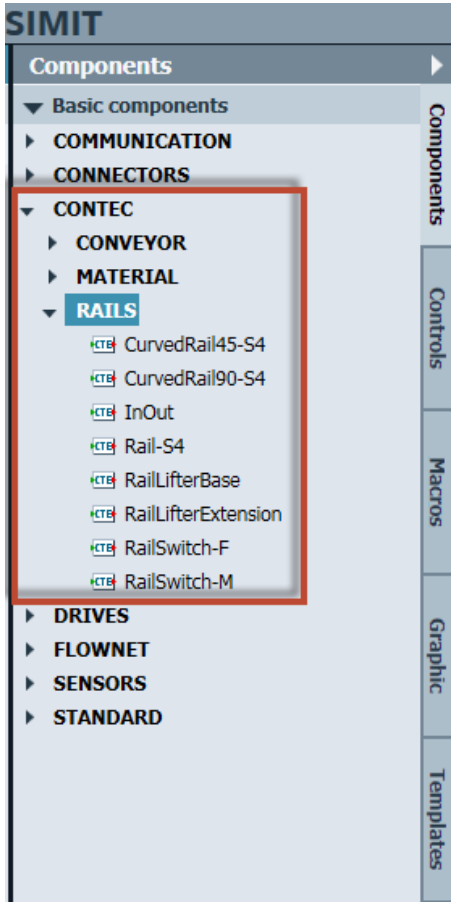

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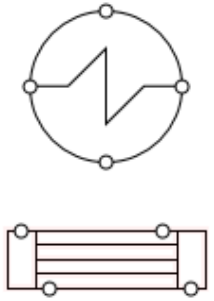
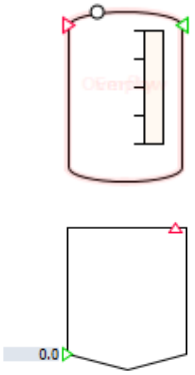
Simulation
CHEM BASIC Library

- For chemical or pharmaceutical plant simulation
- To build models in the schematics of a P&ID
- Import via the generic import the technological behavior out of COMOS P&ID
- Simulate a piping network with single (pseudo) component, liquids or gas (e.g. water) including pressure, temperature and flow

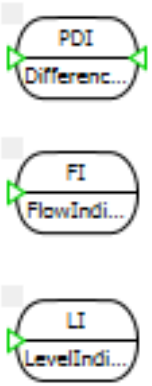
Heat exchanger

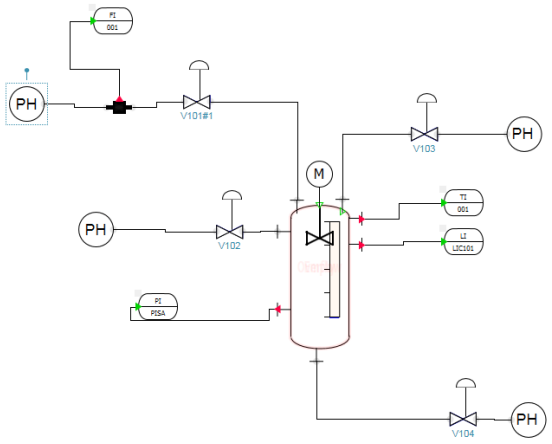


Tanks



Measurements





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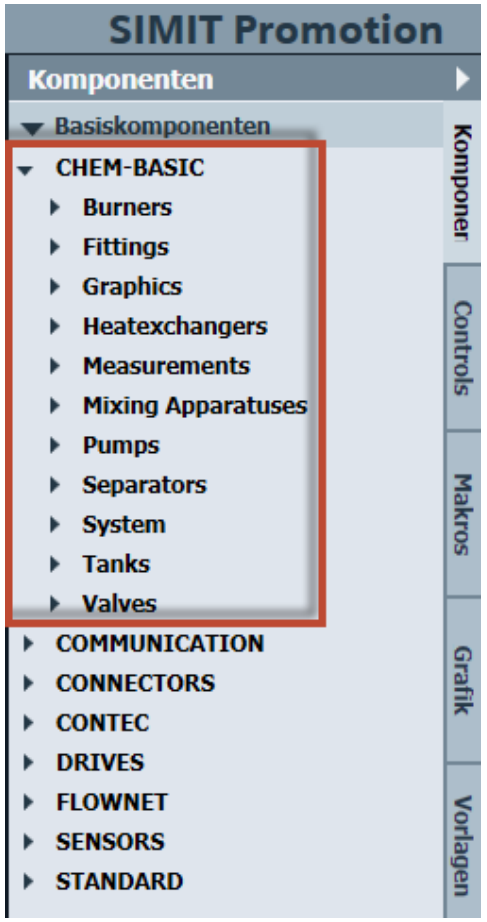

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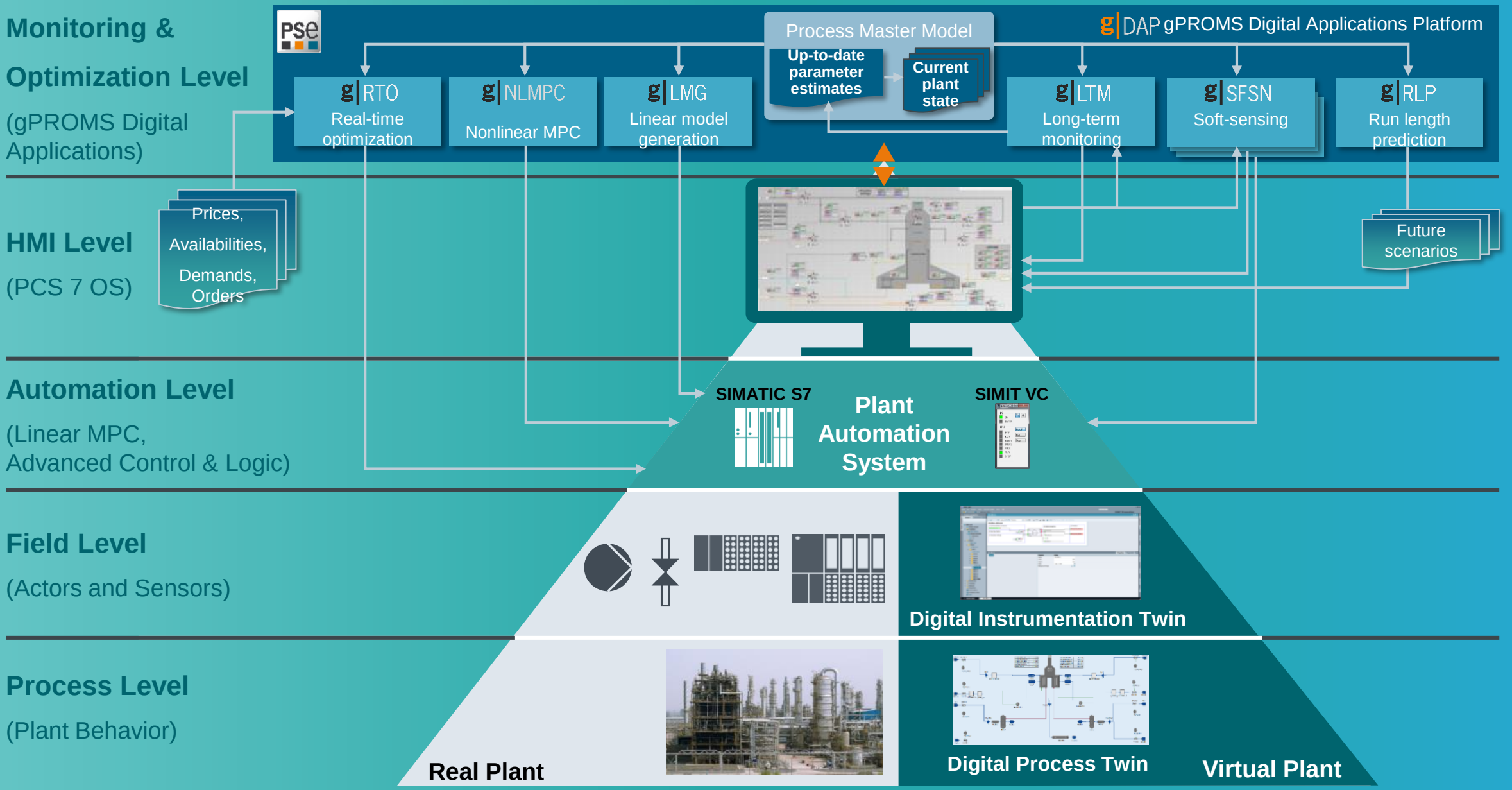
Device models
Siemens field device

- 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


Monitoring &
Optimization Level
(gPROMS Digital Applications)
HMI Level
(PCS 7 OS)
Automation Level
(Linear MPC,
Advanced Control & Logic)
Field Level
(Actors and Sensors)
Process Level
(Plant Behavior)
PSE
Process Master Model
Up-to-date parameter estimates
Current plant state
gDAP gPROMS Digital Applications Platform
gRTO
Real-time optimization
gNLMPC
Nonlinear MPC
gLMG
Linear model generation
gLTM
Long-term monitoring
gSFSN
Soft-sensing
gRLP
Run length prediction
Prices,
Availabilities,
Demands,
Orders
Future scenarios
SIMATIC S7
Plant Automation System
SIMIT VC
Digital Instrumentation Twin
Real Plant
Digital Process Twin
Virtual Plant

Eksempel på NX MCD koblet til SIMIT for test og til PLS

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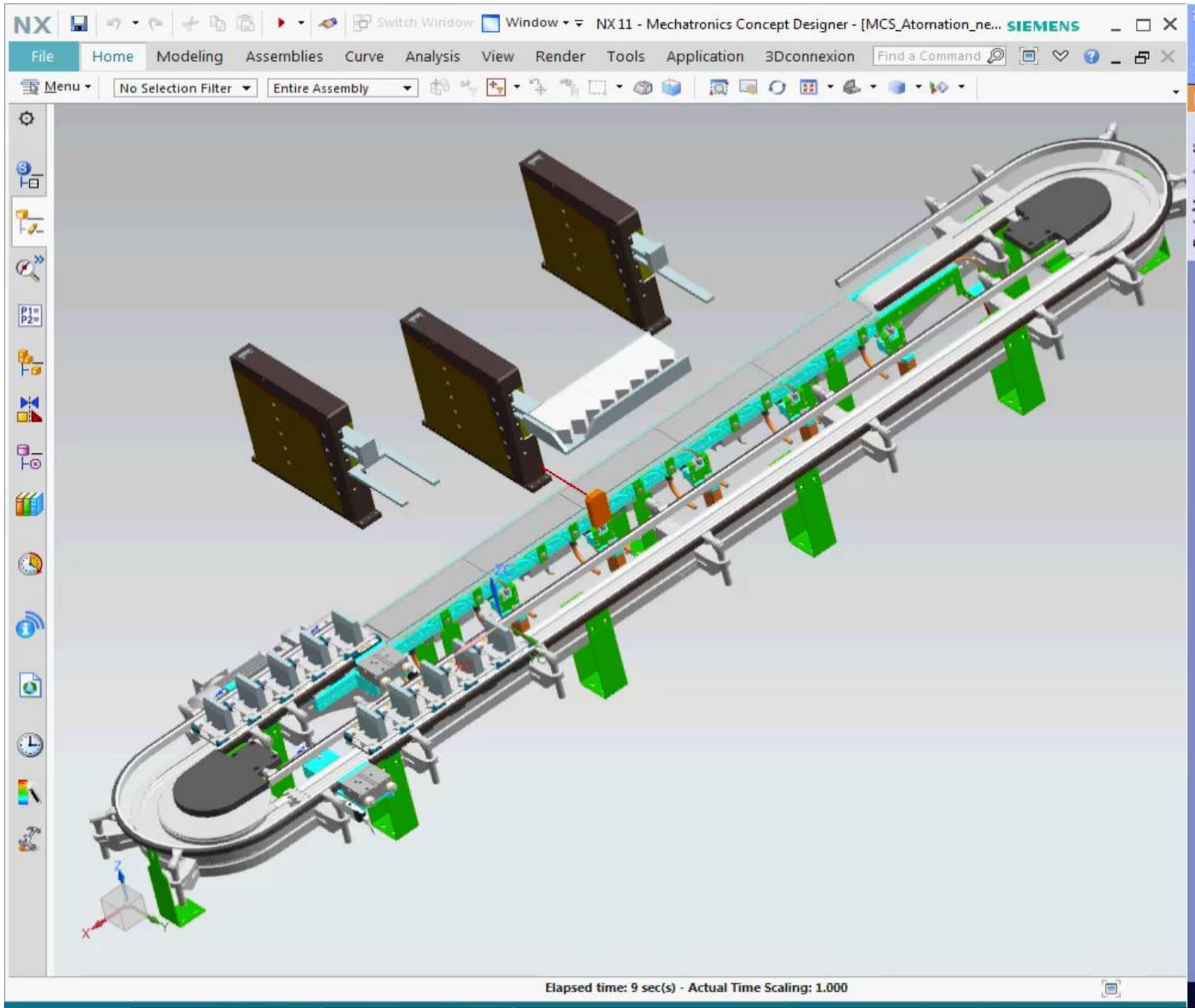

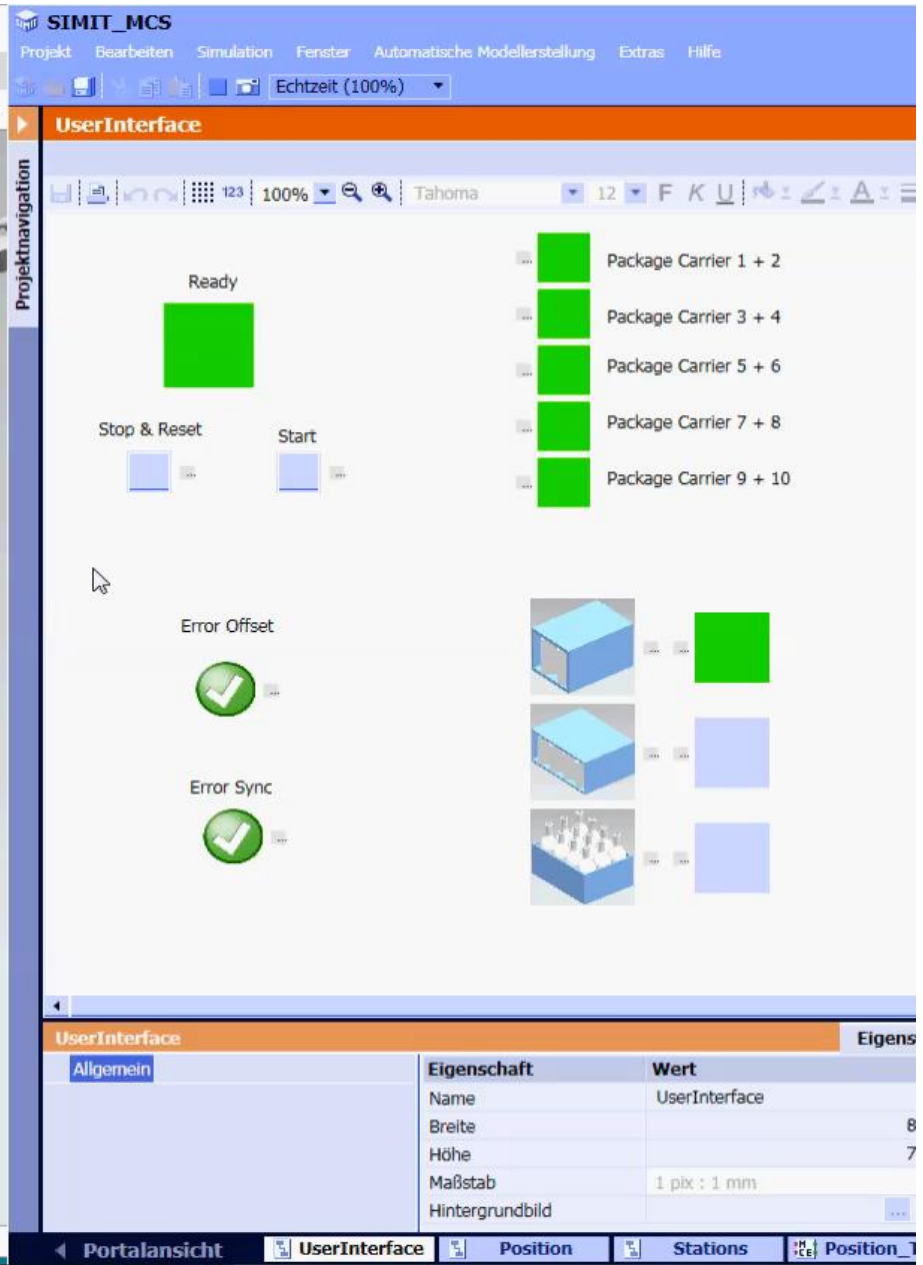

Demo Version

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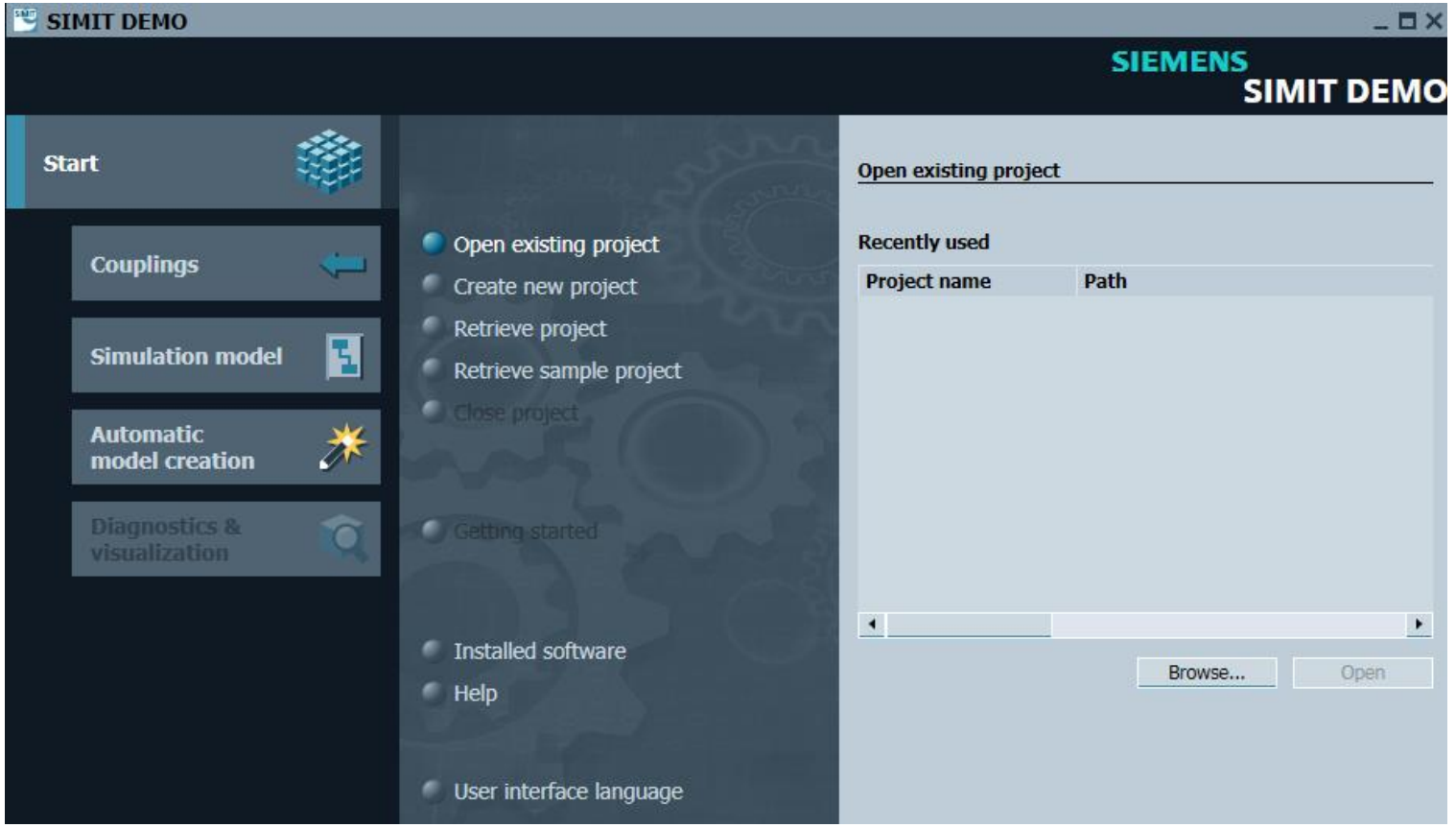
Simulation
Demo Version

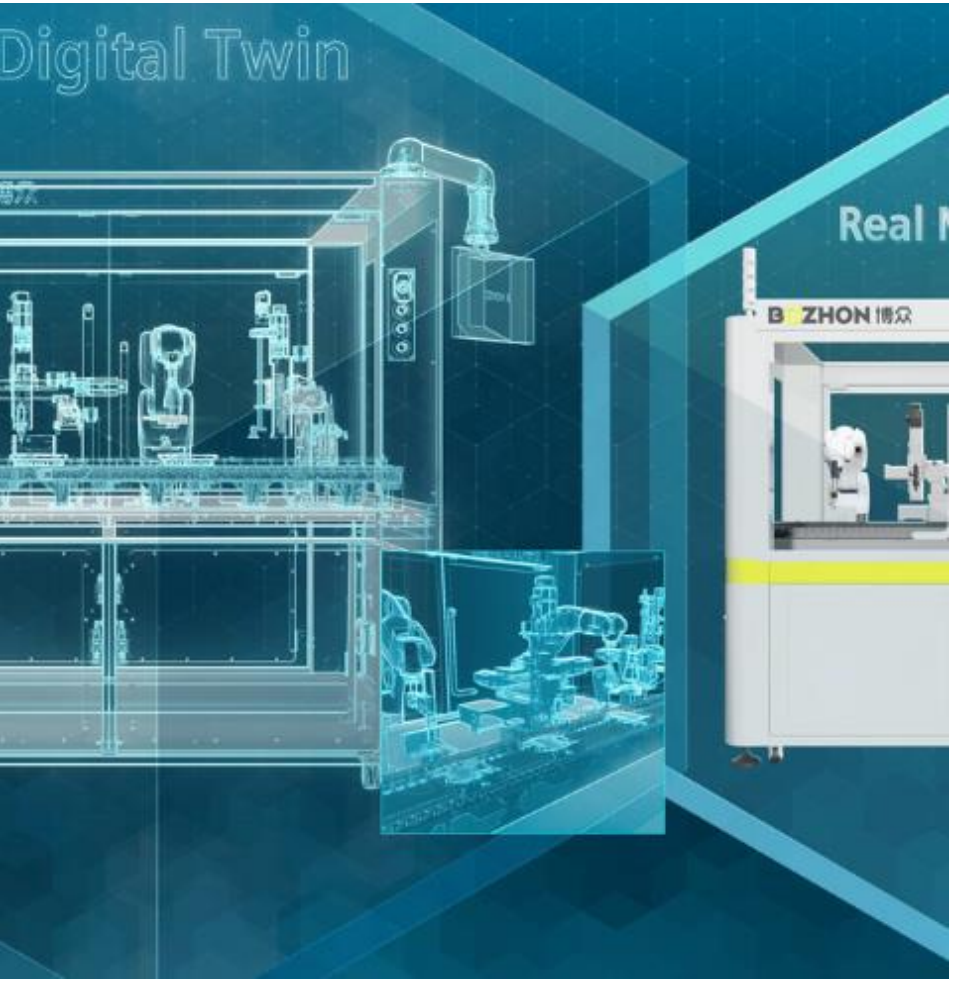
- Extended DEMO MODE 45 minutes, all couplings with a maximum of 30 bytes
- The dynamic graphic editor, the trend and messaging, the macro component editor, the SMD-typical import and the automatic control interface will be available for testing during the demo session

https://support.industry.siemens.com

ID: 109738278



Simit Simulation Framework



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Film om Simit:

https://www.siemens.com/global/en/home/products/automation/industry-software/simit.html