



Welcome

Webinars 2020

Software y Tecnologías

IMA



Webinar Software y Tecnologías

Agenda

- Software Suite para Controladores Inline, Axioline, RFC
 - Software para Controladores PLC PC WORX
 - Software para Controladores PLCnext
 - Software de Diagnóstico y Configuración de Sistemas de Control
 - Software para Diagnóstico de Red
 - Softwares para OPC y OPC UA
 - Softwares para Sistemas de Entradas/Salidas PROJECT+
 - Software para inicio de estaciones Axioline STARTUP+
-



Webinar Software y Tecnologías

Agenda

- Software para parametrización de Interfaces de Comunicación
 - Software para Seguridad Funcional
 - Software para Visualización HMI y SCADA
-



Webinar Software y Tecnologías

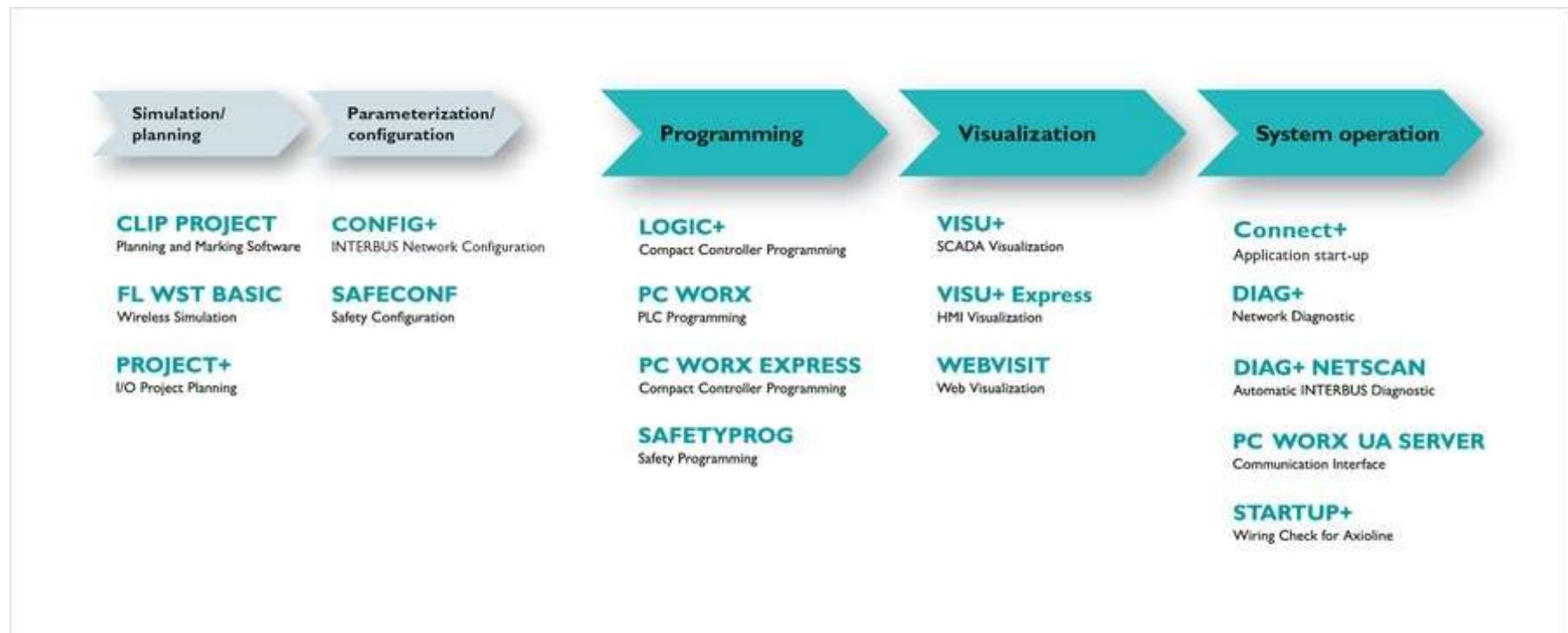
Agenda

-
- Tecnología PROFINET
 - Tecnología OPC UA
 - Tecnología DIGITAL TWIN
 - Tecnología PLCnext Technology
 - Tecnología PROFICLOUD
 - Tecnología SMART Services
 - Tecnologías E-Mobility
 - Tecnologías IIoT
 - Tecnología Plataforma Industria 4.0
-



Software

AUTOMATIONWORX



Softwares de Automatización

AUTOMATIONWORX Software



Software

AX SW SUITE

The AUTOMATIONWORX Software Suite is a comprehensive collection of optimally coordinated software tools for the Automation Worx automation system consisting of

PC WORX
PC WORX EXPRESS
DIAG+
DIAG+ NETSCAN
CONFIG+
VISU+
VISU+ EXPRESS
WEBVISIT
AX OPC SERVER



2985660 AX SW SUITE DEMO



Softwares

PC WORX

PC WORX

PLC programming

PC WORX DEMO	Order No. 2985725
PC WORX BASIC LIC	Order No. 2985275
PC WORX PRO LIC	Order No. 2985385

- Programming of Phoenix Contact controllers
- Network configuration and diagnostics
- Numerous programming languages supported: IL, FBD, LD, ST, SFC, FFLD

PC WORX EXPRESS

PC WORX EXPRESS

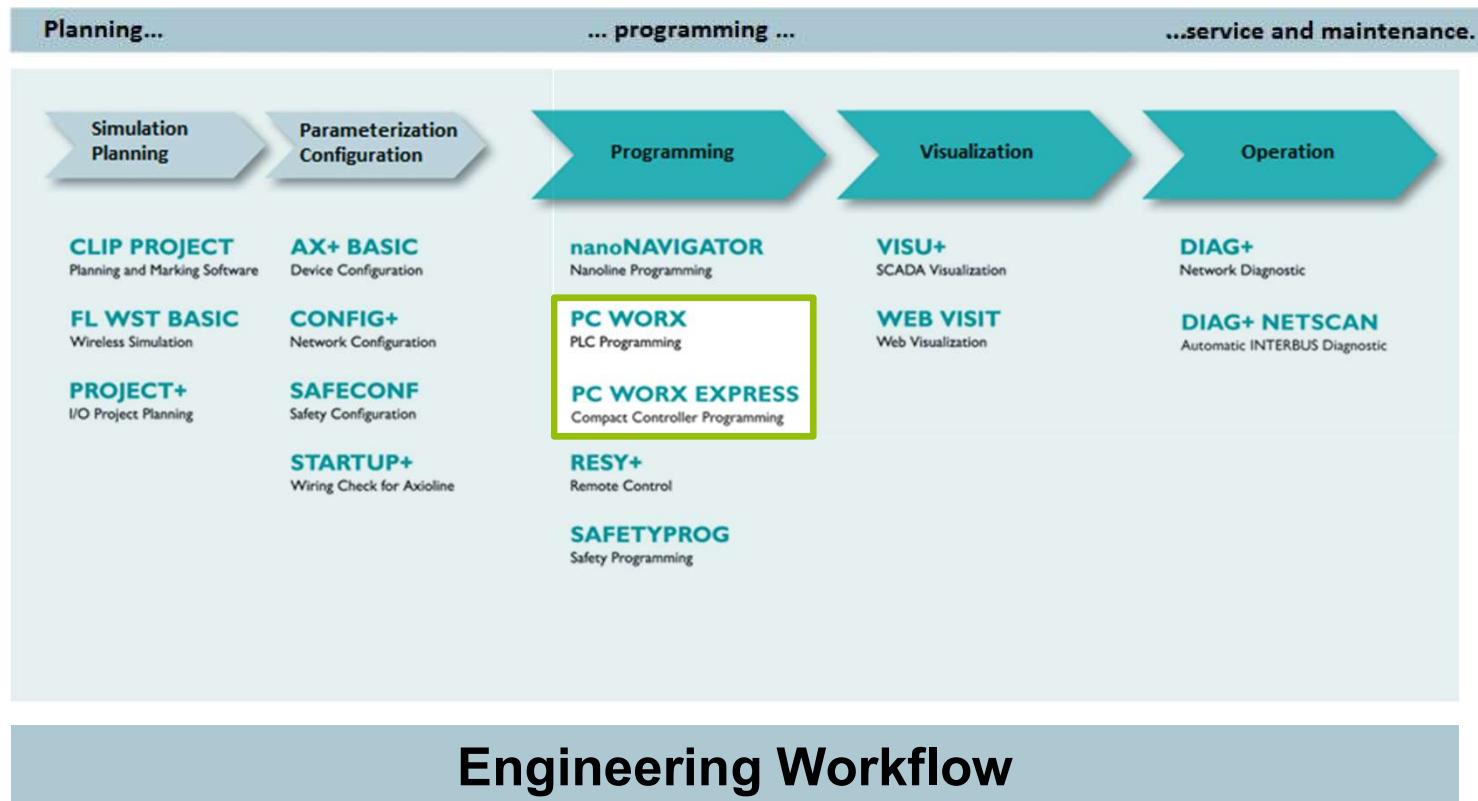
Programming small-scale controllers

PC WORX EXPRESS Order No. [2988670](#)

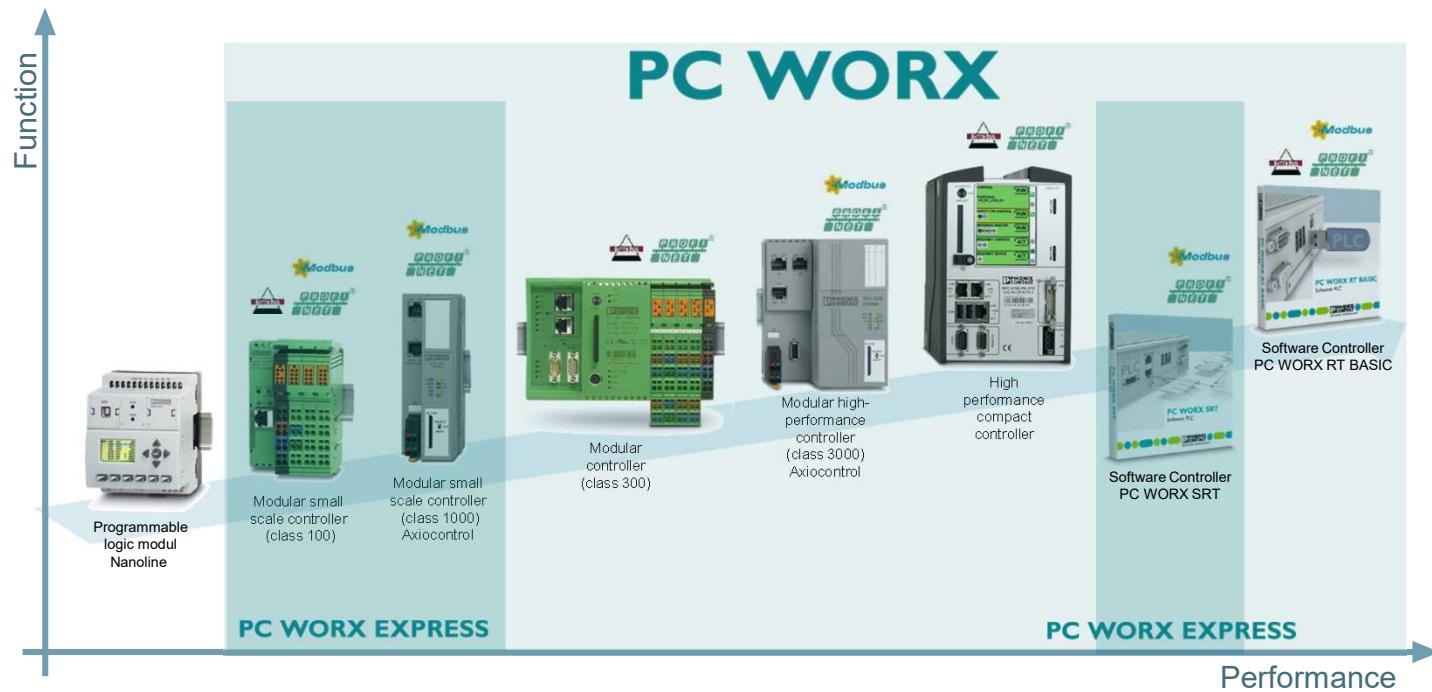
- Programming for class 100 and AXC 1050 modular small-scale controllers
- Automation system configuration
- INTERBUS module parameterization
- Programming languages supported: FBD, LD, ST
- 128 kB input/output data (mix)
- Can be downloaded free of charge



AUTOMATIONWORX Software Overview



PC WORX – Compatible controller



PC WORX

Worldwide consistent programming – IEC 61131

Integrated software-tools

Fast and flexible programming

- Additional standard libraries

Extensible

- User functions
- Function blocks or libraries

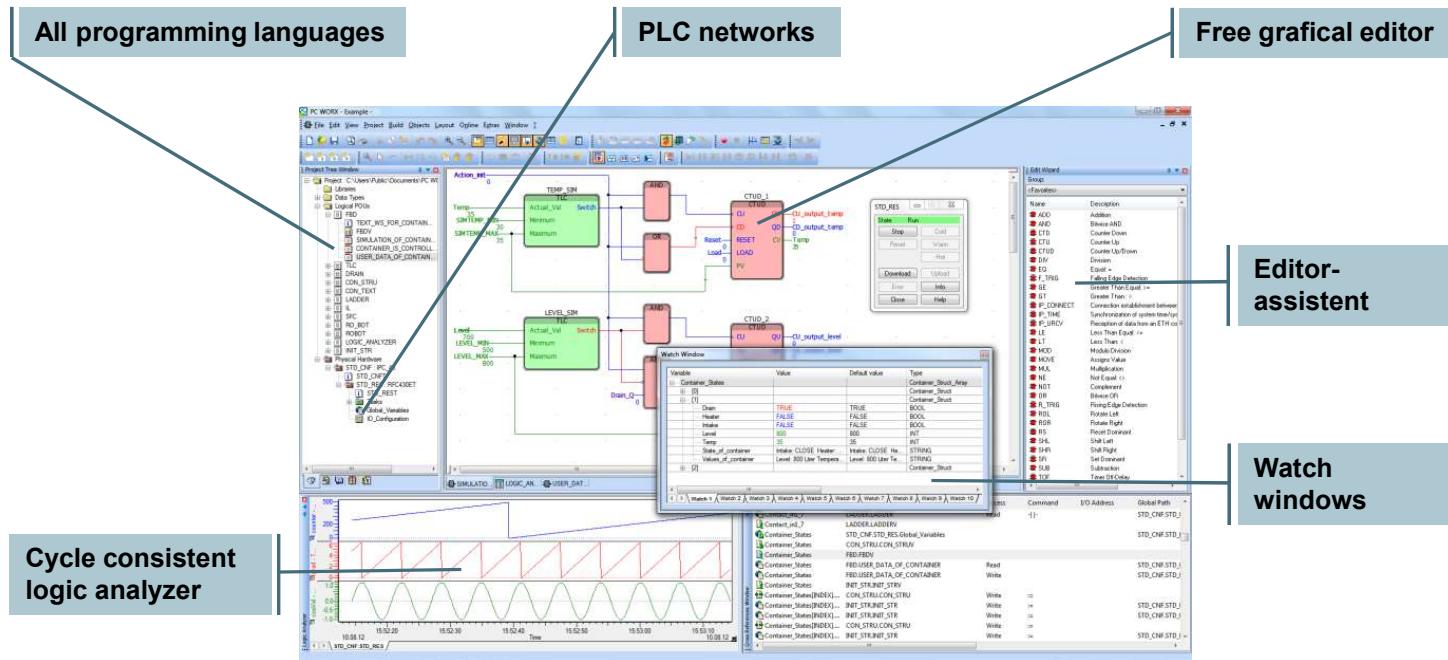
Easy handling

- Intuitive user interface
- Clear structures

 **One software for every engineering step**



PC WORX – IEC 61131

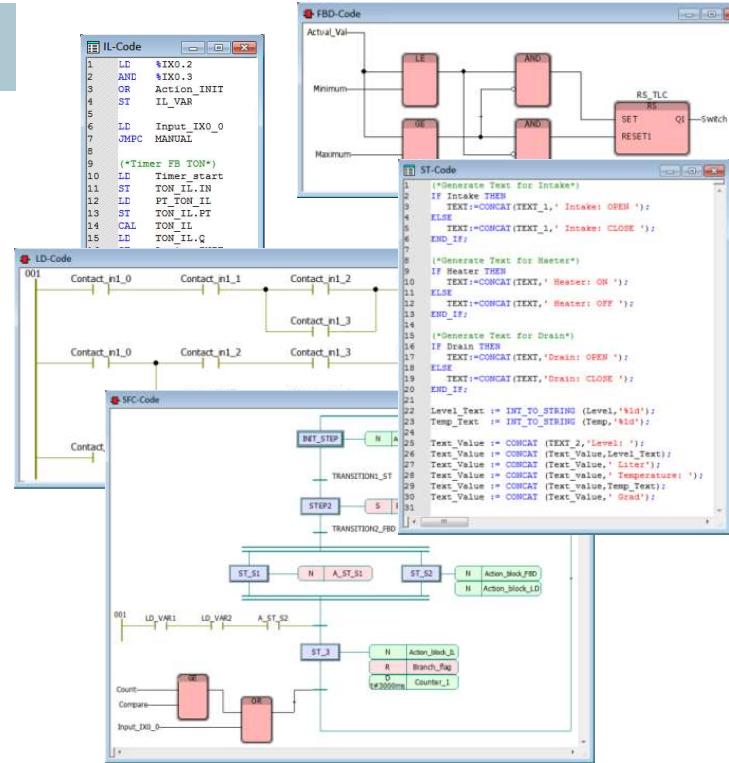


One programming system for all controllers

PC WORX – IEC 61131

Fast start with project templates

- Ladder logic (LD)
- Fixed format ladder logic (FFLD)
- Function block diagram (FBD)
- Instruction list (IL)
- Structured text (ST)
- Sequential function chart (SFC)



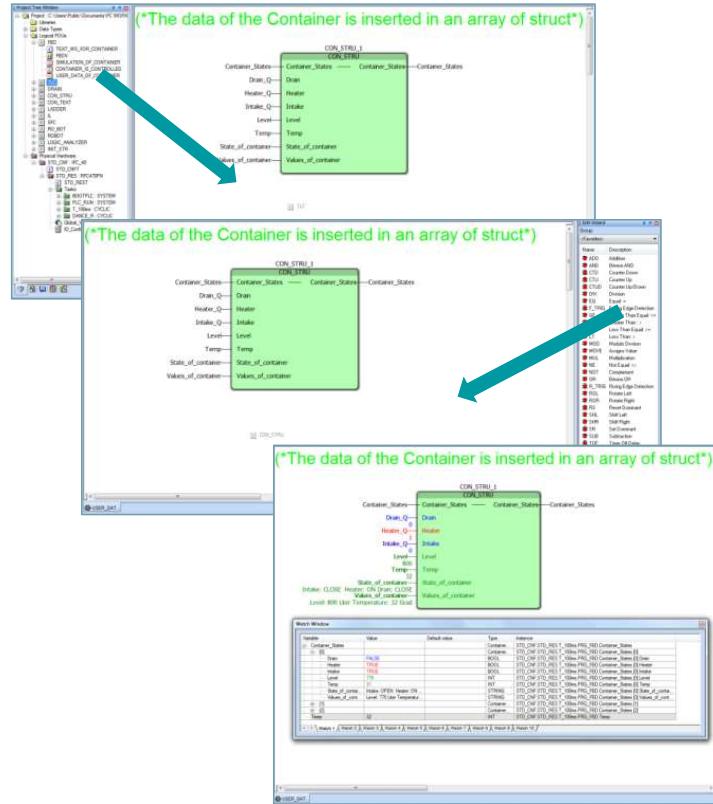
→ Easy handling

PC WORX – IEC 61131

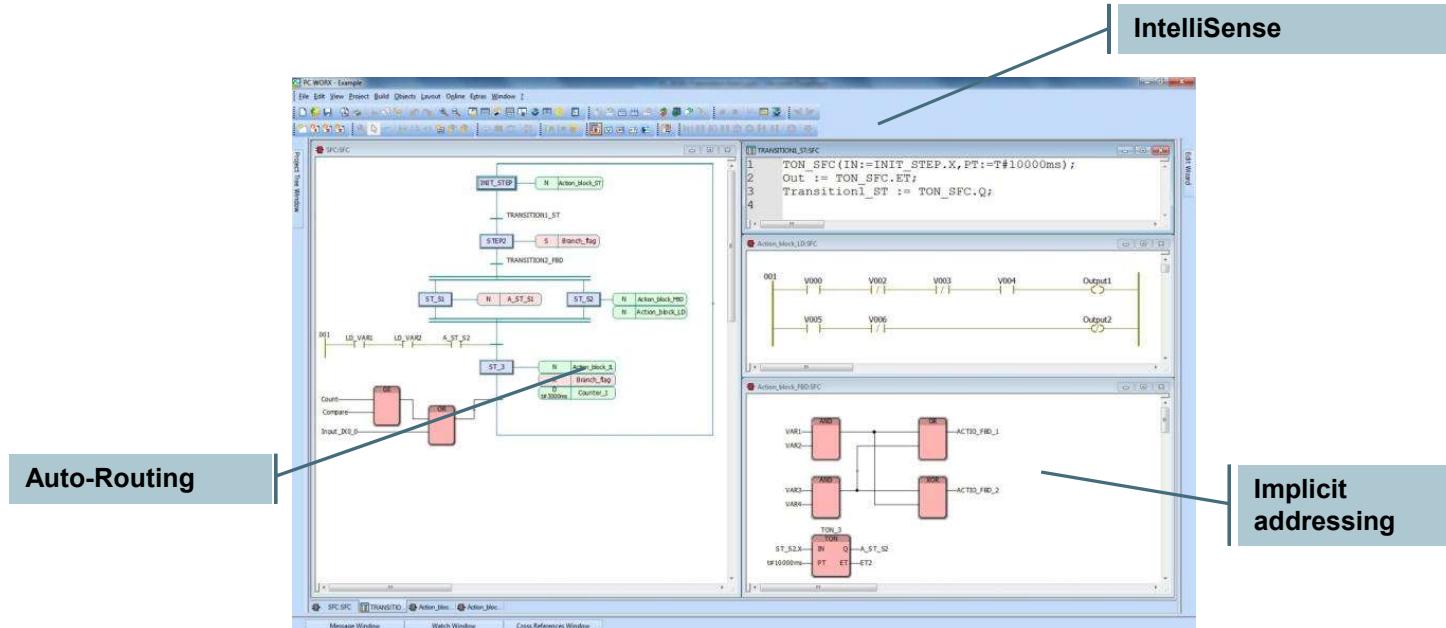
Consistent Drag & Drop

- Project tree
- Editor assistant
- Variable editor
- Watch windows
- Logic analyzer

→ Easy programming



PC WORX – IEC 61131 editors

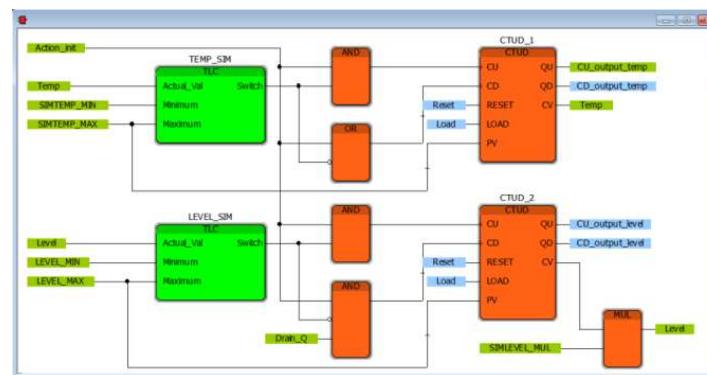
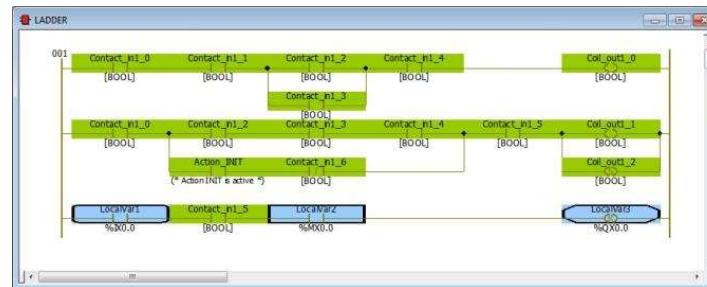


Free graphical or network based programming

PC WORX – Graphical programming

LD and FFLD

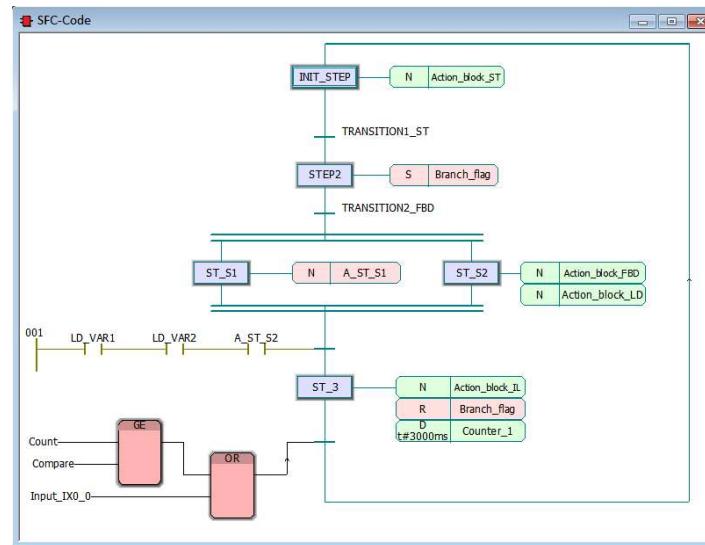
- Free graphical or network based programming
- ST-statements possible (IF, THEN, ELSE)
- LD and FFLD objects mixable
- Auto-Routing
- Easy keyboard handling – programming without mouse



PC WORX – Graphical programming

SFC

- Automatic insert and placing of objects
- Actions and transitions in all base IEC 61131-3 languages
- Auto routing
- Easy keyboard handling – programming without mouse



PC WORX – Network based programming

IL and ST

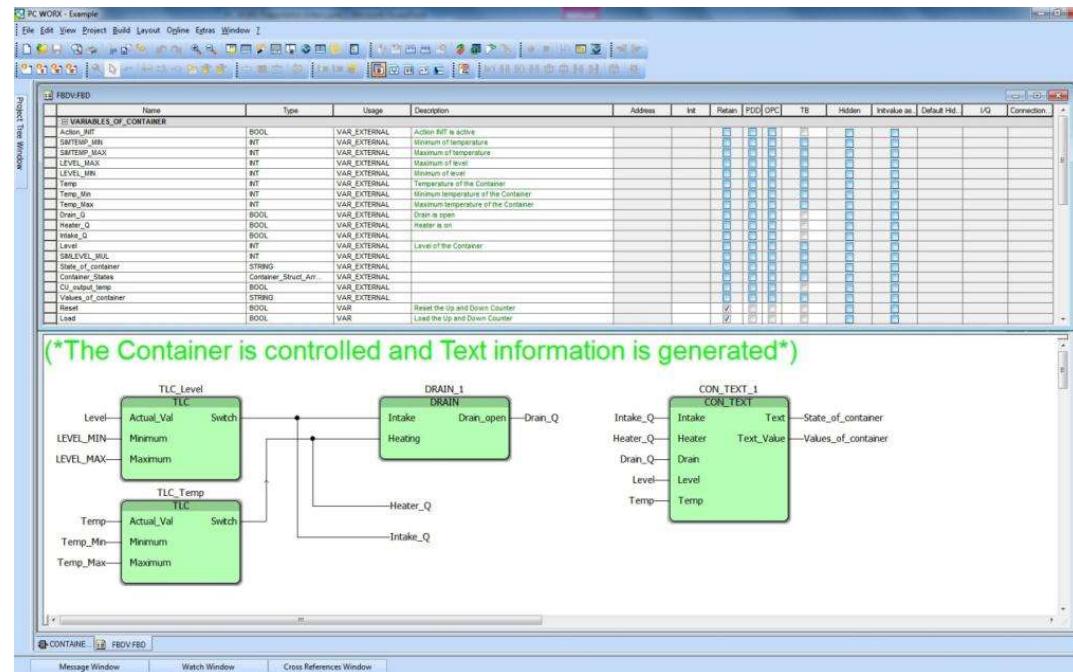
- Syntax highlighting
- Editor assistant for keywords, functions and function blocks
- Context sensitive menus

```
1 (*Generate Text for Intake*)
2 IF Intake THEN
3   TEXT:=CONCAT(TEXT_1,' Intake: OPEN ');
4 ELSE
5   TEXT:=CONCAT(TEXT_1,' Intake: CLOSE ');
6 END_IF;
7
8 (*Generate Text for Heater*)
9 IF Heater THEN
10  TEXT:=CONCAT(TEXT,' Heater: ON ');
11 ELSE
12  TEXT:=CONCAT(TEXT,' Heater: OFF ');
13 END_IF;
14
15 (*Generate Text for Drain*)
16 IF Drain THEN
17  TEXT:=CONCAT(TEXT,' Drain: OPEN ');
18 ELSE
19  TEXT:=CONCAT(TEXT,' Drain: CLOSE ');
20 END_IF;
21
22 Level_Text := INT_TO_STRING(Level,'1%d');
23 Temp_Text := INT_TO_STRING(Temp,'%d');
24
25 Text_Value := CONCAT(TEXT_2,Level);
26 Text_Value := CONCAT(Text_Value,Level_Text);
27 Text_Value := CONCAT(Text_Value,' Liter');
28 Text_Value := CONCAT(Text_Value,' Temperature: ');
29 Text_Value := CONCAT(Text_Value,Temp_Text);
30 Text_Value := CONCAT(Text_Value,' Head');
31
```

```
1 IF EXPRESSION THEN
2   STATEMENT := STATEMENT + INT#1 ;
3 END_IF;
4
5 CASE (*EXPRESSION (must return an INT value)* OF
6   (* VALUE a*): (*STATEMENTS*); (* VALUE can be a single value *)
7   (* VALUES b*): (*STATEMENTS*); (* or a set of VALUES *)
8   (* . . . : . . . *) : (* For Example: . . . *)
9   (* . . . : . . . *) : (* STATEMENTS*); (* 1 . . . ; . . . *)
10  (* . . . : . . . *) : (* STATEMENTS*); (* 2..4; . . . *)
11 ELSE
12 (*STATEMENTS*);
13 END_CASE;
14
15
16
17 (* Implicit addressing *)
18 Word_Variable.
19
20
21
22
23
24
25
26
27
28
29
30
31
```

Edit Wizard
Group: Keywords
Name Description
• = Assignment
• CASE Case Statement
• ELSE Else Statement
• ELSEIF Elif Statement
• END_ABORT Abort Execution of Loop
• FOR For Loop
• IF If Statement
• REPEAT Repeat Statement
• RETURN Return from FB/FU
• WHILE While Statement

PC WORX – Variable management

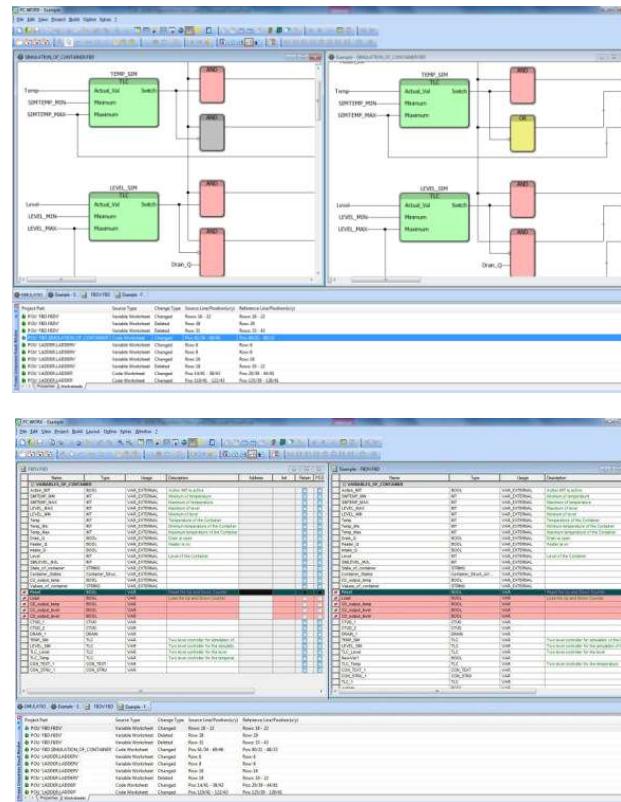


Assistants monitor every step | errors are displayed visually

PC WORX – Features

Online und Offline

- Own workspace for program comparison
- Differences will be shown vise versa and highlighted
- Differences in configuration settings will be listed
- Print of differences possible

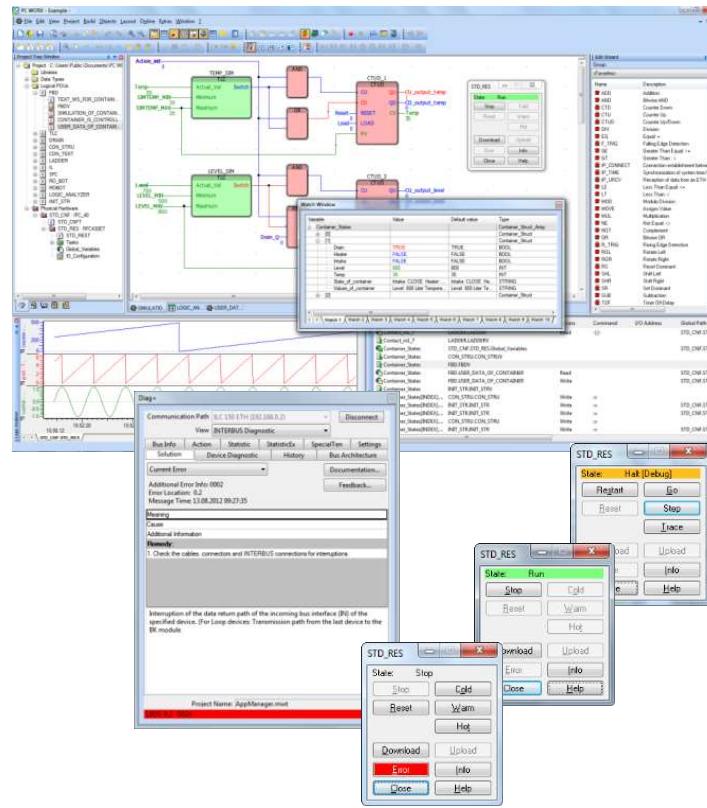


PC WORX – Features

Program und network

- Logic analyzer
- Breakpoints / Single step
- Online debug in libraries
- Instance debug
- Watch windows / recipe management
- Force list
- Plain text messages of PLC errors
- Network- and field bus diagnostic

 Easy commissioning and troubleshooting



PC WORX – Features

Network- and bus configuration

Configuration, parametrization and diagnostic:

- INTERBUS
- PROFINET
- MODBUS
- PROFIBUS
- Ethernet

FDT/DTM Technology

 **Open and uniform**



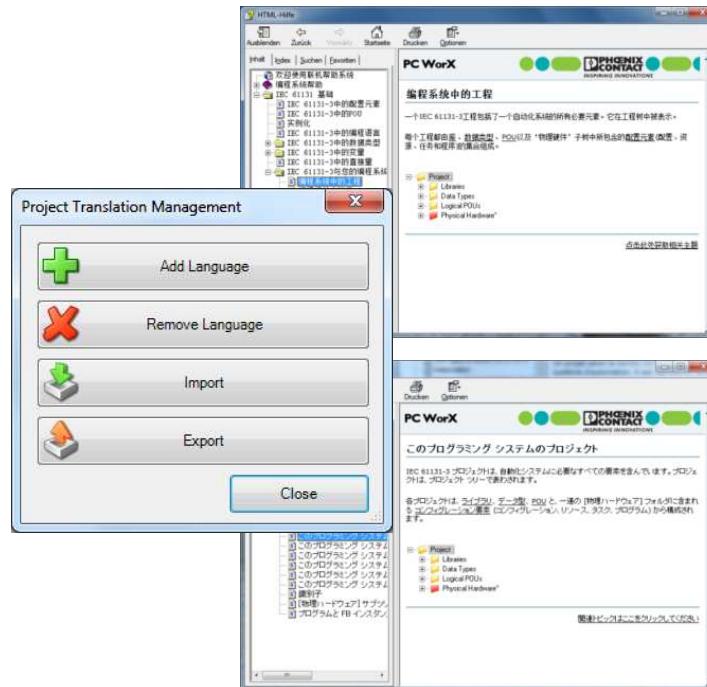
Ethernet



PC WORX – Features

Usable worldwide

- English
- German
- Spanish
- French
- Italy
- Chinese



→ Easy project translation management

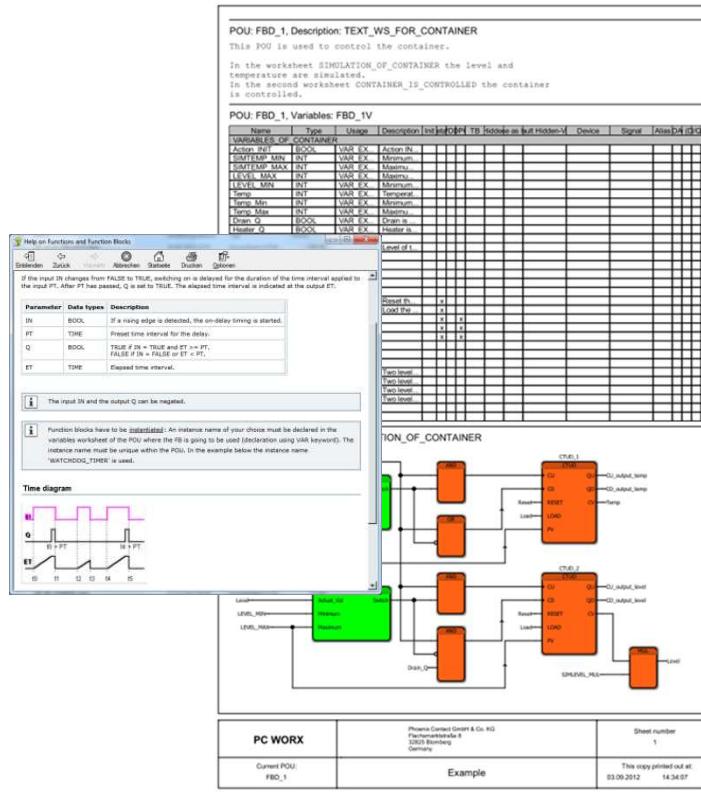
PC WORX – Features

Projekt documentation

Print layout configurable with comfortable page layout editor

User defined documentation for:

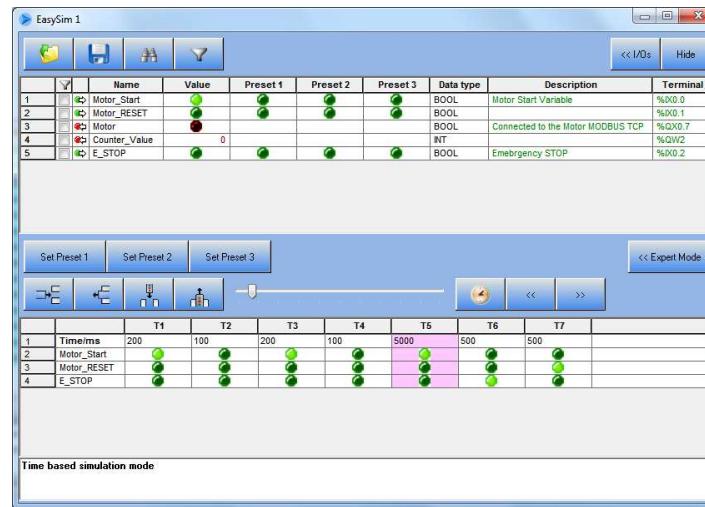
- Projects
- Libraries
- Function block functions



PC WORX – Features

Simulation

- Read and write IO Variables
- Time based simulation of your process
- Comment every simulation step
- Store and reopen the configuration of your simulation



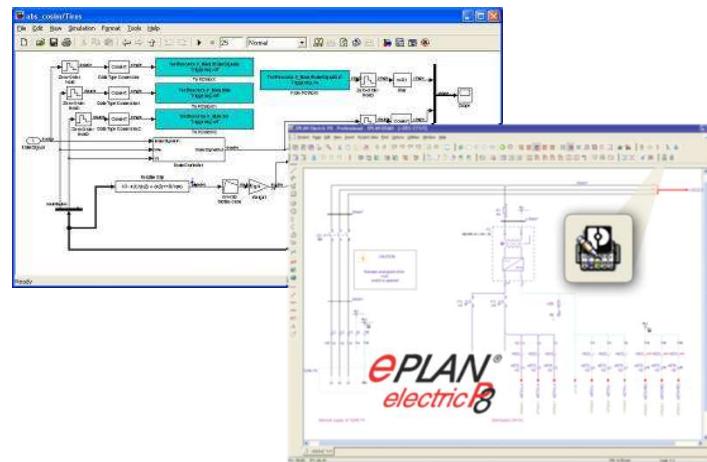
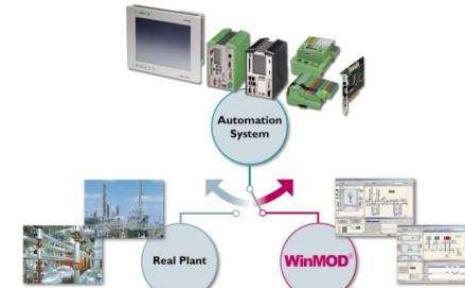
→ EasySim

PC WORX – features

Interfaces

- Simulation with WinMOD
- Code generation with Matlab/Simulink® and Stateflow
- PLCopen XML import and export
- EPLAN interface
- Project+ interface
- FDT/DTM

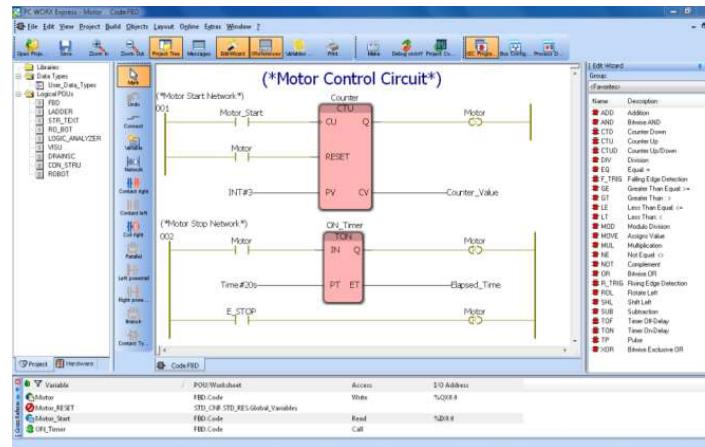
 **Consistency**



PC WORX – features

Easy Automation - EXPRESS

- Free IEC 61131-3 engineering tool
- For all PLC's of the 1xx class
- Inclusiv configuration and diagnostic

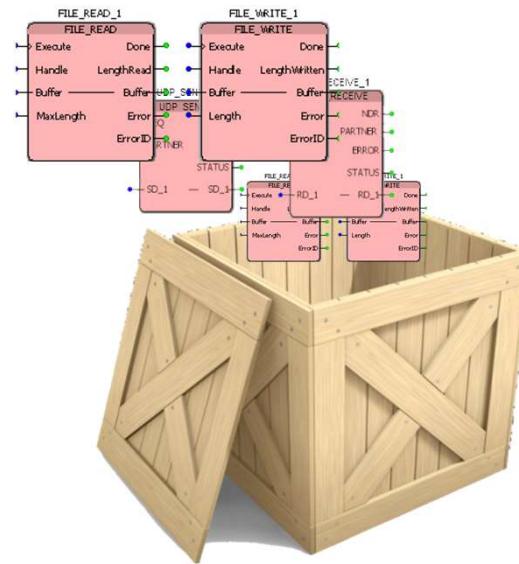


Free download: www.phoenixcontact.com

PC WORX – features

Prefabricated libraries

- Analog signal processing
- Control engineering
- IT libraries
- SMTP, SNMP, SQL, FTP Function block libraries
- Building automation
- MODBUS RTU
- Positioning
- CAN open
- And much more...



Software para controladores PLCnext

PLCnext Engineer



PLCnext Technology Configuration and Engineering

Fast and flexible configuration

- C-Code, Simulink models, function components,
IEC61131-3, Safety, HMI

Extendable

- By licensed add-ins like the Viewer for Simulink

Easy handling

- Intuitive user interface
- Clear structures



The software for configuration and engineering

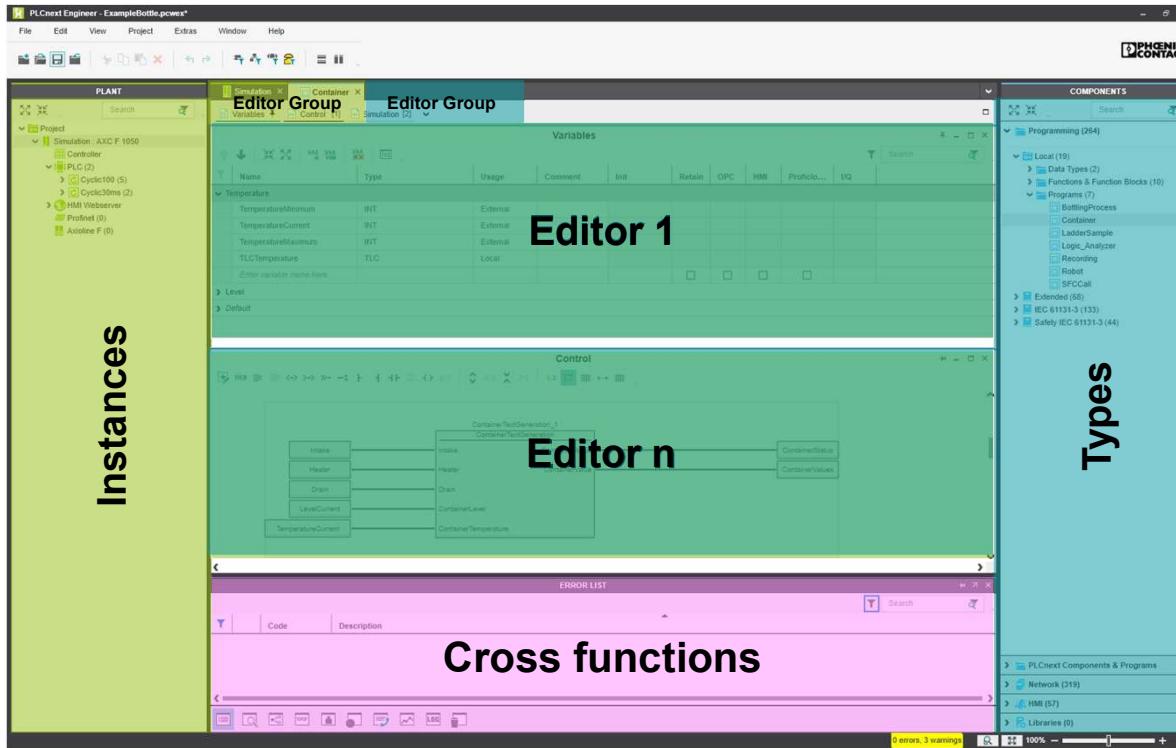
Complete Integrated System



Information Architecture



Instances



The screenshot shows the PLCnext Engineer interface with several windows open:

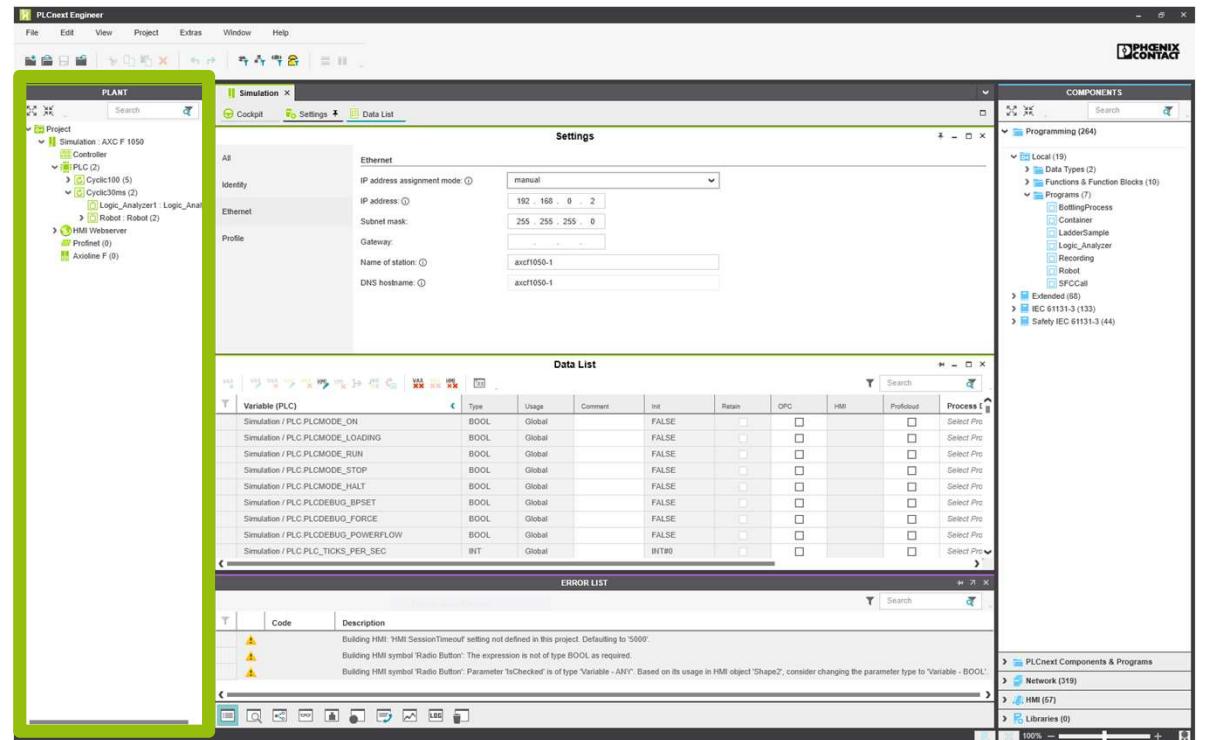
- Editor Group**: A table titled "Variables" listing items like Temperature, TemperatureMinimum, TemperatureCurrent, TemperatureMaximum, and TLCTemperature.
- Editor 1**: A table titled "Variables" showing the same variables as the first window.
- Editor n**: A ladder logic diagram for a "ContainerFillingStation_1" program, showing contacts for "Inake", "Heater", "Drain", "LevelCurrent", and "ContainerTemperature", and coils for "ContainerStatus" and "ContainerValues".
- Control**: A control panel window showing various status indicators.
- ERROR LIST**: A window showing 0 errors, 3 warnings.
- COMPONENTS**: A sidebar listing categories like Local (19), Functions & Function Blocks (10), Programs (7), and Safety IEC 61513-3 (44).

Types

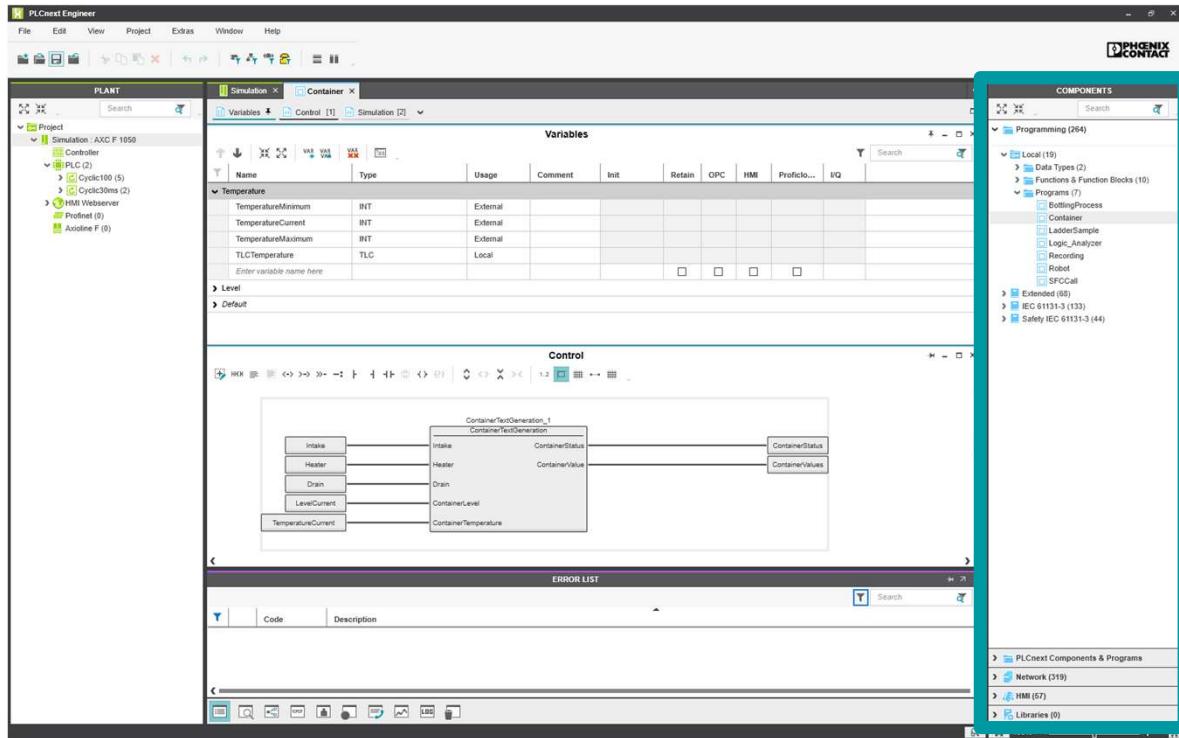


The User Interface – Plant Area

- Instance trees
 - Programs
 - Visualization pages
 - IO configuration
- Task configuration
- Controller configuration
- Central Cockpit
 - Application control
 - Device information



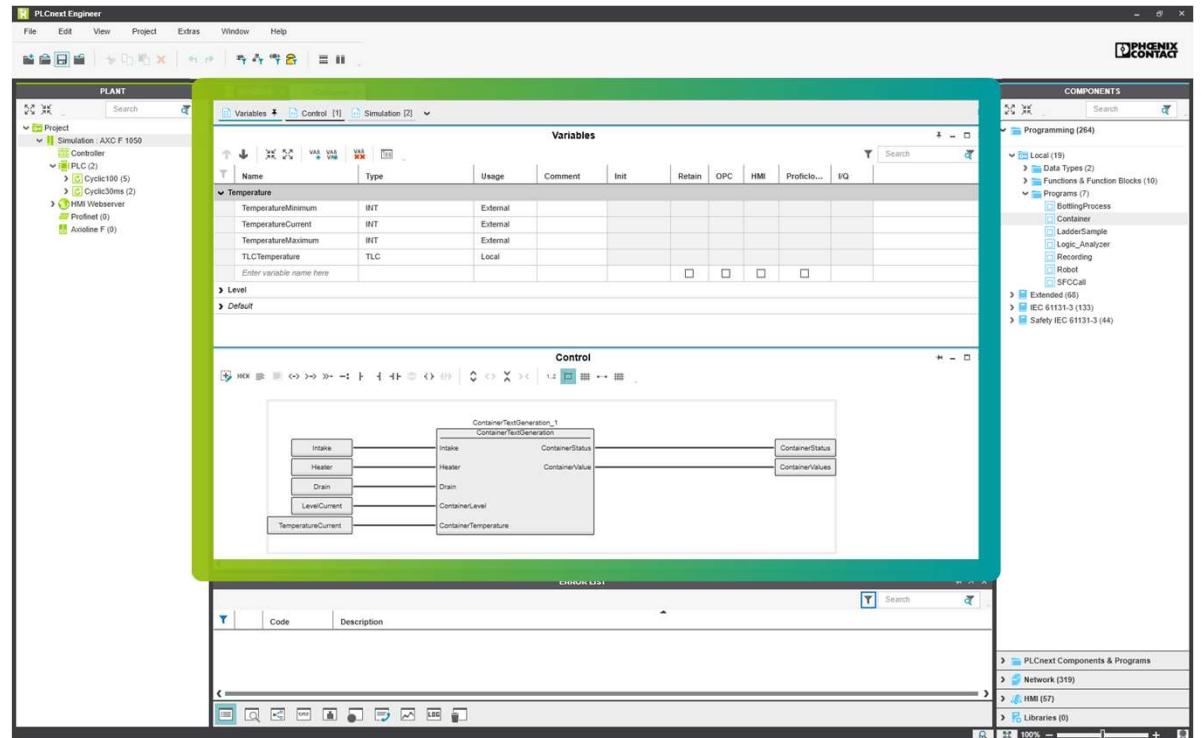
The User Interface – Component Area



- IEC 61131-3
 - Programs, functions and function blocks
 - Data types
- Device catalogue
 - Import of devices
- Visualization symbol library
- References to libraries

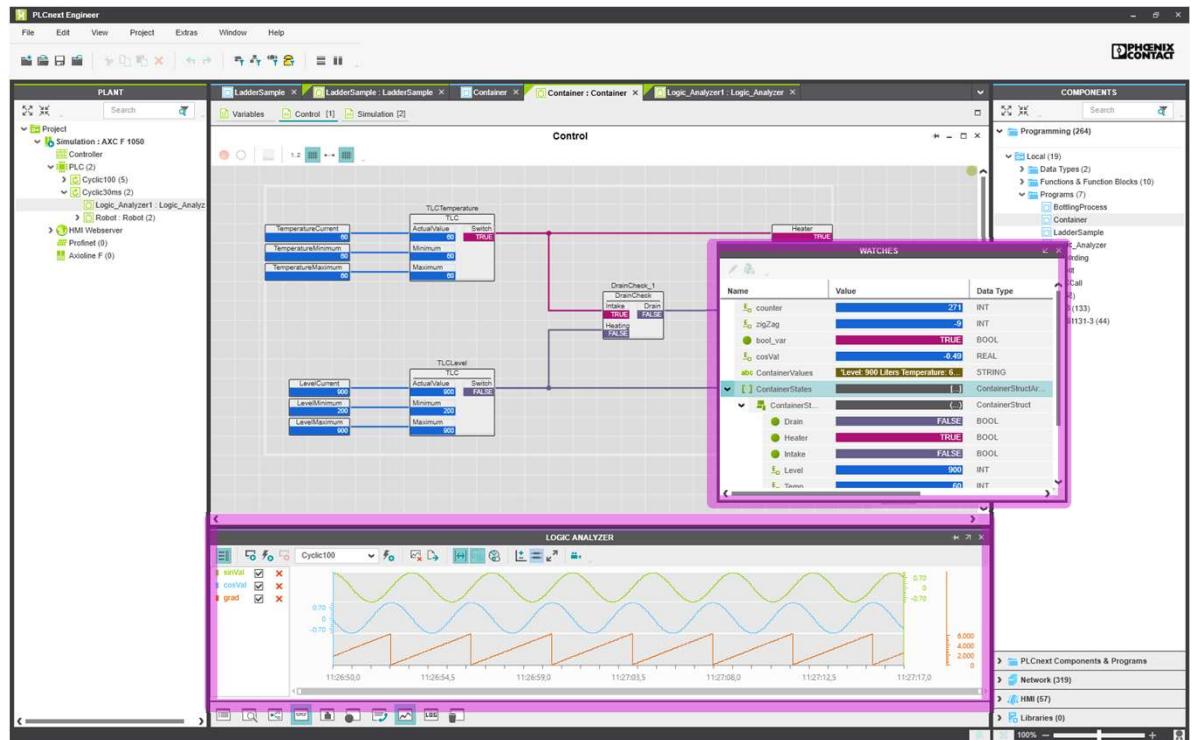
The User Interface – Editor Area

- Central editing
- Split view windows
- Full screen windows
- Arrange multiple editor windows
- Type or instance Editor color highlighted



The User Interface – Cross Function Area

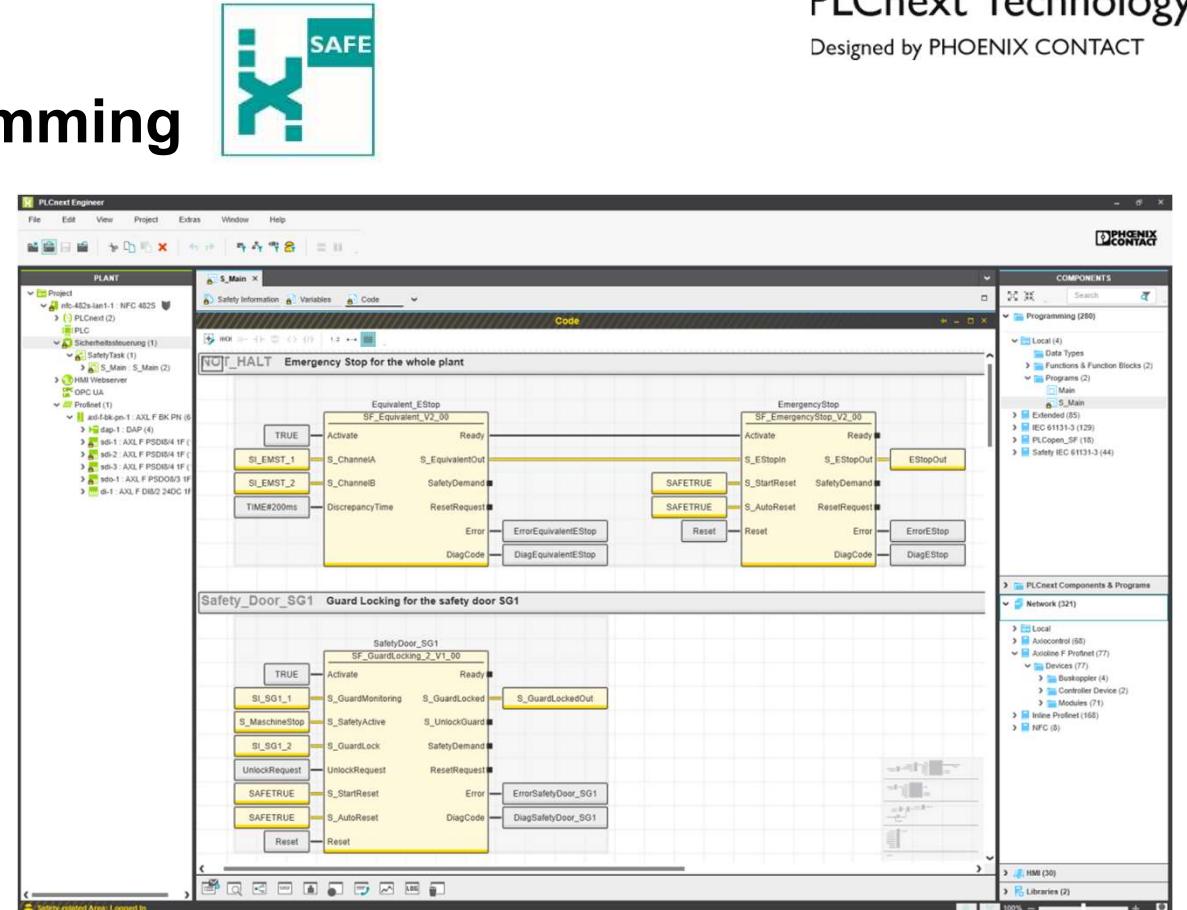
- Undockable windows
- Message window
- Global find & replace
- Cross references
- Watch window
- Debug information
- Logic analyzer
- Logging
- Recycle bin



Functional Safety Programming

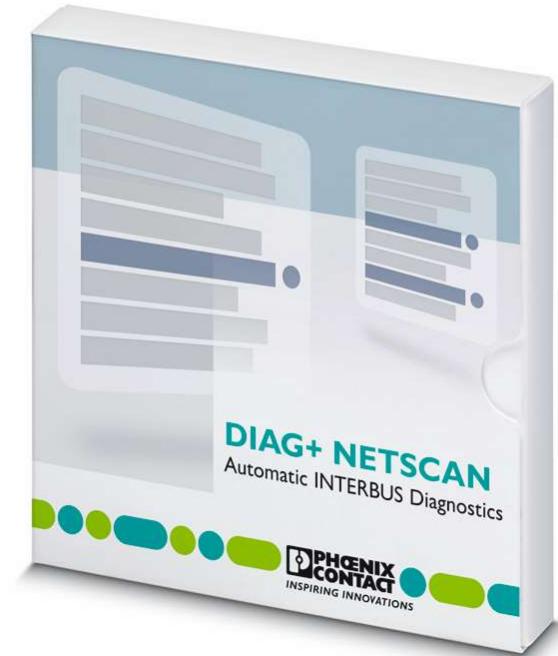
Fully integrated Safety Programming

- TÜV Rheinland certified according to IEC 61508
- Editor with common behavior as known from standard FBD or LD editors
- Low Variability Language support
- Network granular CRC checksums
- PROFIsafe Support



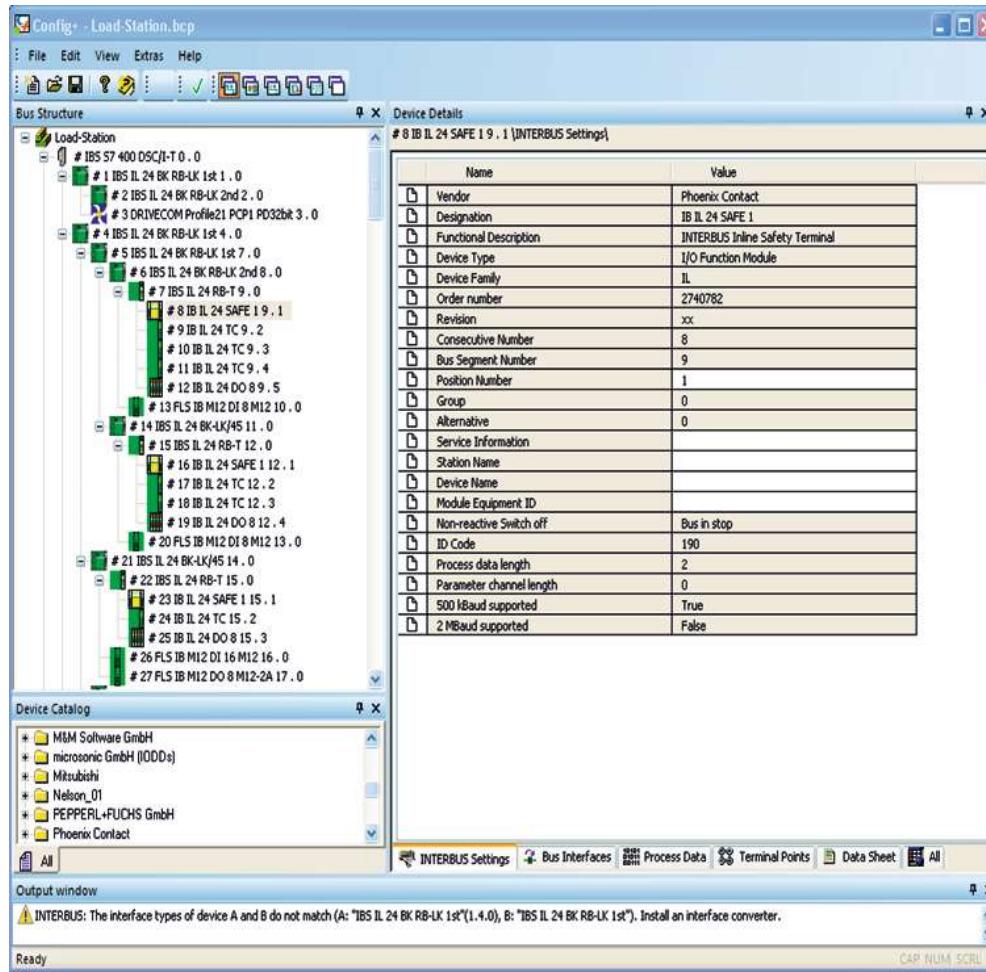
Software de Diagnóstico y Configuración para Sistemas de Control

CONFIG+ DIAG+ DIAG+ NETSCAN



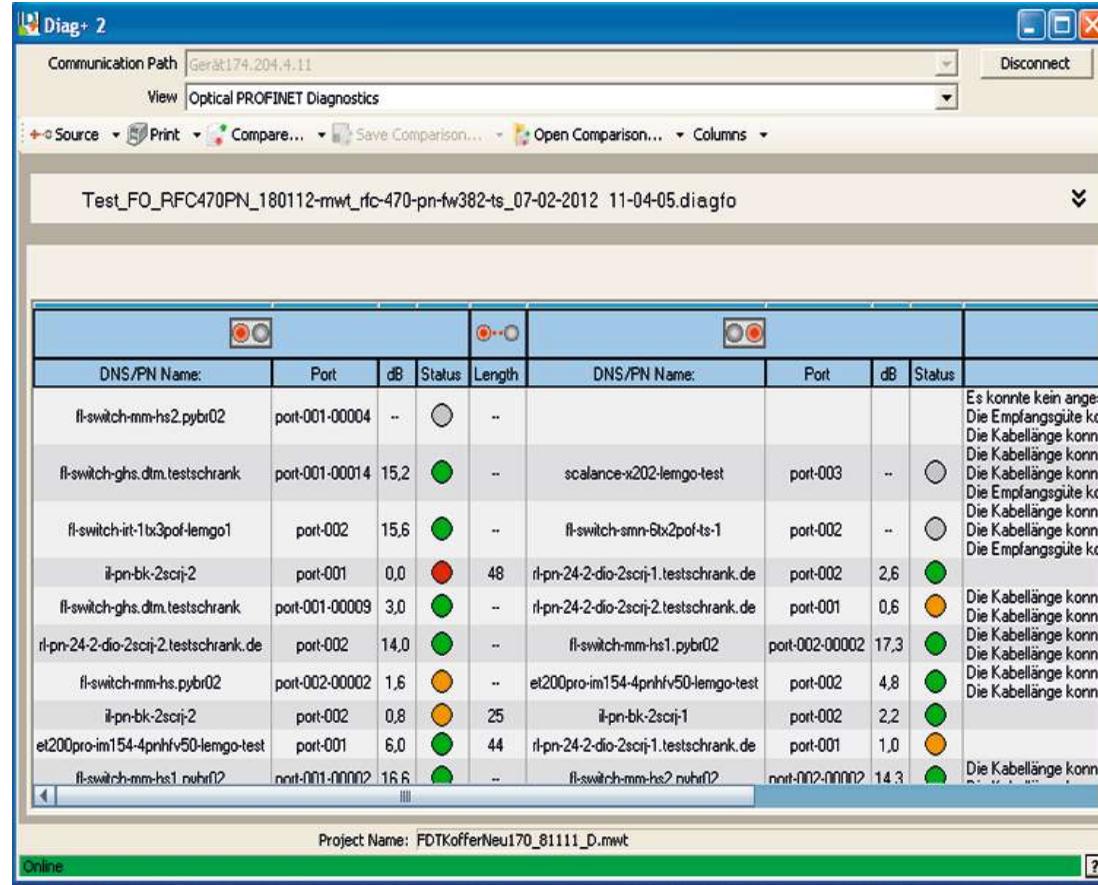
Software de Diagnóstico y Configuración para Sistemas de Control

CONFIG+



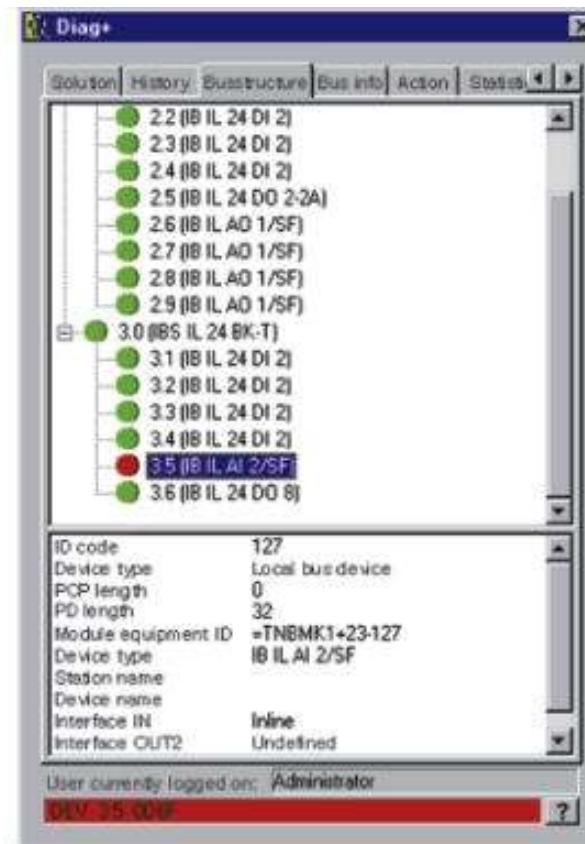
Software de Diagnóstico y Configuración para Sistemas de Control

DIAG+



Software de Diagnóstico y Configuración para Sistemas de Control

DIAG+ NETSCAN



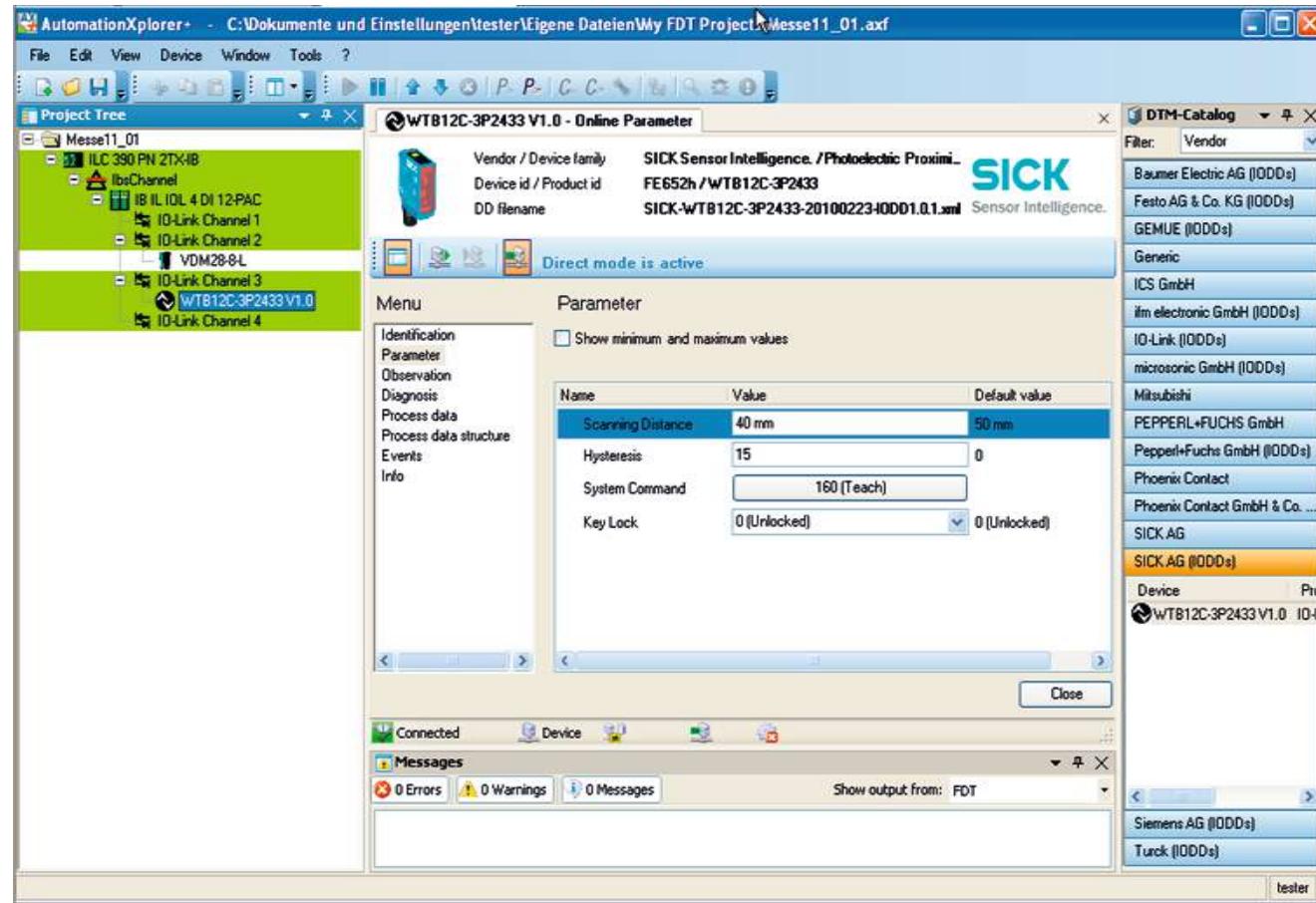
Software de Diagnóstico y Configuración para Sistemas de Control

DIAG+ NETSCAN



Software de Diagnóstico y Configuración para Sistemas de Control

DIAG+

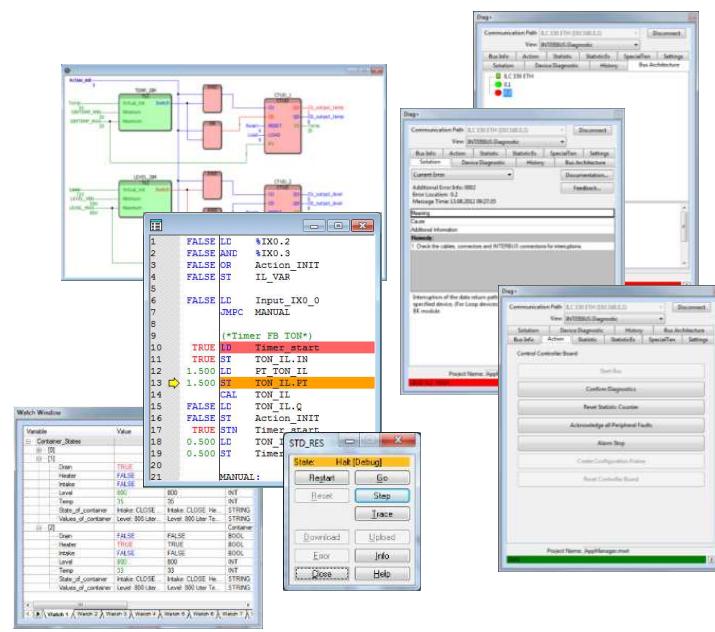


DIAG+ Network Diagnostics

Support in Error Avoiding

Fieldbus Diagnostic with comfortable PLC functions

- Breakpoints
- Individual steps
- Debugging in libraries
- Instance debugging
- Observing values from different program parts in a watch window
- Force list
- Quick bus startup
- Quick error localization thanks to plain-text error messages

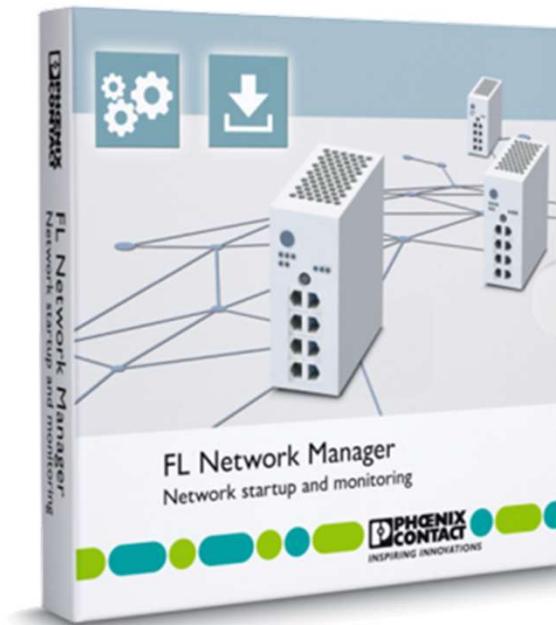


Quick error localization and error-free startup thanks to extensive
debugging functions.

Herramienta de Software para red

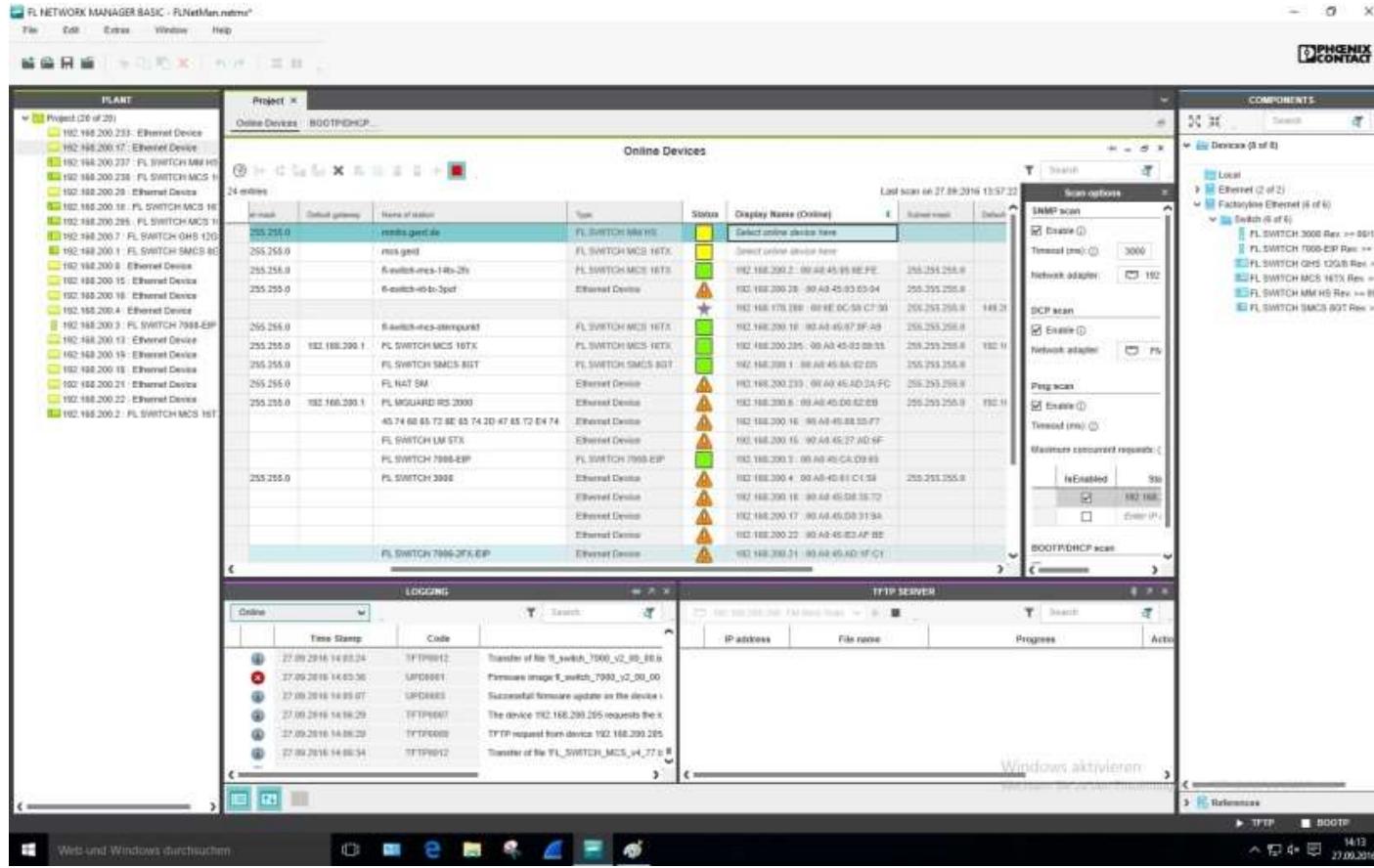
FL NETWORK MANAGER

- With the FL NETWORK MANAGER you are able to get a quick and easy startup of your network . The software supports you with the following functions:
 - Scan of available networks
 - IP Assignment and Multi Device Configuration
 - Configuration File Handling
 - Firmware Update
 - SNMP based scripting



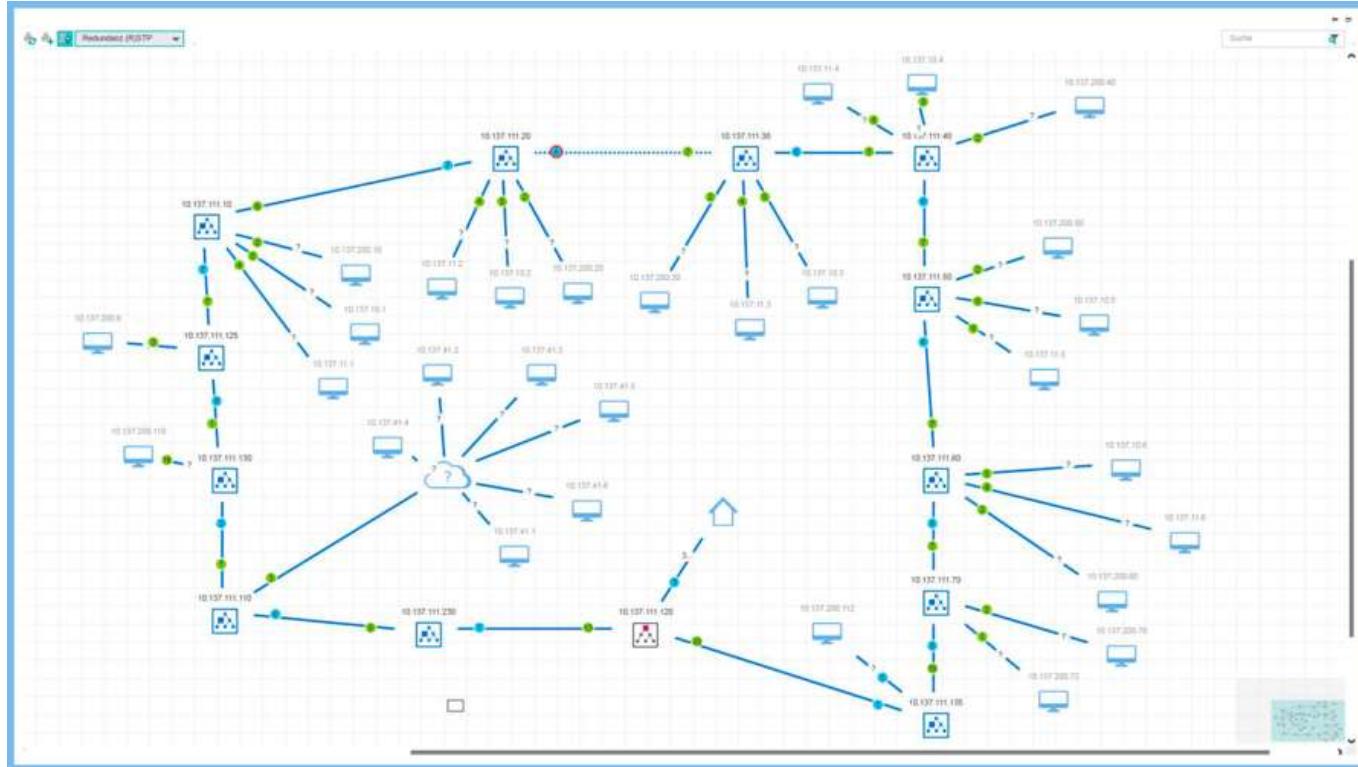
Übersicht der Funktionen des Network Manager

How can the Network Manager help you?



Topology

FL NETWORK MANAGER



Software configurators for OPC

OPC Configurators



Software OPC Visualización

AX OPC SERVER

When all variables of PLC are declared OPC...

Then....

OPC Variables can be used immediatly on

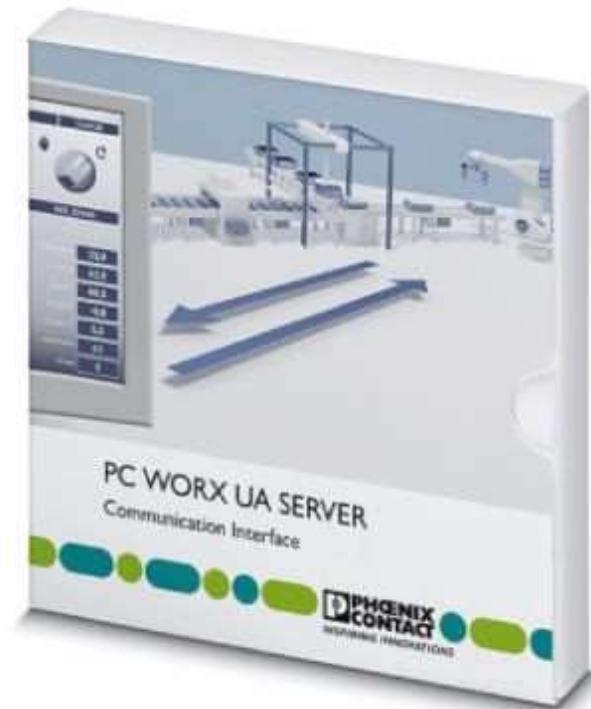
Visualization Software as VISU+

This tool enable communication between PLC and HMI Software



PC WORX OPC UA SERVER

The PC WORX UA SERVER from Phoenix Contact enables you to access all variables of PC Worx programmable controllers via the OPC UA (Unified Architecture) standardized communication protocol.



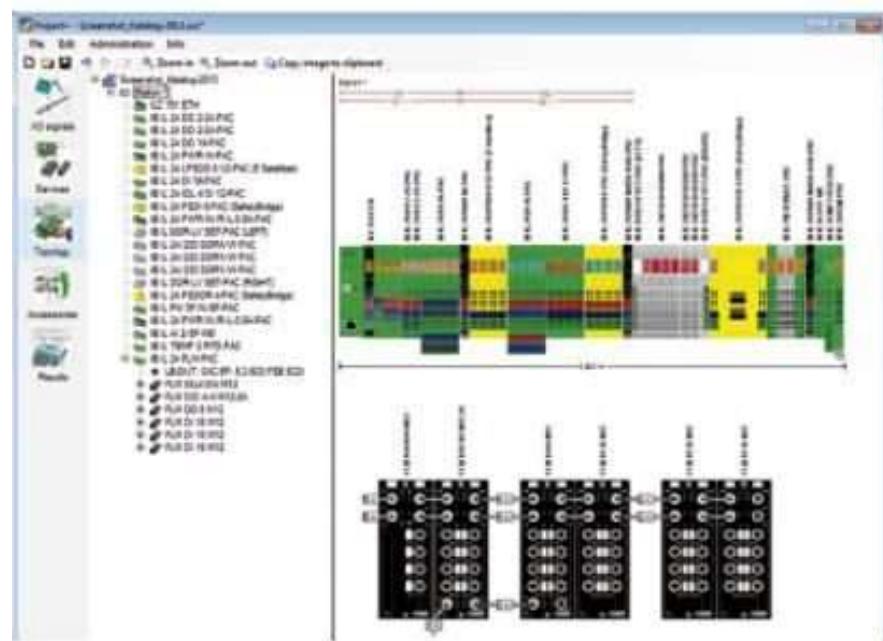
Software and Technologies

PROJECT+ 2.8

PROJECT+ 2.8

Inline Controllers & Buskopples
I/O

Fieldline Modular



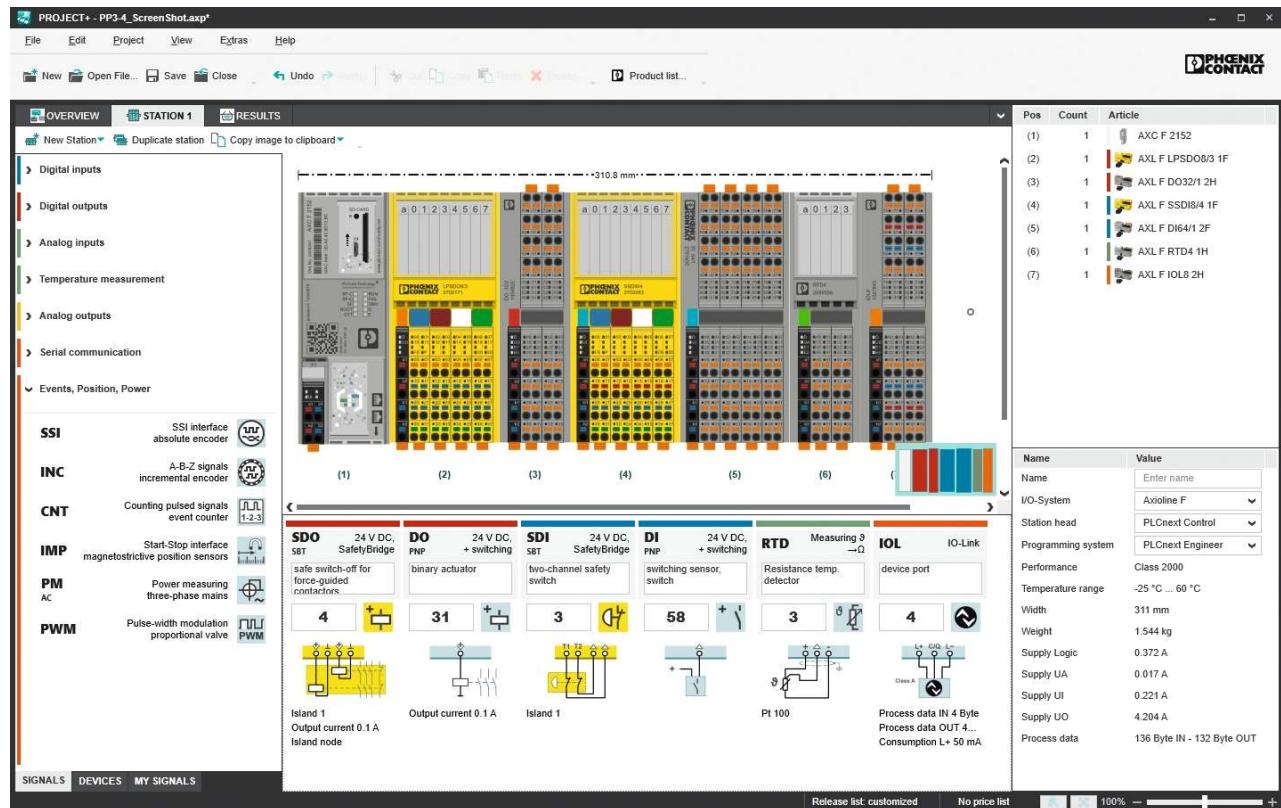
Software and Technologies

PROJECT+

Project+

is a configuration tool that supports you when creating an I/O station as part of the automation of a system, machine or property.

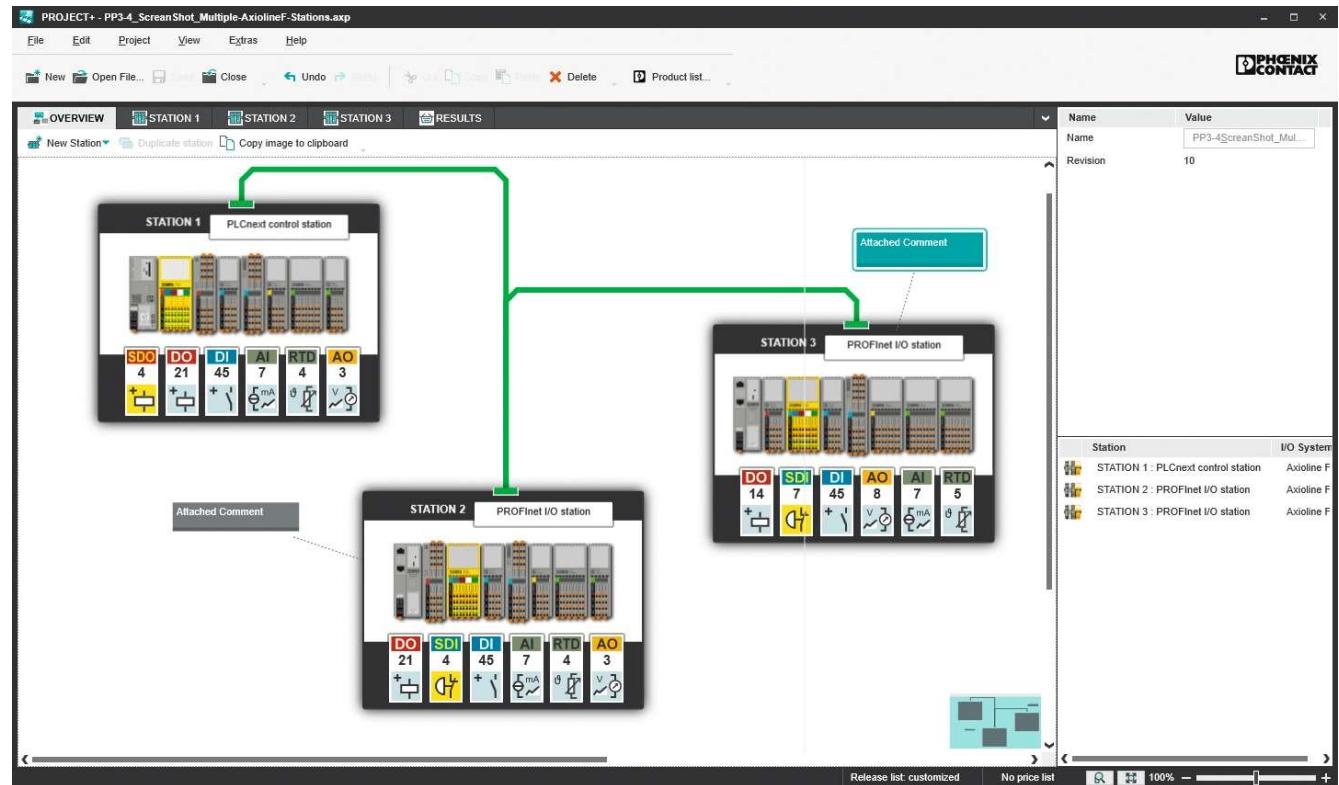
Project + 3: Planning for AxioLine F and Inline I/O stations



Software and Technologies

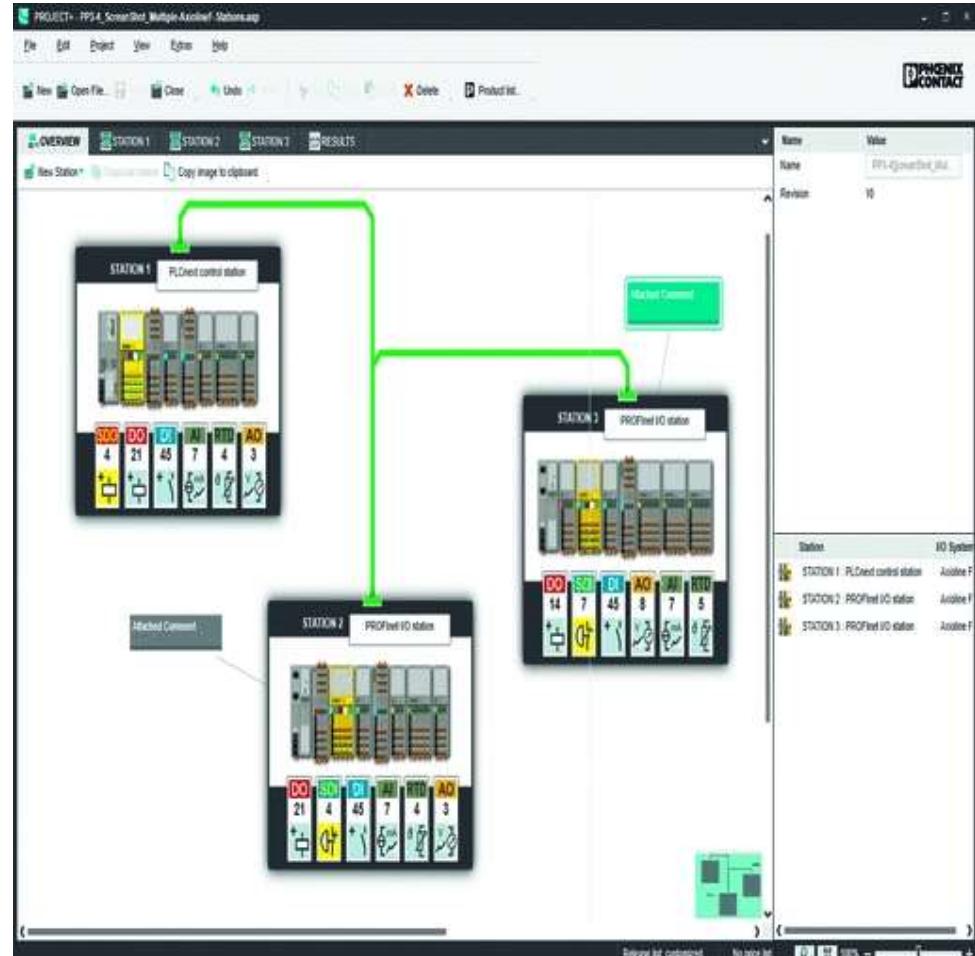
PROJECT+

PROJECT+ I/O Project Planning



Software

PROJECT+

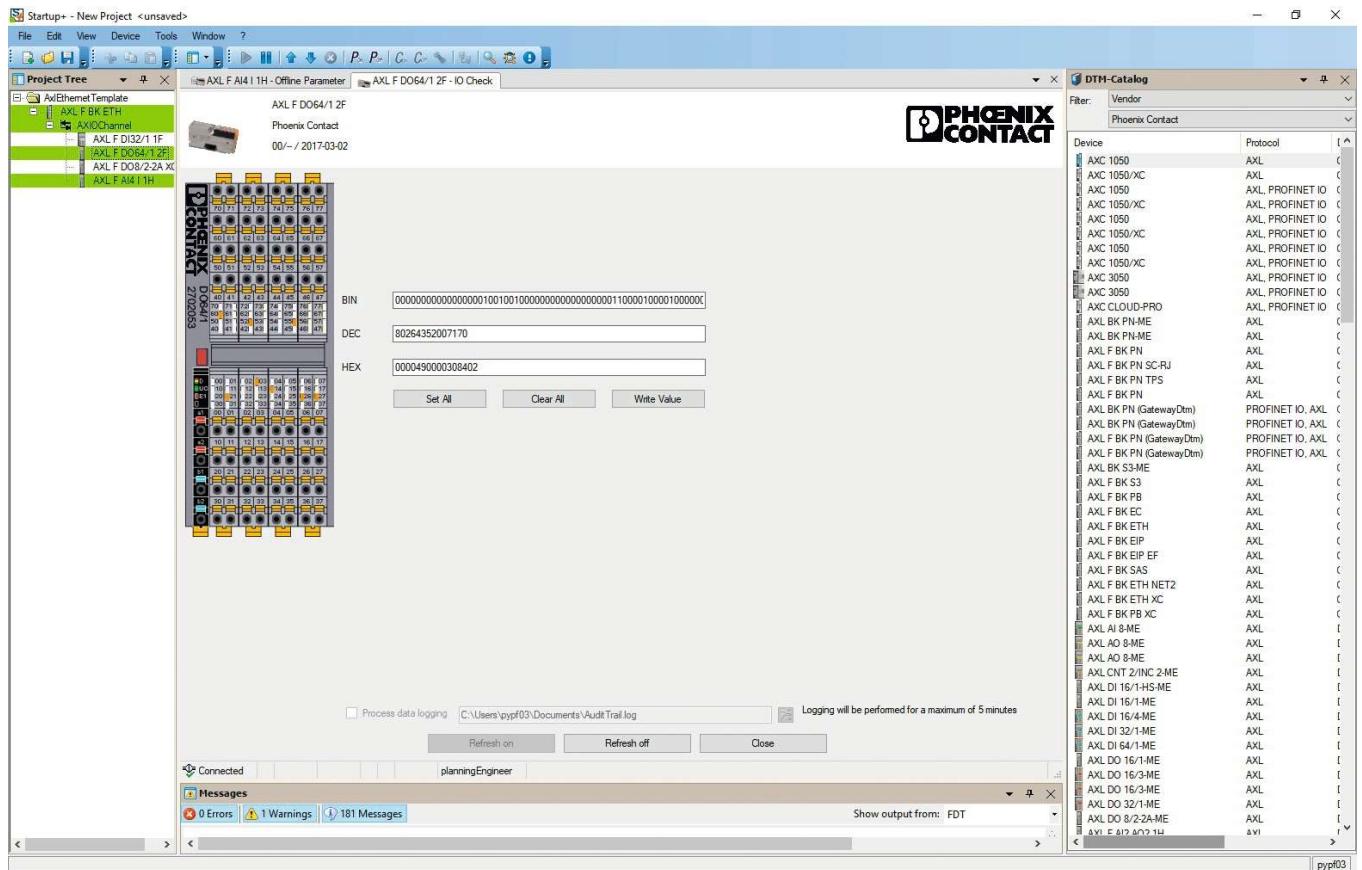


Software for setting Axioline

STARTUP +

Startup+

enables you to quickly and easily establish a connection to an Axioline F station, to configure the connected modules, and to check their wiring (I/O check).



Software

CONNECT+



The Connect+ software can be used to easily start up and maintain automation projects from Phoenix Contact. Connect+ can be extended with various plug-ins that can be tailored to devices and automation solutions from Phoenix Contact.

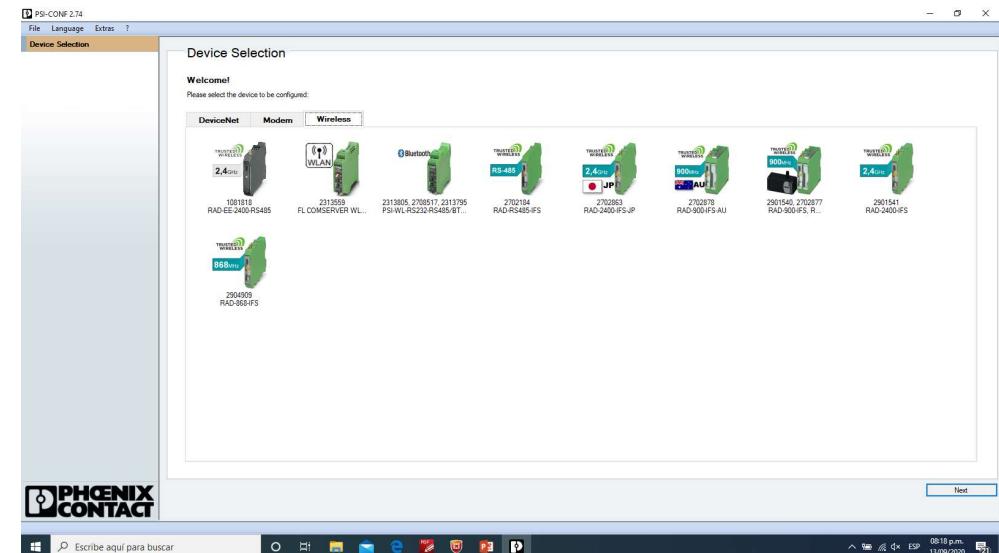
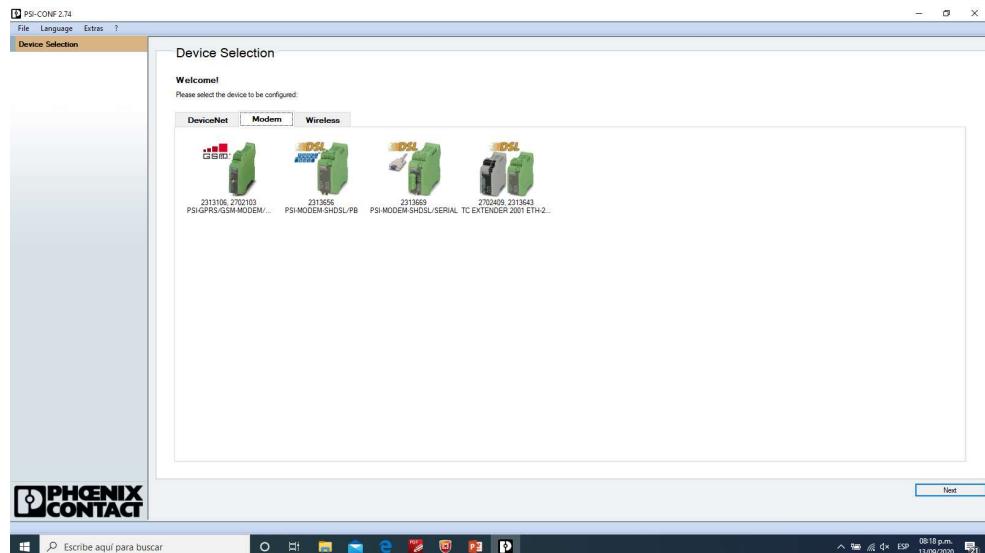
Benefit from the advantages of the free software tool:

- Easy initial configuration of controllers from Phoenix Contact
- Simple startup and parameterization of automation projects



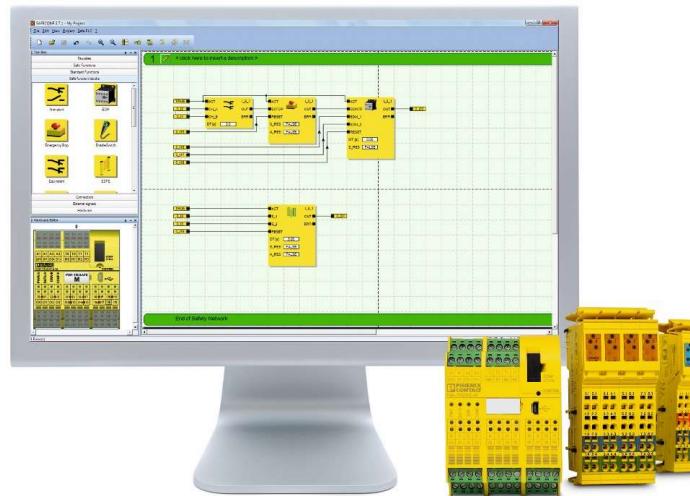
Software for Radioline,... Interface communication

PSI - CONF



Software Functional Safety

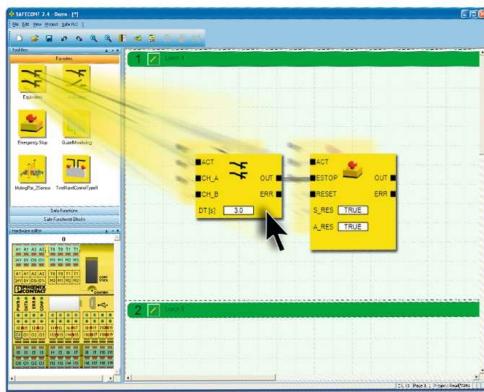
SAFECON



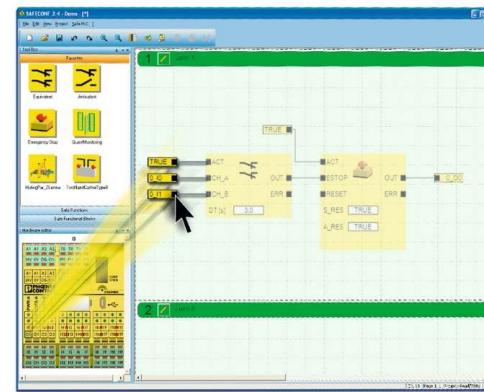
Software Functional Safety

SAFECON

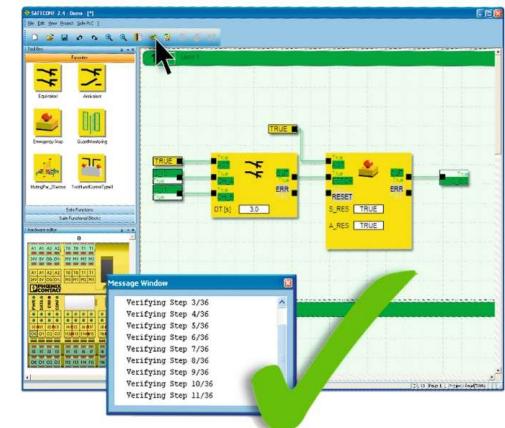
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2

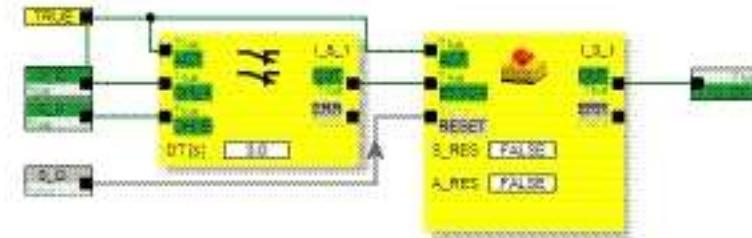
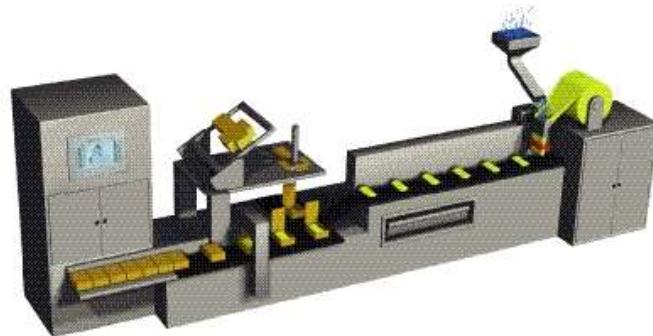
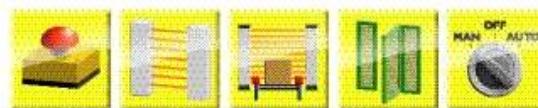


3



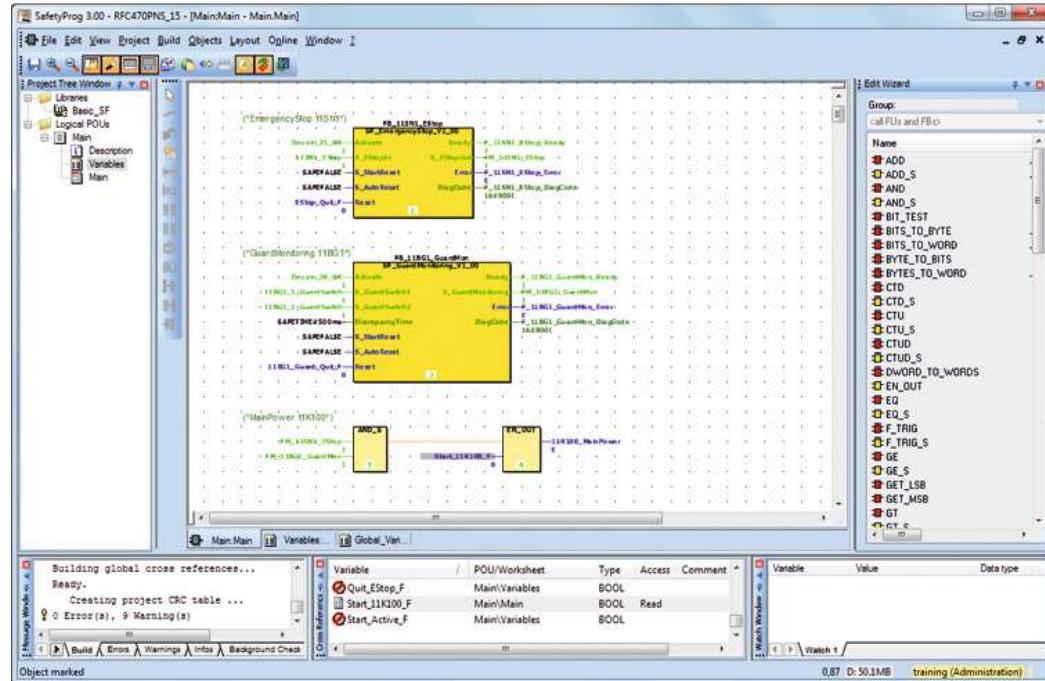
Software Functional Safety

SAFECON



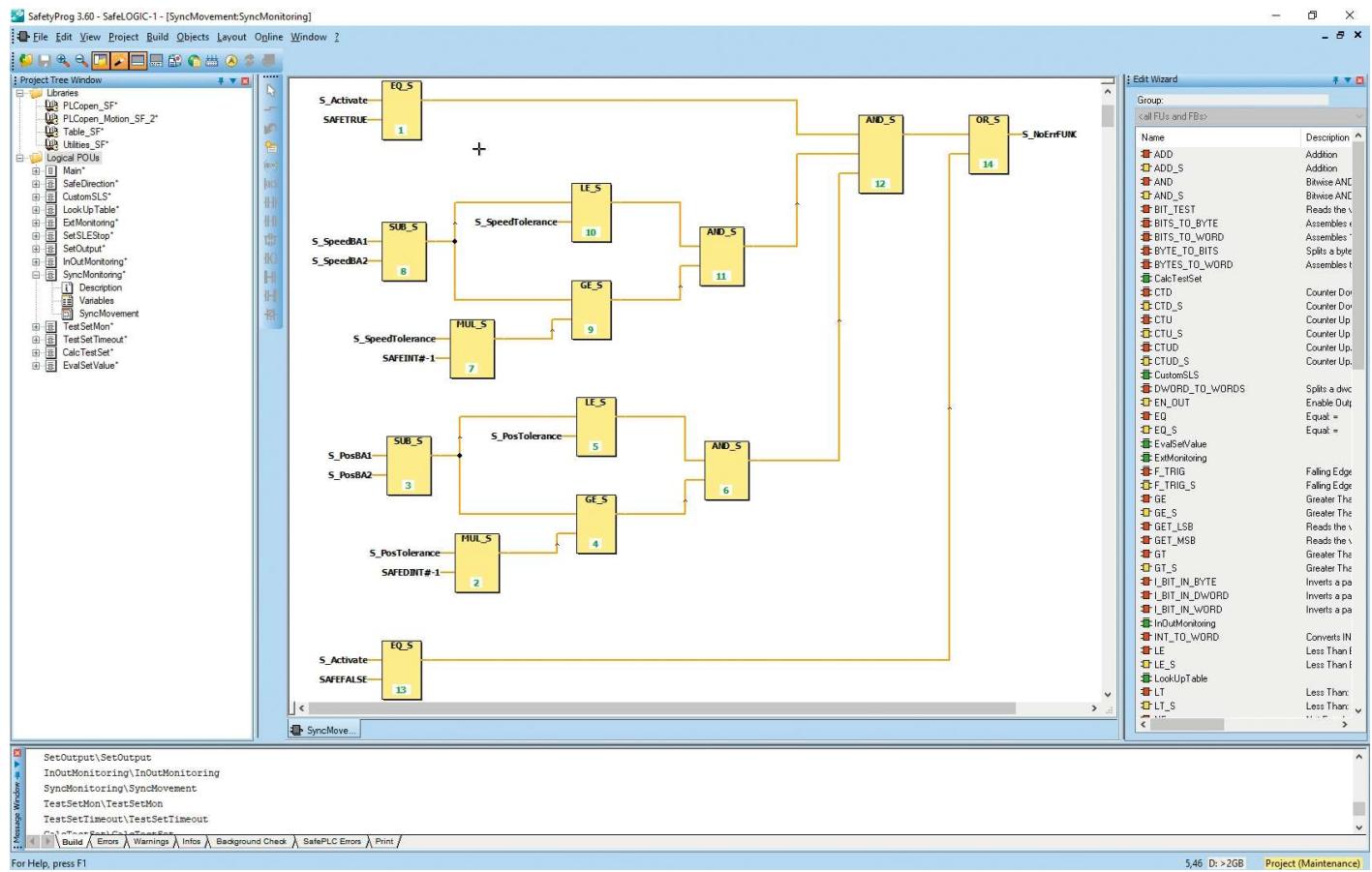
Software for Safety Controllers

SAFETYPROG



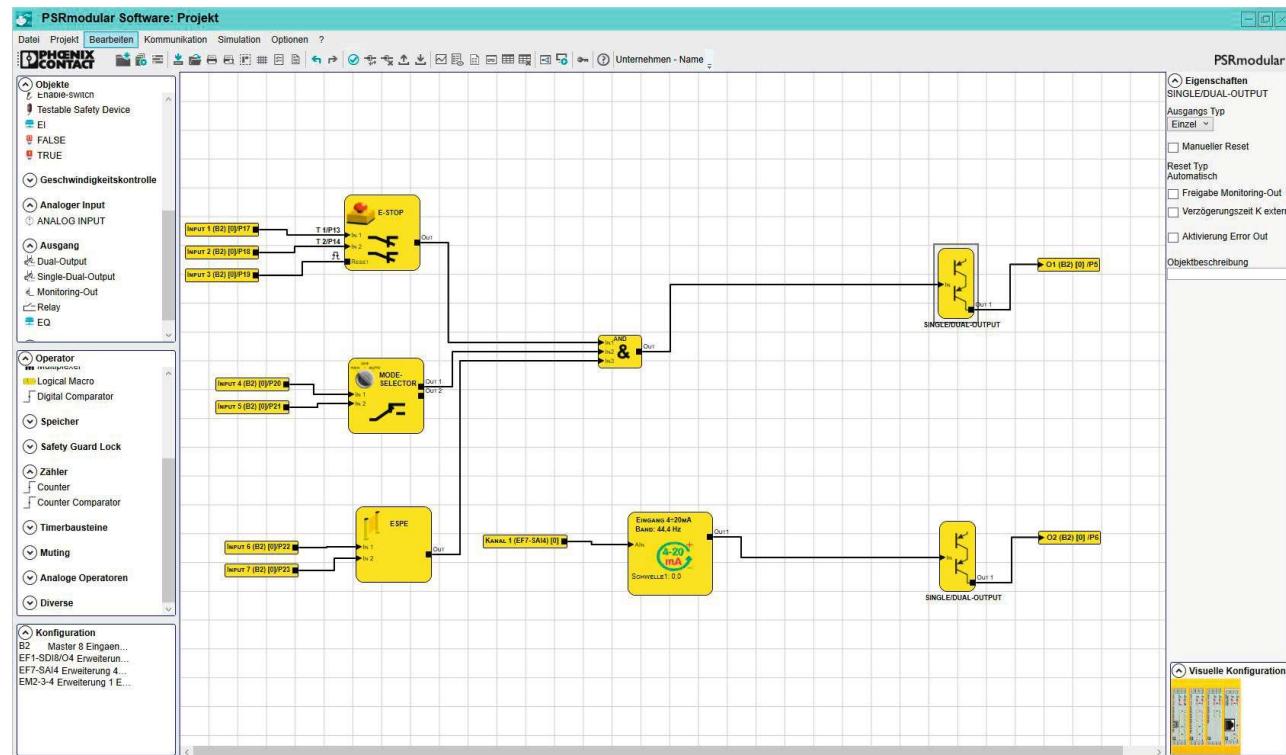
Software for Safety Controllers

SAFETYPROG



Software

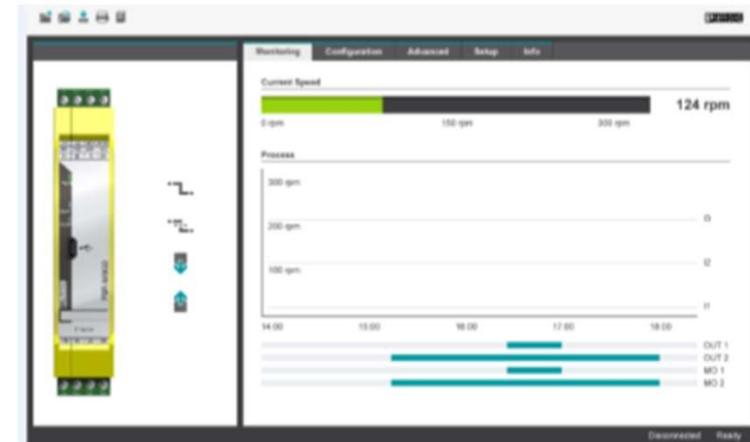
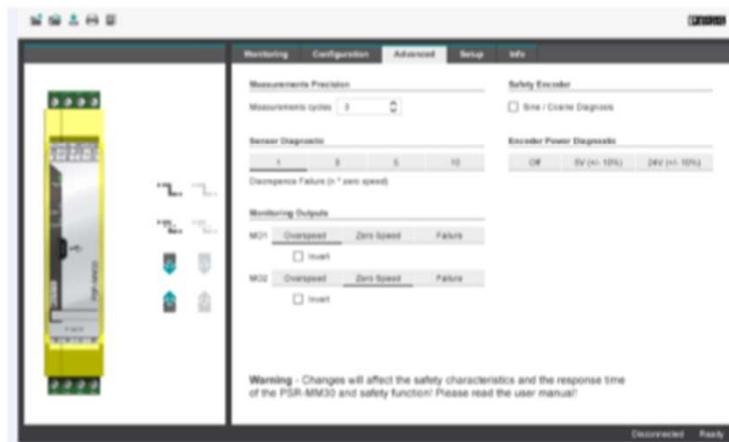
PSRmodular Software



Software Safety

PSRmotion

new



Easy configuration

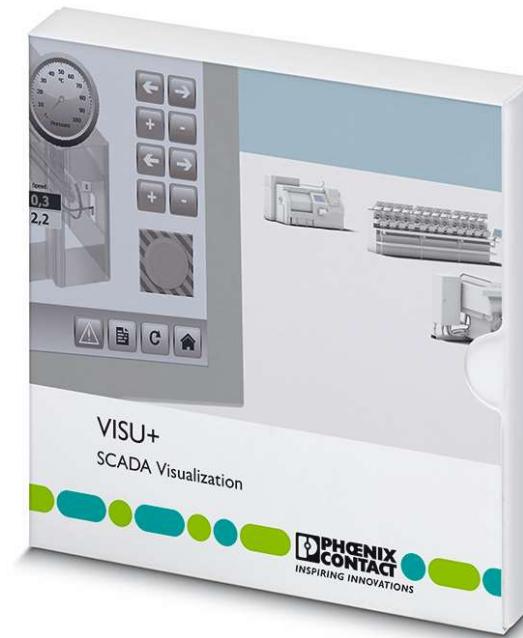
Online monitoring



Softwares de Visualización

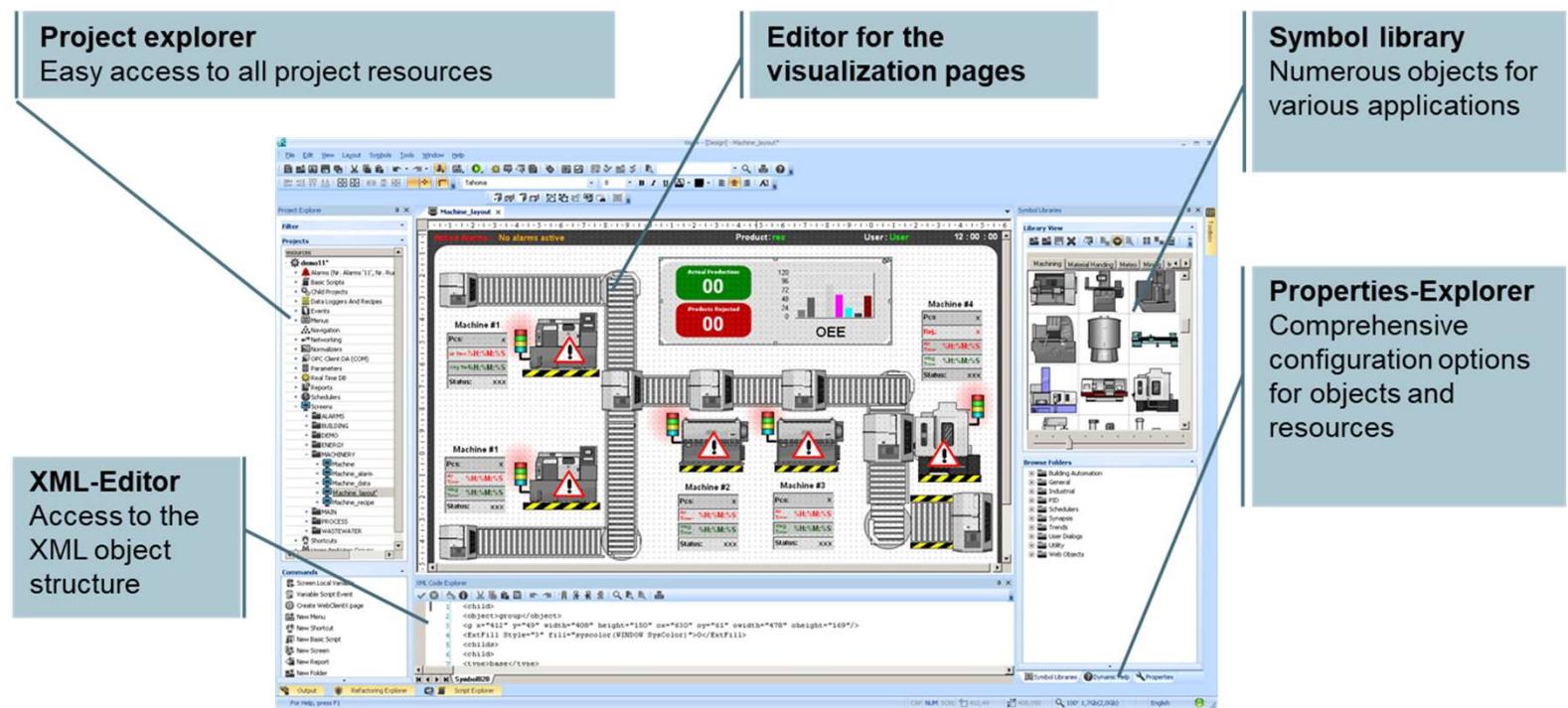
VISU+ EXPRESS

VISU+



Softwares Visualización

VISU+

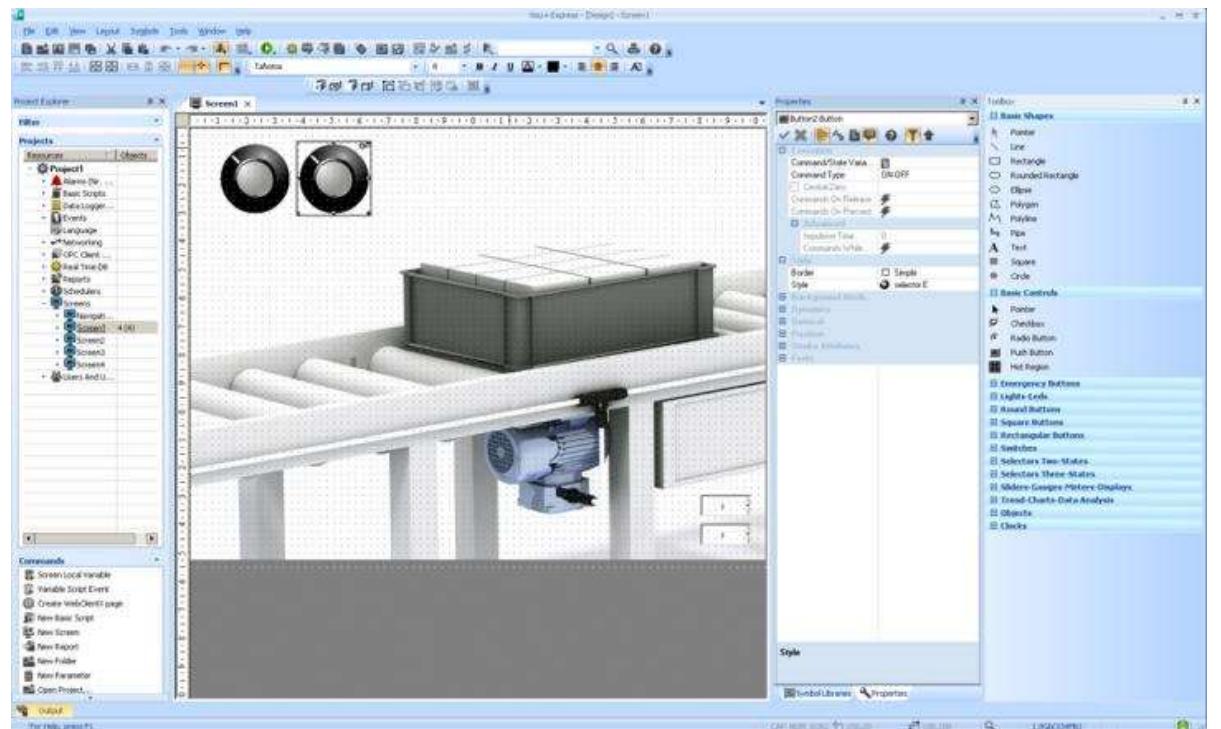


Effective engineering in a modern environment

Design Software

- EXPRESS is FREE
 - Free download
 - Search for 2402774
- Scalable
 - Derived from SCADA package
 - High quality graphics
 - Simplified user interface
- Advanced
 - Alarming
 - Trending
 - Data Logging
 - Recipe Handling
 - Remote Screen Access
 - ...

VISU+ Express
HMI Visualization



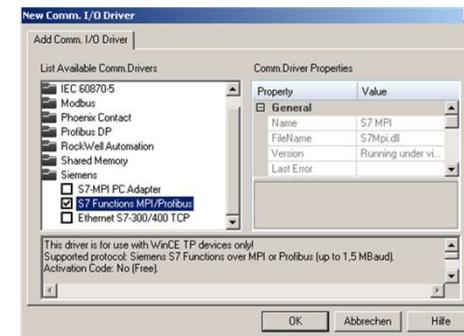
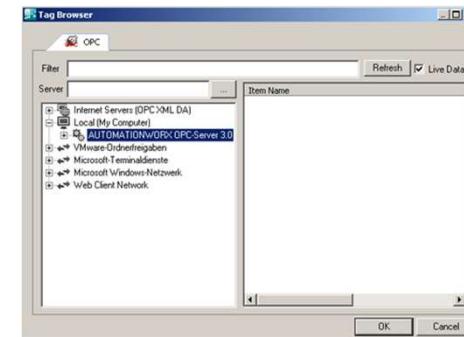
VISU+ / VISU+ Express – communication drivers



VISU+ | Connection to the PLC

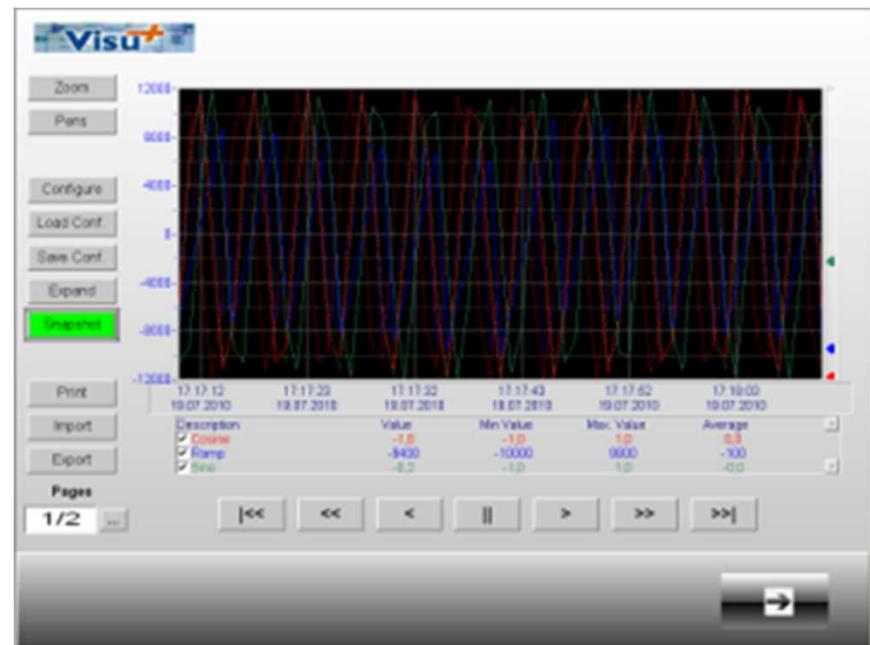
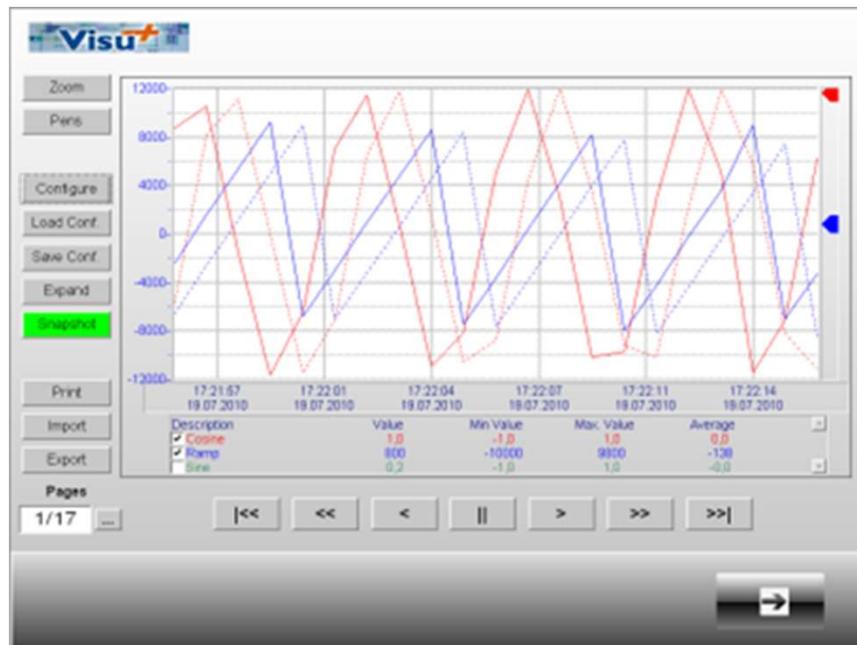
Various possibilities

- OPC Connection
 - In conjunction with the AX OPC Server
- Connection with a direct driver
 - Siemens S7 (TCP und MPI)
 - Allen Bradley (EthernetIP)
 - Profibus
 - ModBus TCP und RTU
 - CANopen
 - Phoenix Contact-PLCs



Softwares Visualización

VISU+

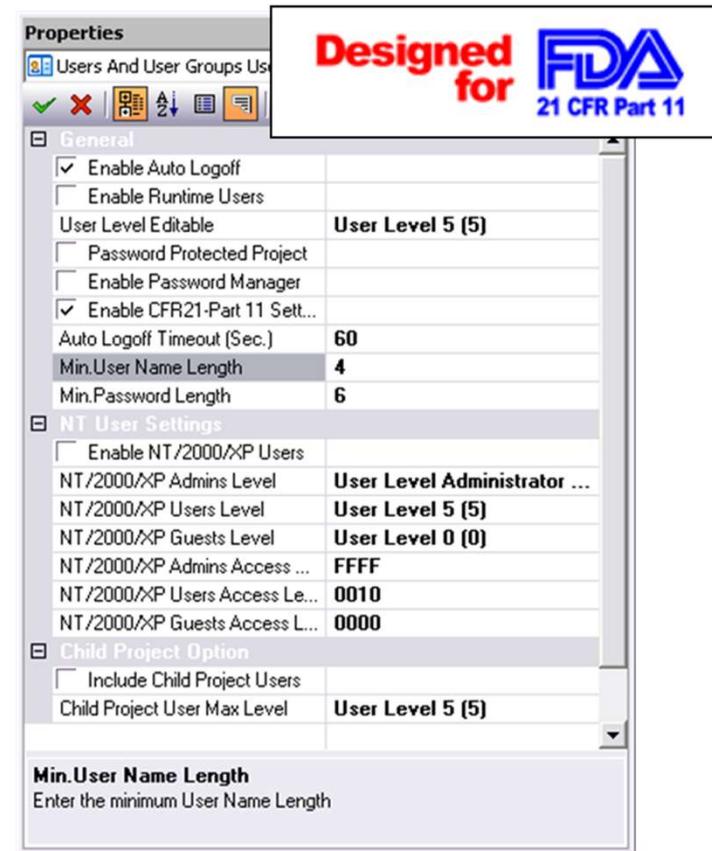


VISU+

FDA 21 CFR Part 11

VISU+ supports FDA CFR21 Part11 functions, even on WinCE HMIs

- Tracing and Audit Trail management for recording every process data variation, value monitoring, complete range of information relating to user names, electronic signatures, previous values, motive and more.
- Security management. Users and passwords with access to commands at 1024 levels and/or 16 areas. Automatic Operating System Access Control functions.



VISU+

Alarm management

- Integrated event and alarm notification management on WinCE HMI devices.
- Up to 1024 alarm priorities
- Various filter options for the alarm representation
- Alarming and event handling are easily customizable with VBA
- Alarm up dimming and acoustic alarming integrated in HMIs

Historicals Events		
Event Text	Event Time	Duration
Low Level Water - Warning	16.07.2018 17:07:22	0
High Level Water - Warning	16.07.2018 17:07:22	0
Low Level Water - Warning	19.07.2018 17:07:33	0
Low Level Water - Warning	19.07.2018 17:07:33	265904
Emergency Water - Warning	16.07.2018 15:15:49	3795483

ALL1	ALL2	ALL3	Severity	Status
Emergency ON	16.07.2018 17:		S	ON
High Level Water - Warning!	16.07.2018 17:07:22		S	ON
Low Level Water - Warning!	19.07.2018 17:07:33	265904	S	ON

Software Visualization

Websit 6

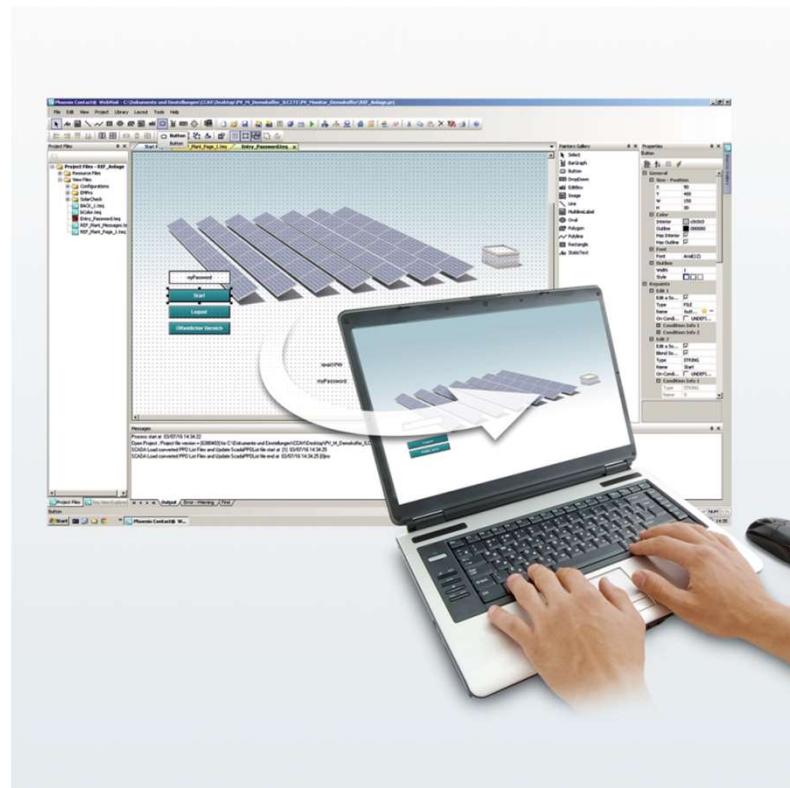
WEBVISIT
Web Visualization



Software Web development

Webvisit – your advantages

- Intuitive
- Can be used via standard browser
- Inexpensive
- Import directly from PC WORX
- For all controllers with an integrated web server



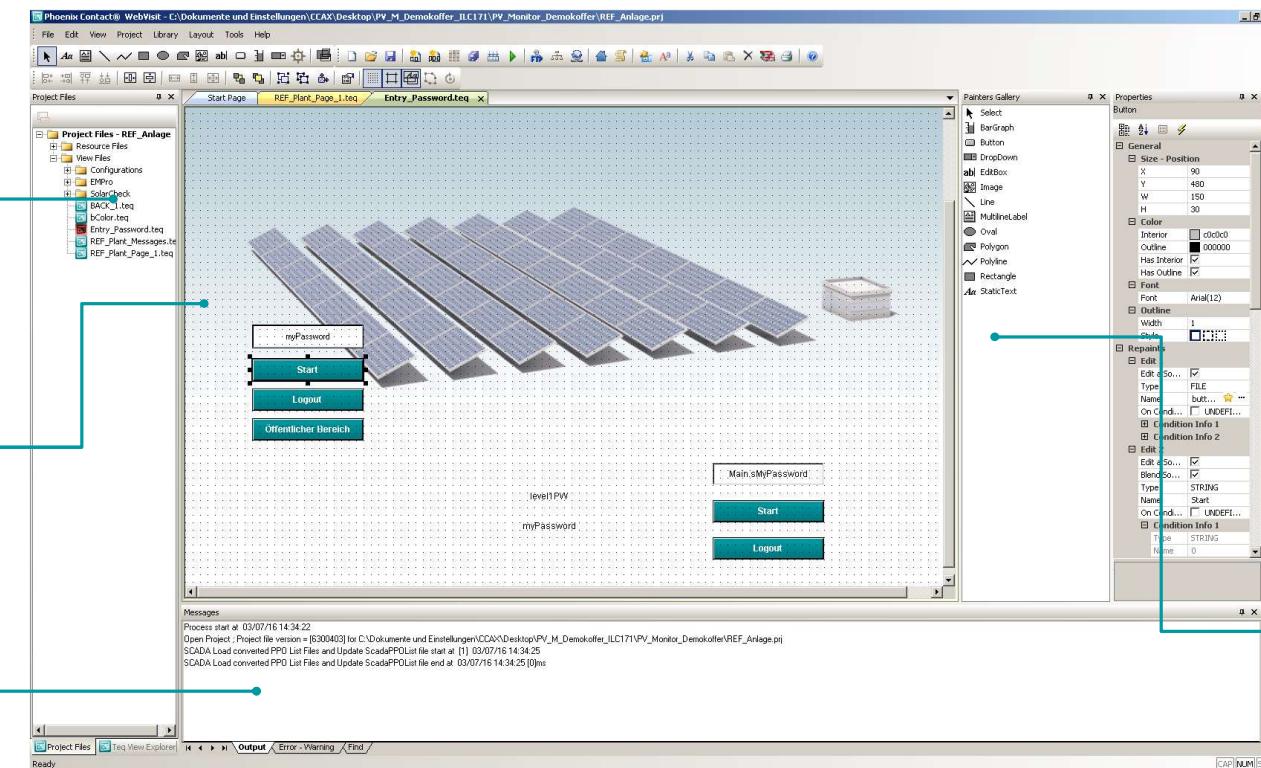
Software Development

Webvisit – At a glance

Project explorer
(visualization pages,
objects,...)

Editor for the
visualization pages

Output window

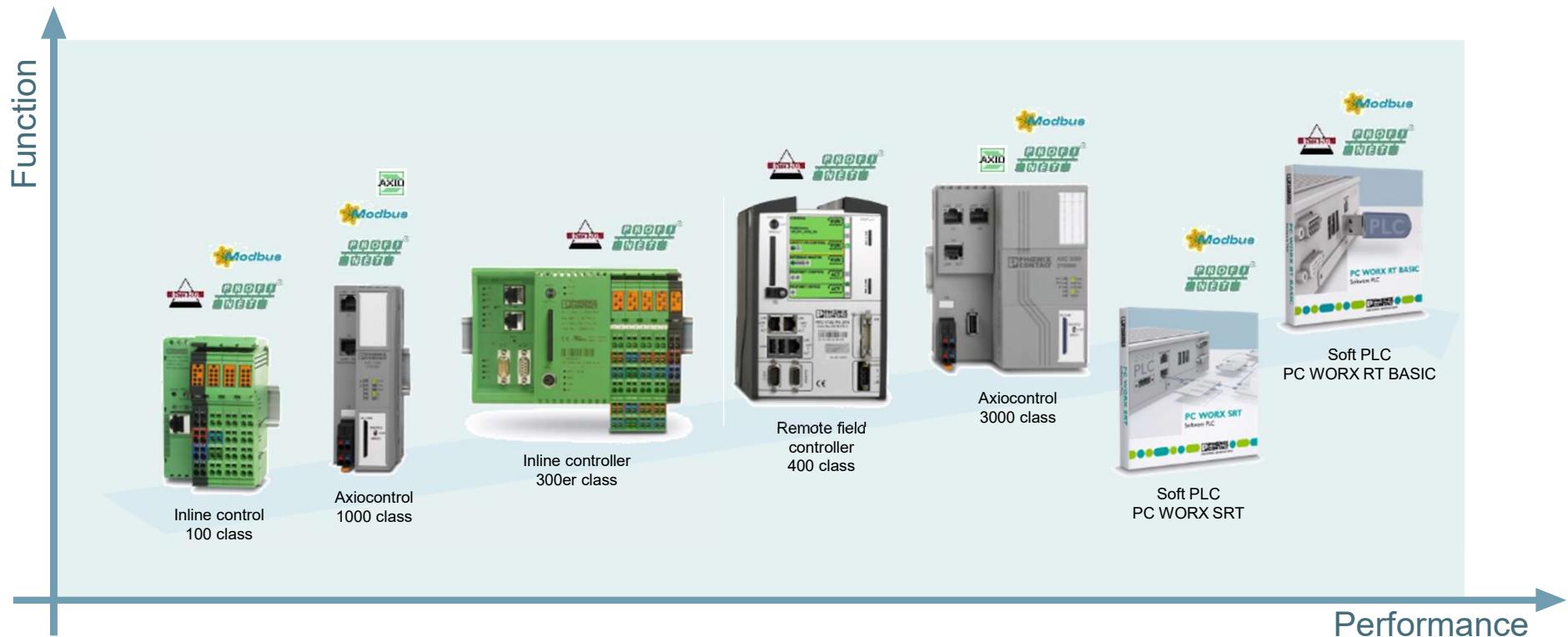


Macro gallery
(comprehensive
system library)

Toolbox
(basic graphical
elements)

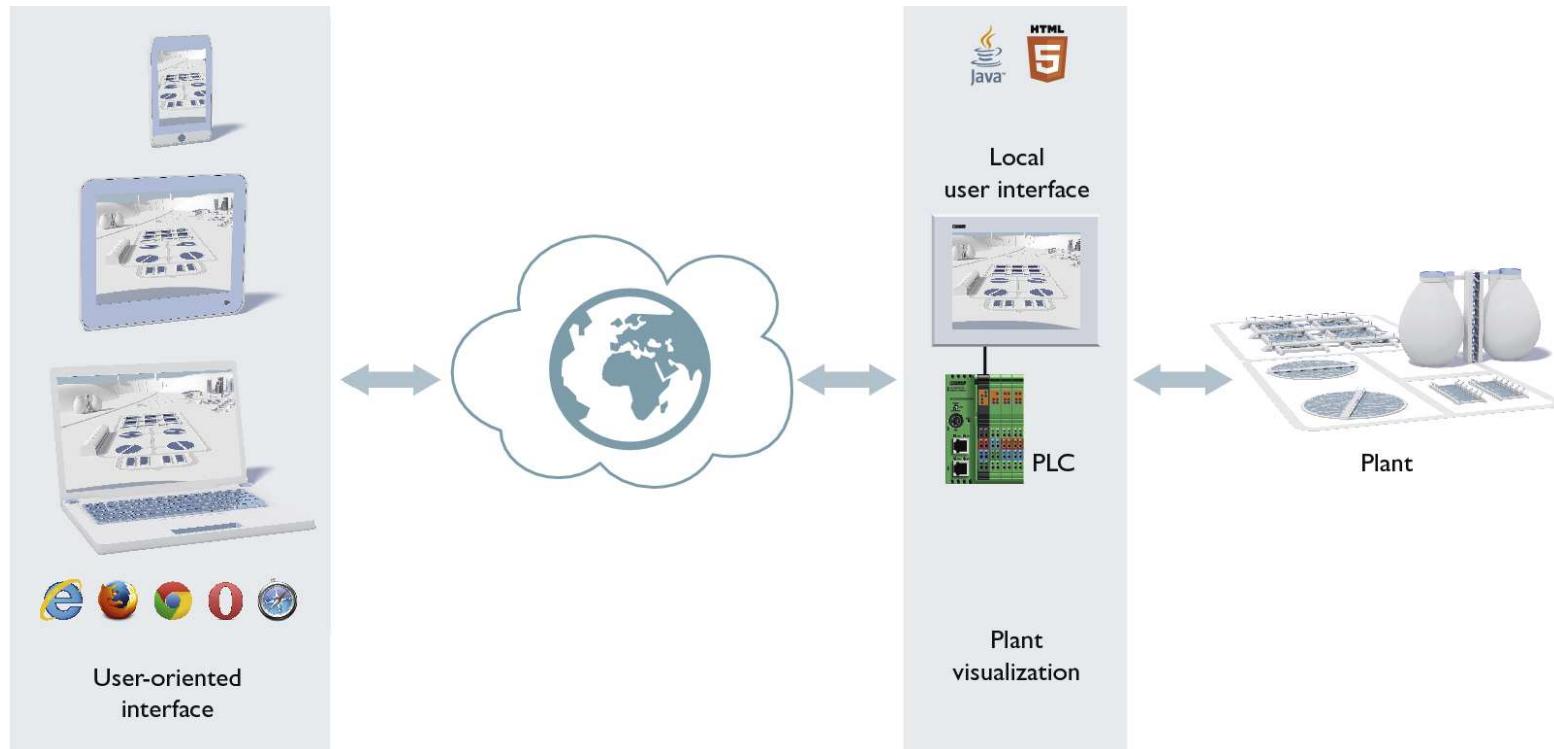
Software development for web server controller

Webvisit - Compatible controller



Software development

Webvisit - Topology



AUTOMATIONWORX Software Suite

A complete application in just a few steps



- Creating visualization pages using the Webvisit editor
- Importing and linking variables from PC WORX, if required
- Downloading the completed project to the controller
- Viewing the application with HMIs (MicroBrowser) or standard/mobile browser



Technology

PROFINET



Process Automation



- Oil & Gas & Energy Industries
- Chemical and Medial Industries
- Mines und Metal Industry
- Food & Beverage
-

Factory Automation



- Wind Turbines
- Assembly Machine and Textile Industry
- Automotive
- Automotive-Conveying
- Water / Wastewater and Recycling
- Shipbuilding
- Traffic and Railway
- Buildings
- Logistics, Transportation
-

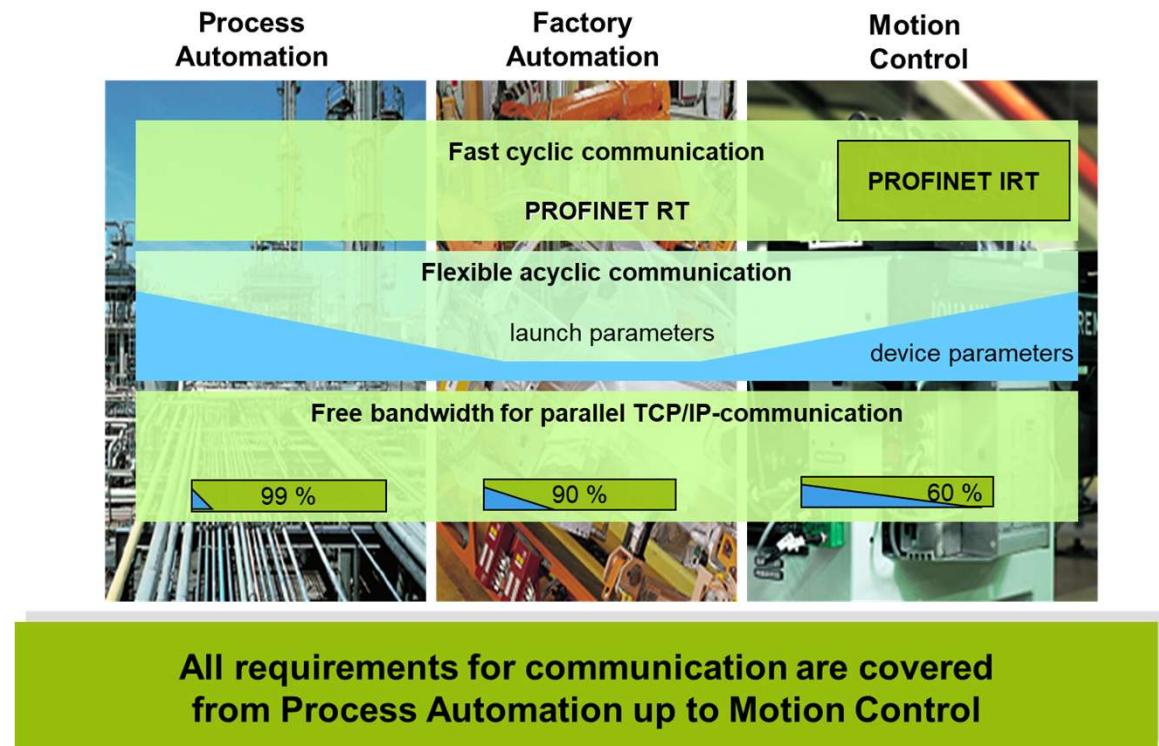
Motion Control



- Printing Machinery
- JOHANN A. KRAUSE BRE
- Machines for Wood, Ceramics and Glass Production
- Plastics
- Packaging
-

Technology

PROFINET Flexible and scalable communication

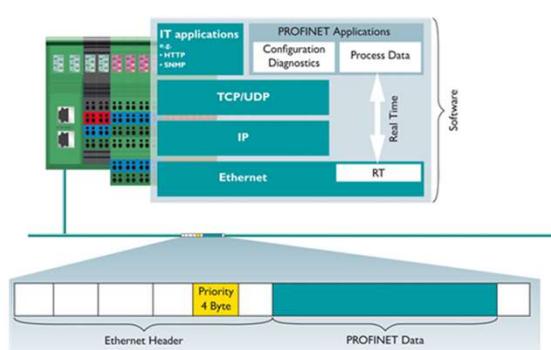


Technology

PROFINET Scalable technology

PROFINET RT

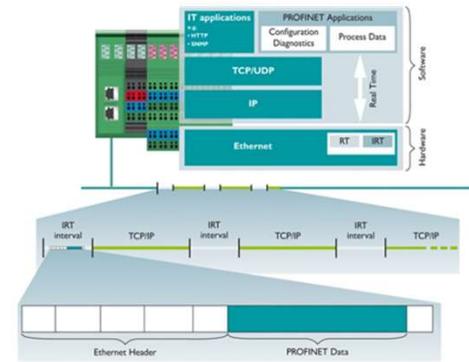
for all markets and applications



Update times $\geq 250 \mu\text{s}$
unsynchronized applications

PROFINET IRT

for motion control applications and synchronous IOs



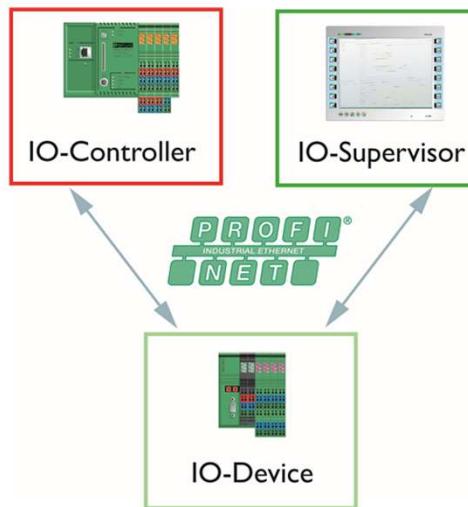
Update times $\geq 32,5 \mu\text{s}$
synchronized applications

Same Look&Feel for the user (TCP/IP, diagnostics,...)
Both technologies can be combined

PROFINET Communication Partners

PROFINET IO-Controller:

- Starts communication and configures field devices
- Cyclic and acyclic data exchange with the IO-Device
- Receives alarms from the IO-Device



PROFINET IO-Supervisor:

- Parallel configuration
- Reading diagnostics

PROFINET IO-Device:

- Cyclic and acyclic data exchange with the IO-Controller
- Sends alarms to the IO-Controller

Conformance Classes

CC-B

PROFINET RT with

- Profinet Diagnostics
- Cyclic and acyclic communication
- SNMP based diagnostics
- Topology recognition
- Automatic device exchange
- Only wired communication

PROFINET IRT with

- highest performance
- synchronicity

CC-C

PNO- Certified IO-Controller/ Devices
and Infrastructure/Cabling

PROFINET RT with

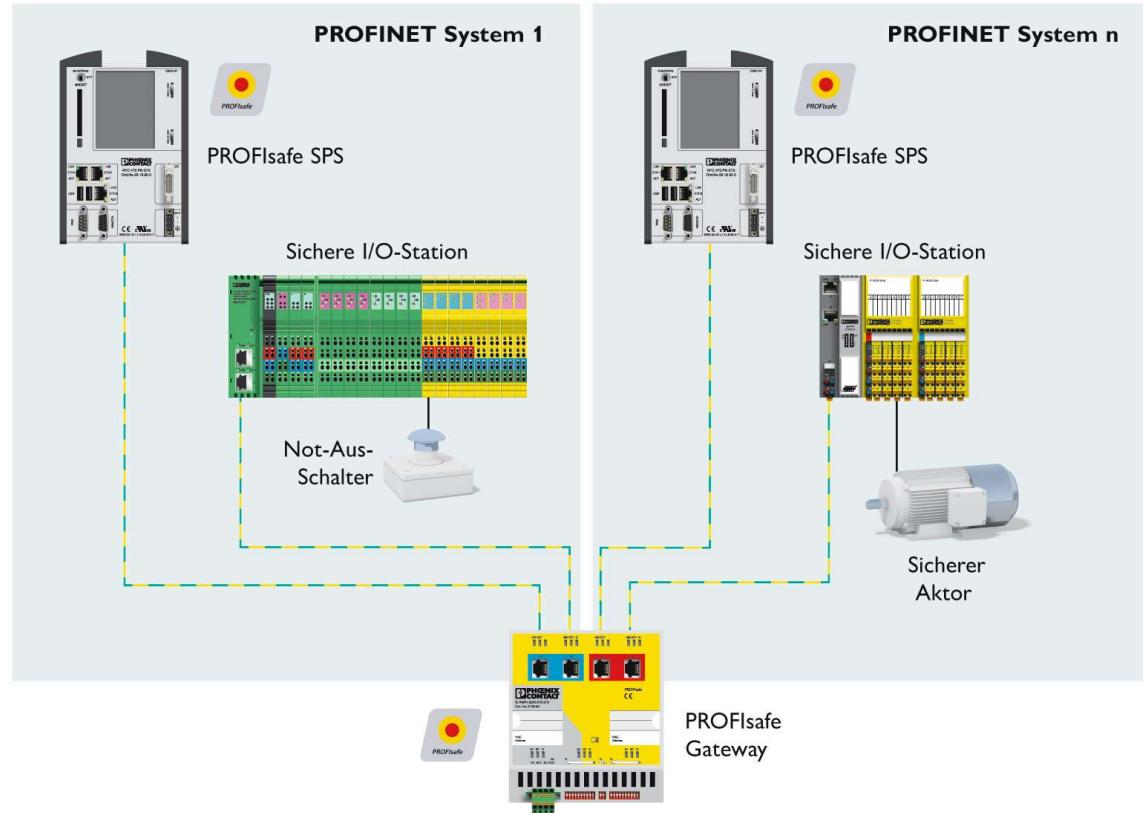
- Cyclic and acyclic communication
- Profinet Diagnostics
- no topology recognition
- Wired and Wireless - communication

CC-A

Certified IO-Controller and Devices
IEEE Infrastructure/Cabling

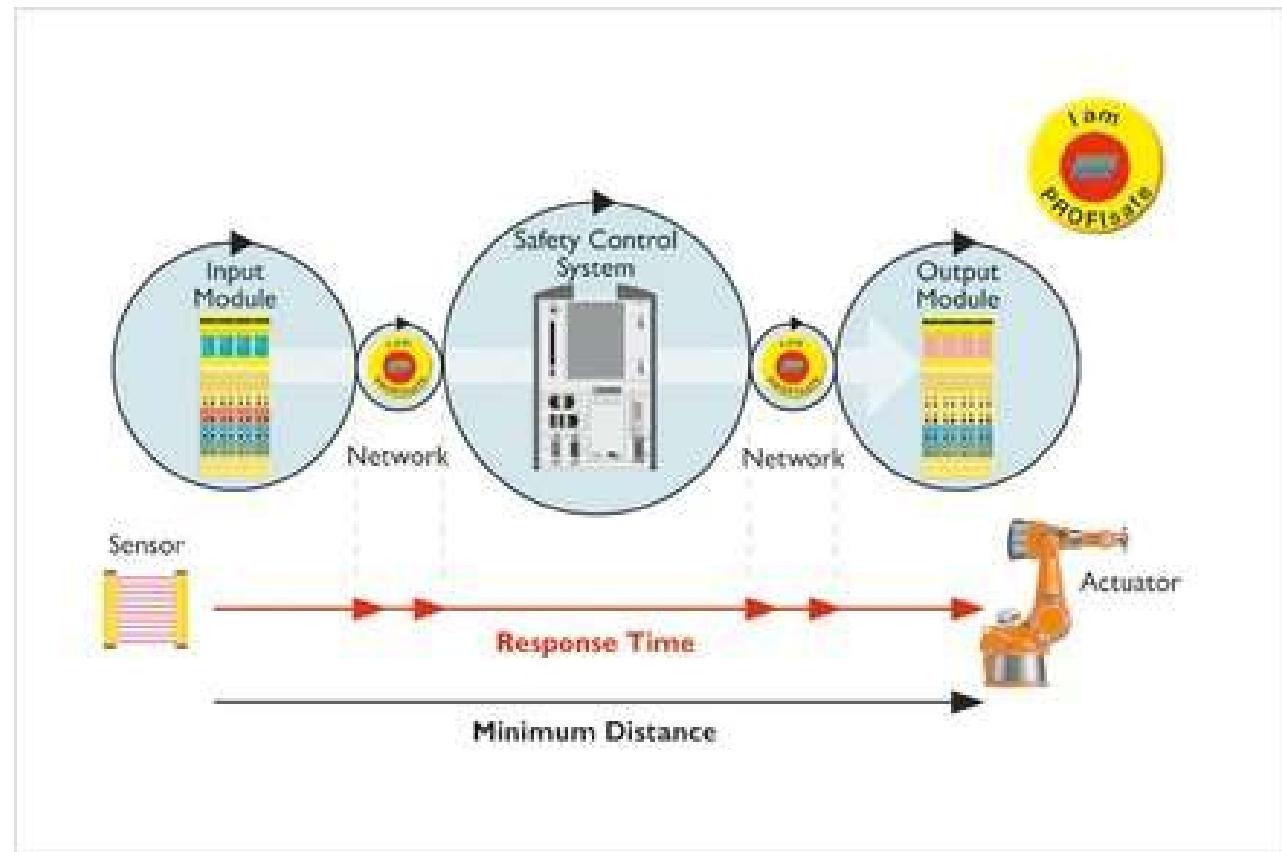
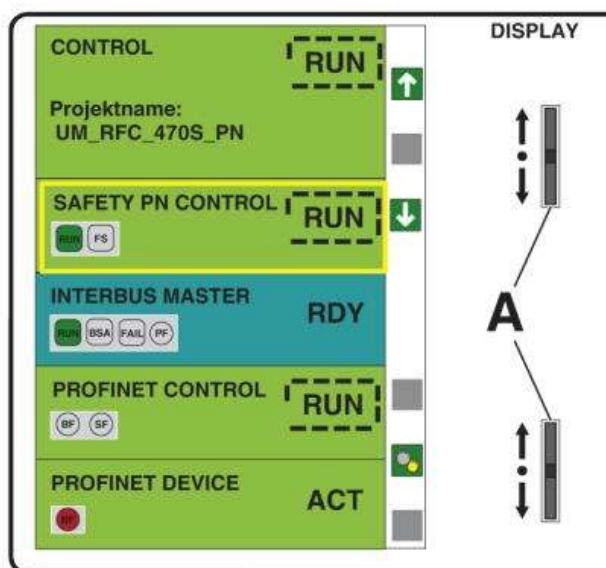
Technology

PROFISAFE

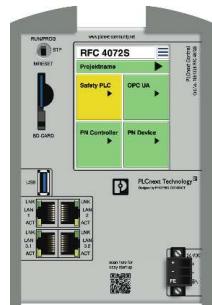


Technology

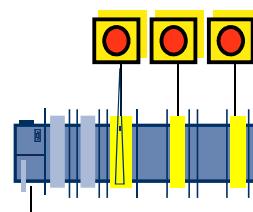
PROFISAFE



RFC 4072S
(F-Host)



Emergency Stop

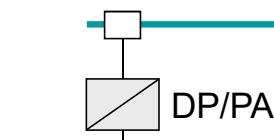


Safety I/Os

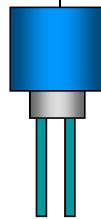
Standard I/Os



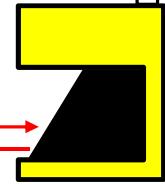
Standard and safety devices in common ethernet network



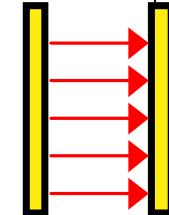
DP/PA



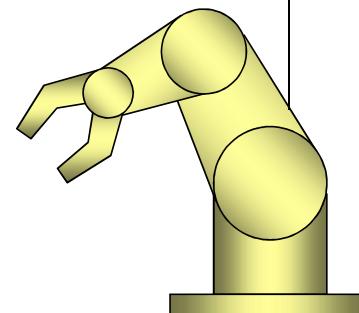
Limit switch



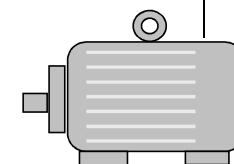
Safety
Scanner



Light curtain



Robot

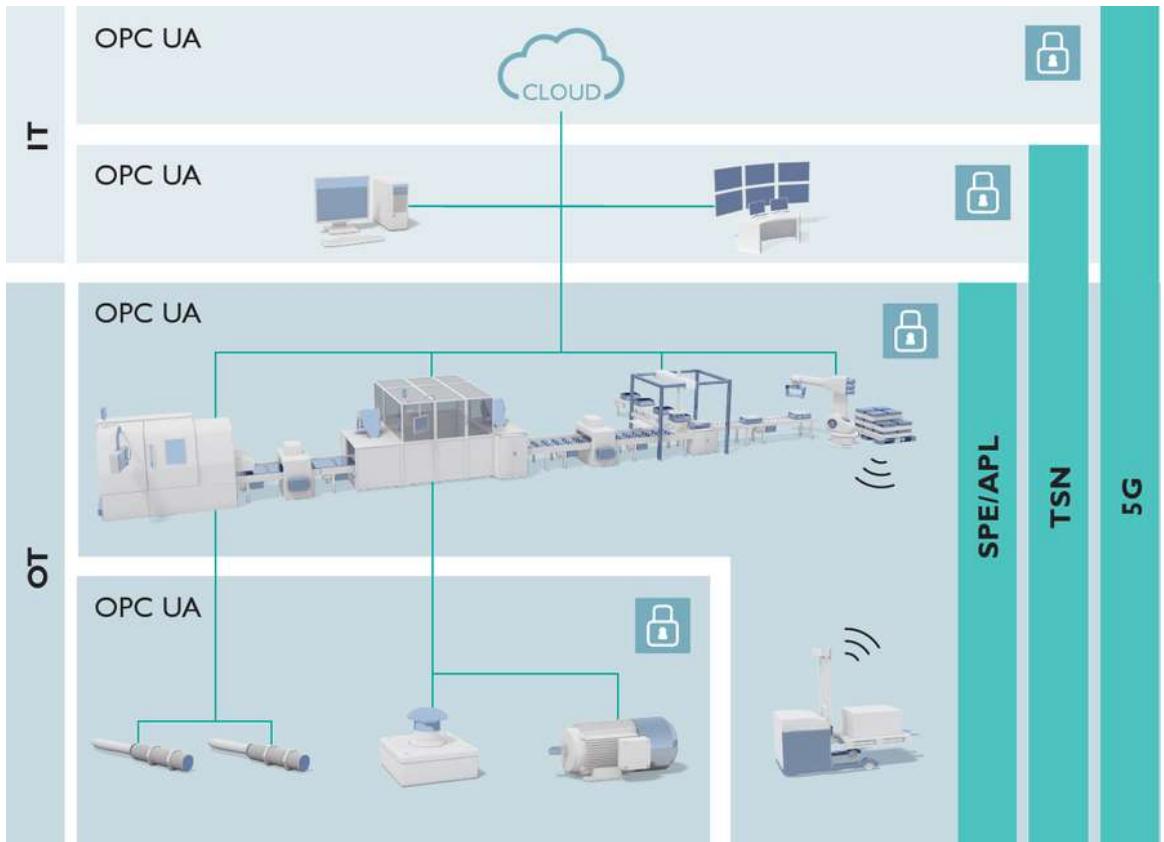


E Motors

Software and Technology initiative

OPC UA

The basic framework for the future of industrial communication technology is currently being developed across a large number of committees and standardization projects. New communication standards such as OPC UA, TSN, SPE, and 5G will be far superior to previous systems in terms of costs, data throughput, latency and determinism.



The new technologies TSN, SPE/APL, 5G, and OPC UA, are not to be considered as being independent of each other – rather, together they will form the communication of the future

Technology

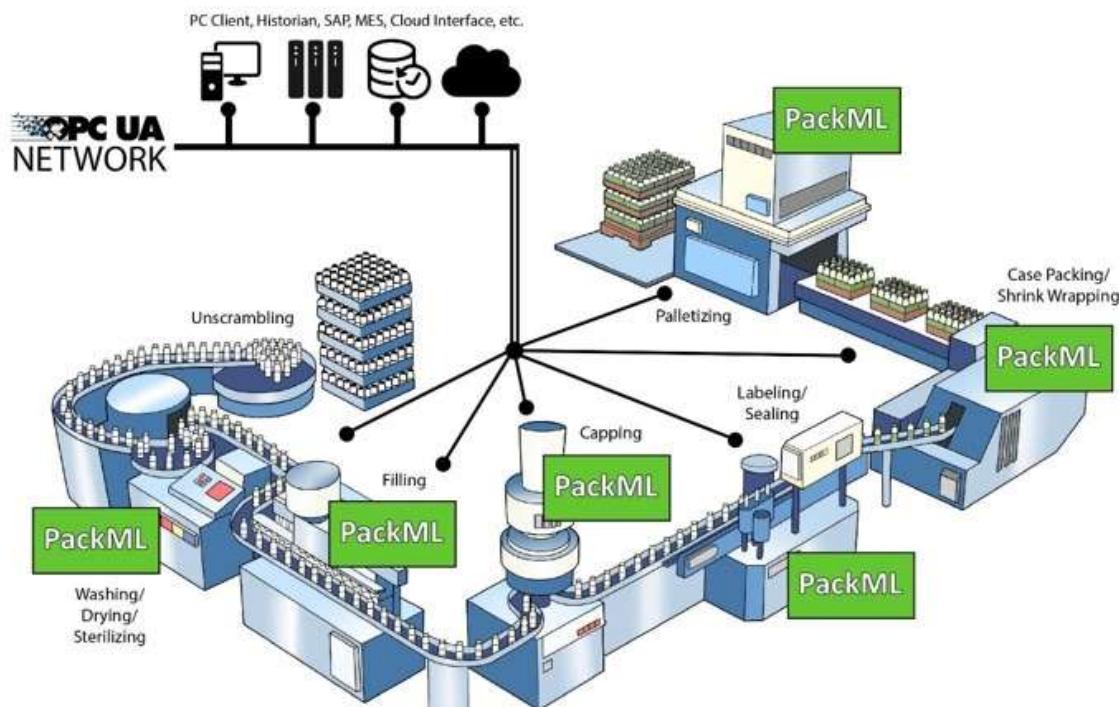
OPC UA

OPC UA is already used as the superordinate communication standard in systems. OPC UA is now being expanded through the addition of standardized application profiles in the field, for example for I/O, safety, and motion.



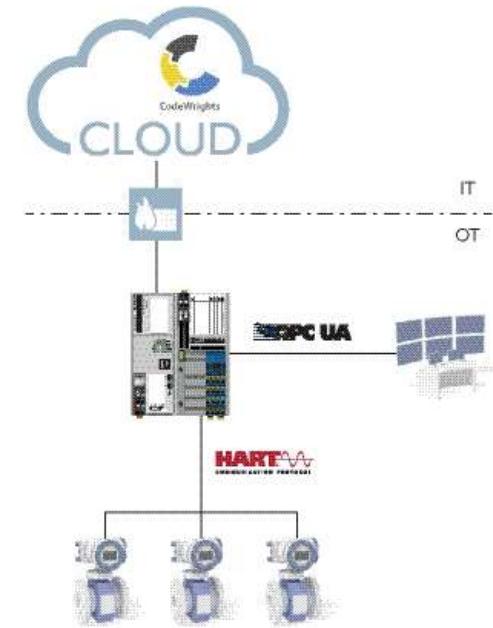
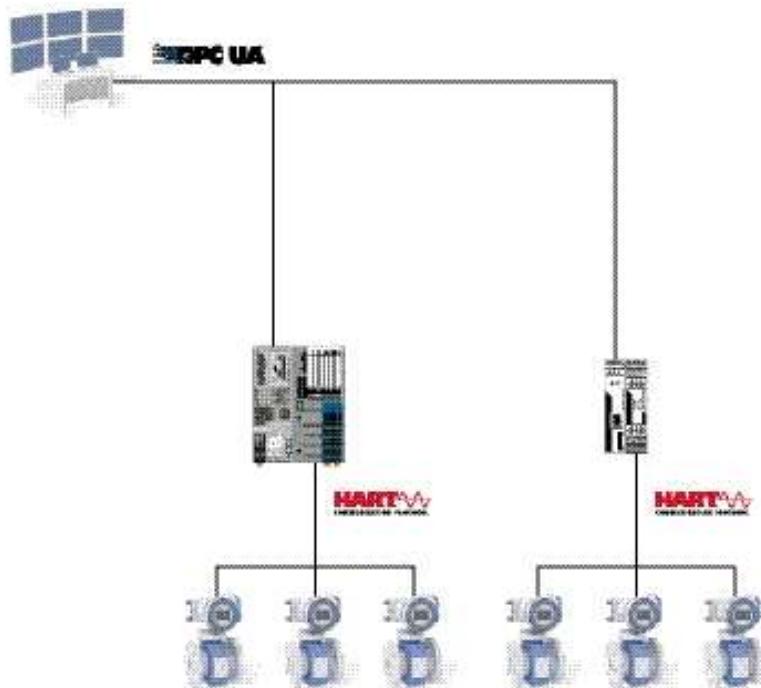
Technology

OPC UA Arquitecture



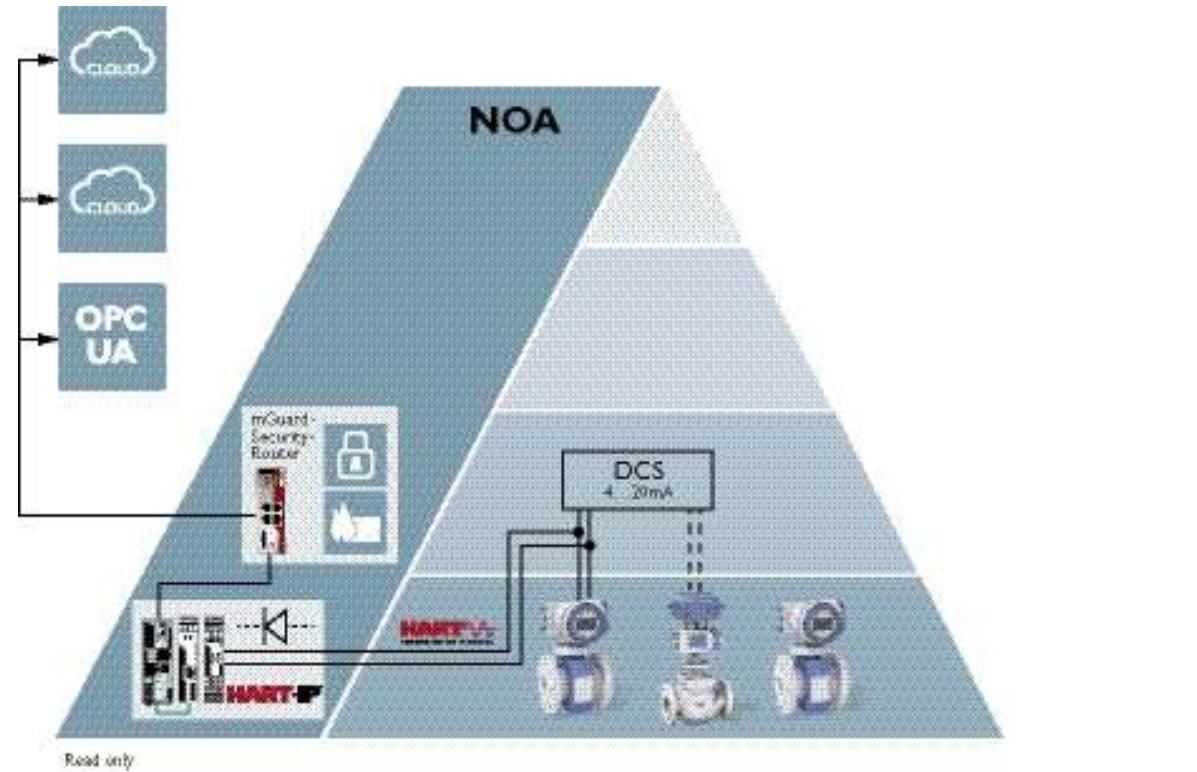
Technology

DIGITAL TWIN



Technology

DIGITAL TWIN NOA



Ecosystem & PLCnext Store

PLCnext Technology[®]
Designed by PHOENIX CONTACT

The Open Ecosystem for Limitless Automation

PLCnext Technology[®]
enhance your automation thinking

PLCnext Control



PLCnext Engineer



PLCnext Store



PLCnext Community



Open Control Platform

PLCs in various performance classes including PLCnext Runtime System and accessories for PLCnext Technology

Engineering Software

Engineering tool for commissioning, configuring, and programming PLCnext Controls

Software Store for Automation

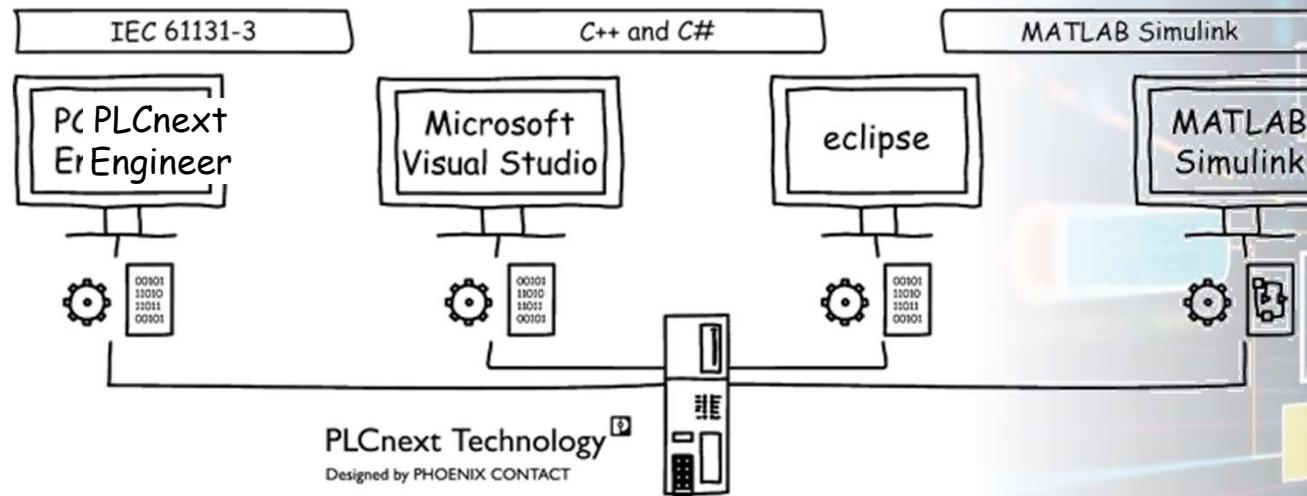
Apps for functional extension of PLCnext Control and PLCnext Engineer

User Collaboration & Resources

Information, support, and helpful resources about PLCnext Technology including FAQs, forums, tutorials and a GitHub presence

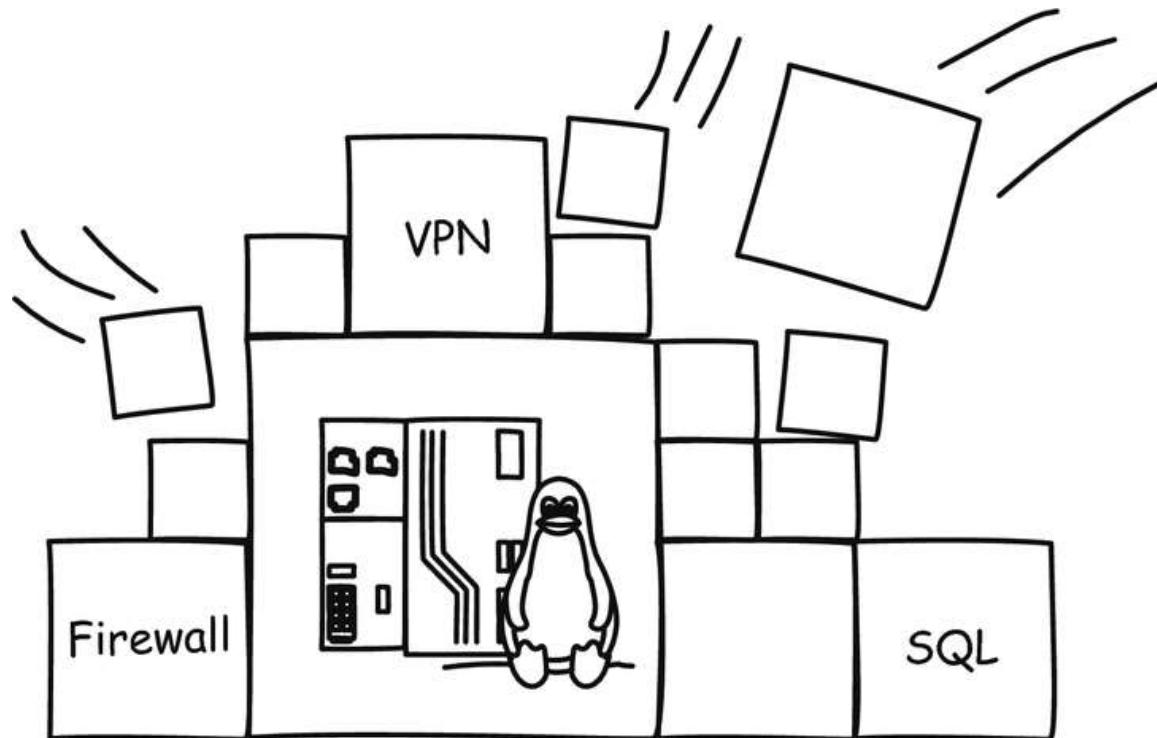
enhanced development

Convenient Engineering & Application Development



With PLCnext Technology, several developers from different generations, with different skill sets and expertise can work on one controller program, in parallel and yet independently, using different programming languages.

Flexibility of Linux plus the Reliability of a PLC



- PLCnext Technology is based on Linux...
 - Open source Linux Packages
- ... but as performant as a “classic” PLC!
 - Easy task management
 - Precise synchronization
 - Cycle-consistent data exchange
 - No Linux knowledge needed

Typical Application Scenarios for PLCnext Technology

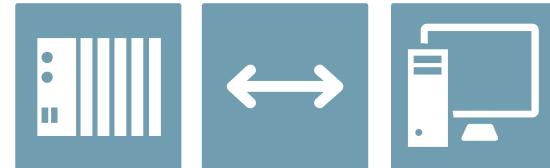
PLC Applications



PLCnext Benefits

- OPC UA
- Cloud Connection
- Code Generation
- Automation Modules
- PLCnext Engineer
- Security

PLC + PC Applications



PLCnext Benefits

- High Level Languages
- Realtime and Non Realtime
- Cost Efficiency

IOT Applications

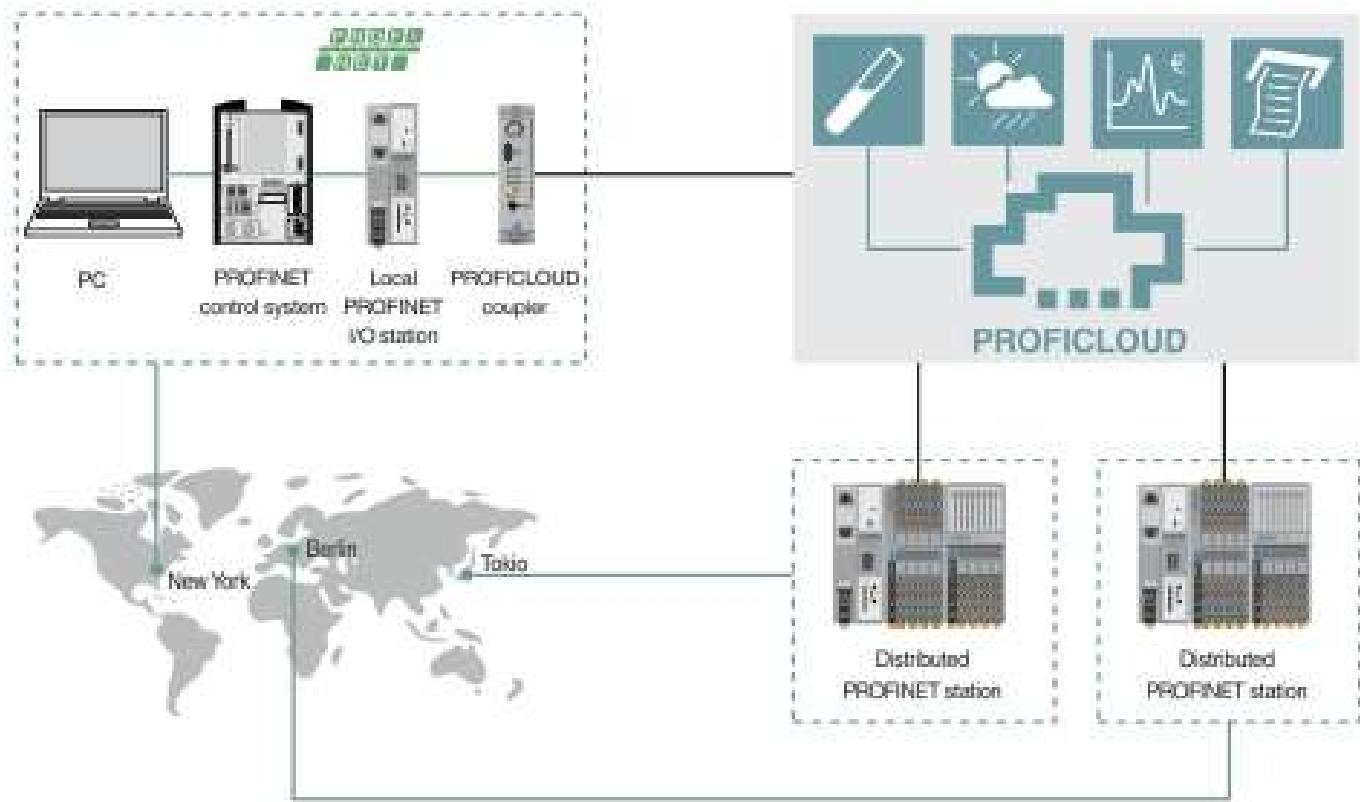


PLCnext Benefits

- Open Source
- Raspberry PI
- Edge Gateway
- Linux
- PLCnext on IPC
- Industrial PLC Hardware and IOs

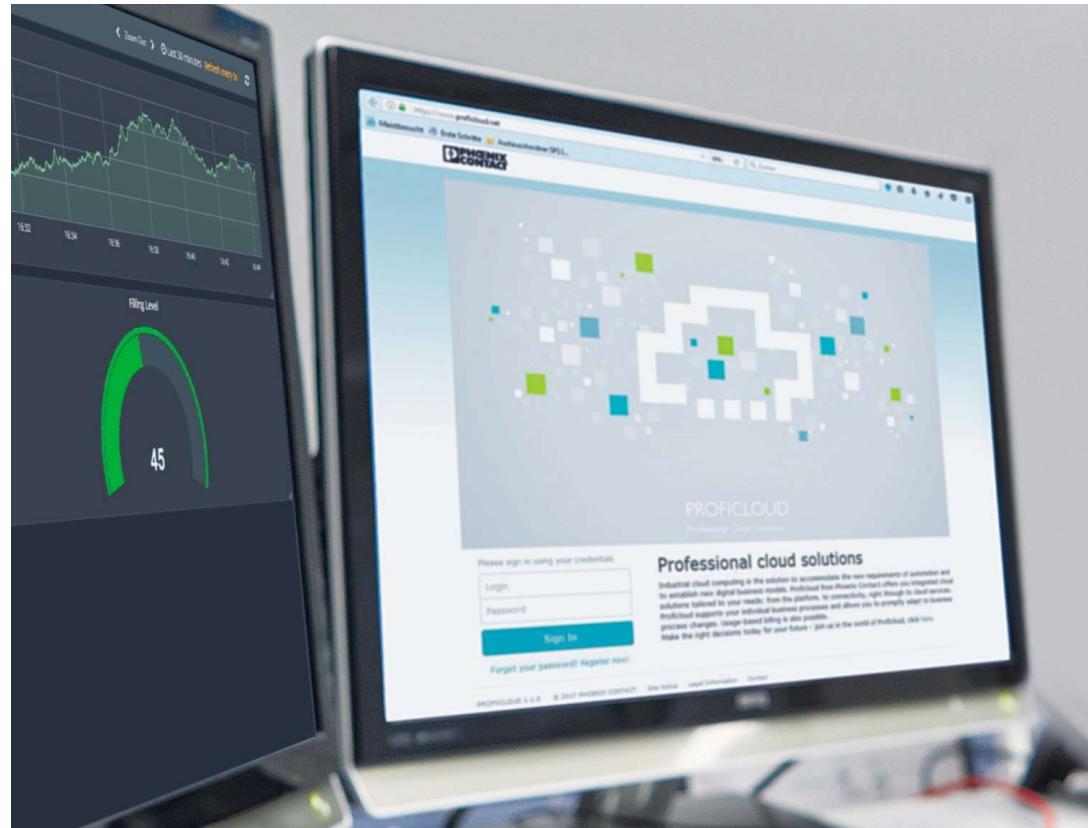
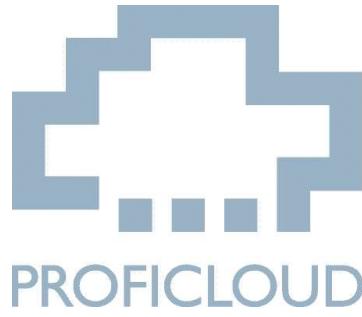
Technología

PROFICLOUD



Technología

PROFICLOUD

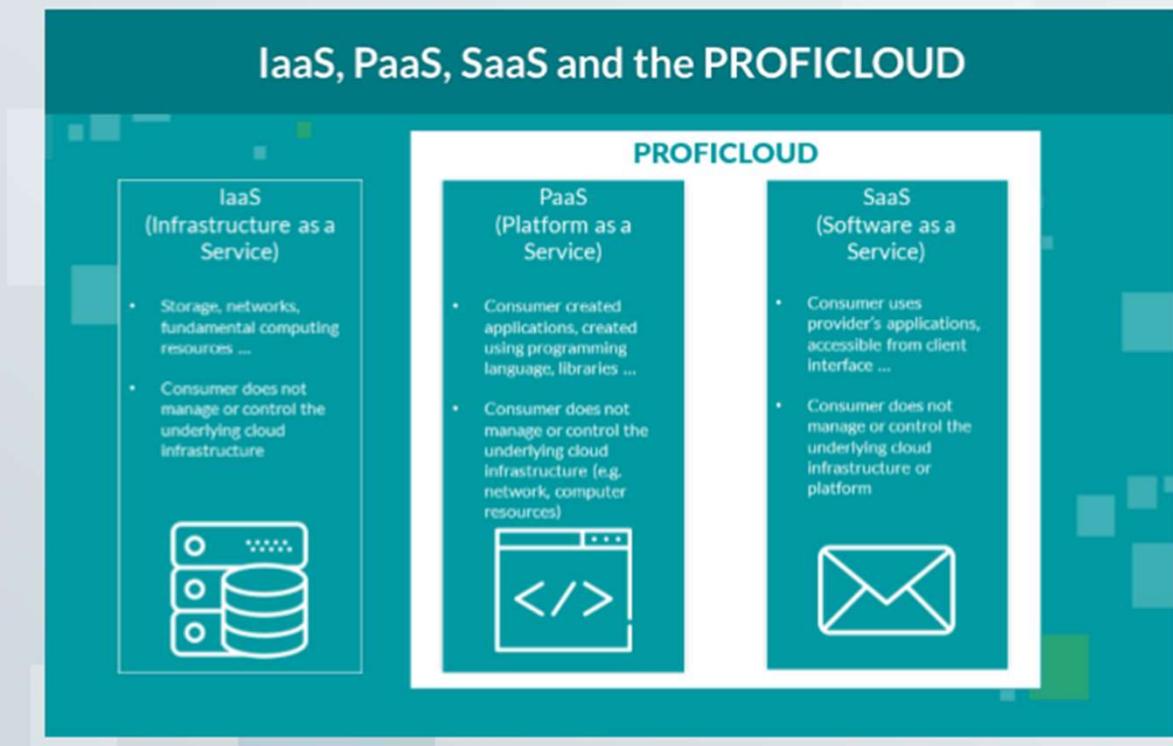


Technology

PROFICLOUD

1. What is the Cloud? What does Cloud mean?

Cloud computing is the concept of offering services over the internet. When it comes to these services, there are three general levels:



Technology

PROFICLOUD

IaaS (Infrastructure as a service)

The capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications; and possibly limited control of select networking components (e.g., host firewalls).

PaaS (Platform as a service)

The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment.

SaaS (Software as a service)

The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.



Which of these cloud layers does the Proficloud offer?

Proficloud offers both PaaS and SaaS. Our customers can't "rent" Proficloud servers to do whatever they want with them - that would be IaaS. We also don't offer Dropbox-like functionality, like using Proficloud as file storage, for Documents, Images or Videos for example.



Technology

PROFICLOUD Advantages of CLOUD



Technología

PROFICLOUD



Technology

PROFICLOUD Example



Technology

PROFICLOUD Example



ImpulseAnalytics

- ImpulseCheck devices
- Account
- Journal
- Control API
- new**

ImpulseCheck devices | ImpulseCheck G37 EG

b952d1f7-05cb-4a78-8cb4-3e3994ec0916 **Online**
ImpulseCheck G37 EG

Description: Endurance Test G37 EG

Location: PHOENIX CONTACT GmbH & Co. KG
Flachmarktstrasse 8
D-32825 Blomberg
G37 EG Prüffeld 1

Contact: Max Mustermann

Arrester: FLT-SEC-T1+T2-3S-350/25-FM

Status	Sensor channel	Protection path	Plug type	Installation date	transient overvoltage count
Green	1	L1/N	FLT-SEC-T1-350/35-P / VAL-SEC-T2-350-P	2018-11-22 14:30:00	2957
Green	2	L2/N	FLT-SEC-T1-350/35-P / VAL-SEC-T2-350-P	2018-11-22 14:30:00	0
Yellow	3	L3/N	FLT-SEC-T1-350/35-P / VAL-SEC-T2-350-P	2018-11-22 14:30:00	2847
Red	4	PE/N	FLT-SEC-P-T1-N/PE-350/100-P	2018-11-22 14:30:00	3131

Surge Current List **Transient Overvoltage List**

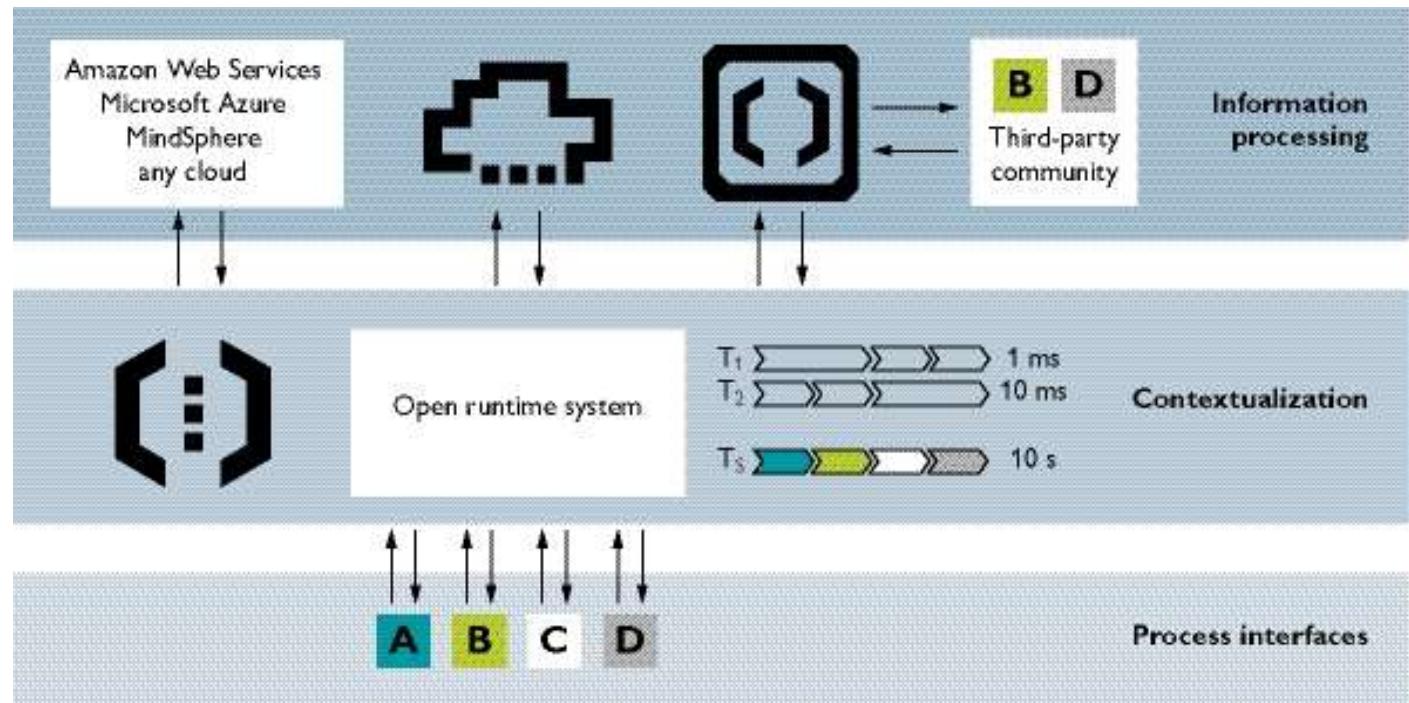
Search

Show 25 Entries

Timestamp	Information	Actions
2019-02-19 11:56:21	➤ Amplitude (kA): 237.5 (PE) Charge (C): 46.7 (PE) Spec. Energy (kA*s): 2586.2 (PE)	
2019-02-19 11:54:45	➤ Amplitude (kA): 240.1 (PE) Charge (C): 376.4 (PE) Spec. Energy (kA*s): 54072.6 (PE)	
2019-02-19 11:53:24	➤ Amplitude (kA): 247.7 (PE) Charge (C): 33.5 (PE) Spec. Energy (kA*s): 2784.8 (PE)	

Technology

PROFICLOUD



Technology

PROFICLOUD Remote Services



Technology

SMART Services

	DEVICE MANAGEMENT SERVICE	SMART DEVICE SERVICES	SMART SOLUTION SERVICES
DEFINITION	<p>Minimal standard for all PROFICLOUD-compatible products</p> <p>Standardized, application-independent device information in real time</p> <p>Fulfillment of minimum requirements for industrial products in the digital age</p>	<p>Standardized value-added service for different industries / applications</p> <p>Direct linkage to one or more PROFICLOUD-capable products</p> <p>High data value added and additional customer willingness to pay</p>	<p>Industry or application-specific value-added service</p> <p>Combination of Smart Device Services</p>

Technology

Smart Services



Device Management Service

Device Management Service
Device Overview

Device Management ADD DEVICE Q Search

PLCnext 362A-Bad Pyrmont Building 4 Total
1389452E-C7D3-1ED4-87D6-0242AC130000

INFORMATION SERVICES LOG FIRMWARE UPDATE

Connection Status: Online

Device Status: Running out of memory (RAM)

Notifications: Firmware update available

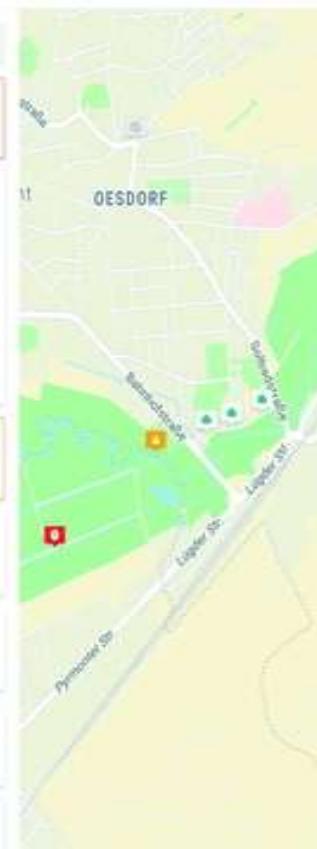
Temperature Sensor 002
MAC: 00:0C:29:0B:00:02
IP: 192.168.1.102

EMpro Bad Pyrmont Building 4 Total
MAC: 00:0C:29:0C:00:02
IP: 192.168.1.103

Energy_Measurement_20032
MAC: 00:0C:29:0B:00:03
IP: 192.168.1.104

Humidity Sensor Bad Pyrmont
MAC: 00:0C:29:0B:00:04
IP: 192.168.1.105

PLCnext 362A
MAC: 00:0C:29:0B:00:05
IP: 192.168.1.106



Device Management Service
Device Overview

Device Management 460 DXYQ Q STATUS

Time Series Data Service

inGuard Secure Remote Service

InsightAnalytics Service

PROFINET Service

Speed Sensor Windpark 001
Status: OK - Last 10 min average consumption

PLCnext 362A
Status: OK - Last 10 min average consumption

Temperature Sensor 002
Status: OK - Last 10 min average consumption

Humidity Sensor Berlin
Status: OK - Last 10 min average consumption

Humidity Sensor Bad Pyrmont
Status: OK - Last 10 min average consumption

PLCnext 362A
Status: OK - Last 10 min average consumption

Temperature Sensor 003
Status: OK - Last 10 min average consumption

Humidity Sensor -
Status: OK - Last 10 min average consumption

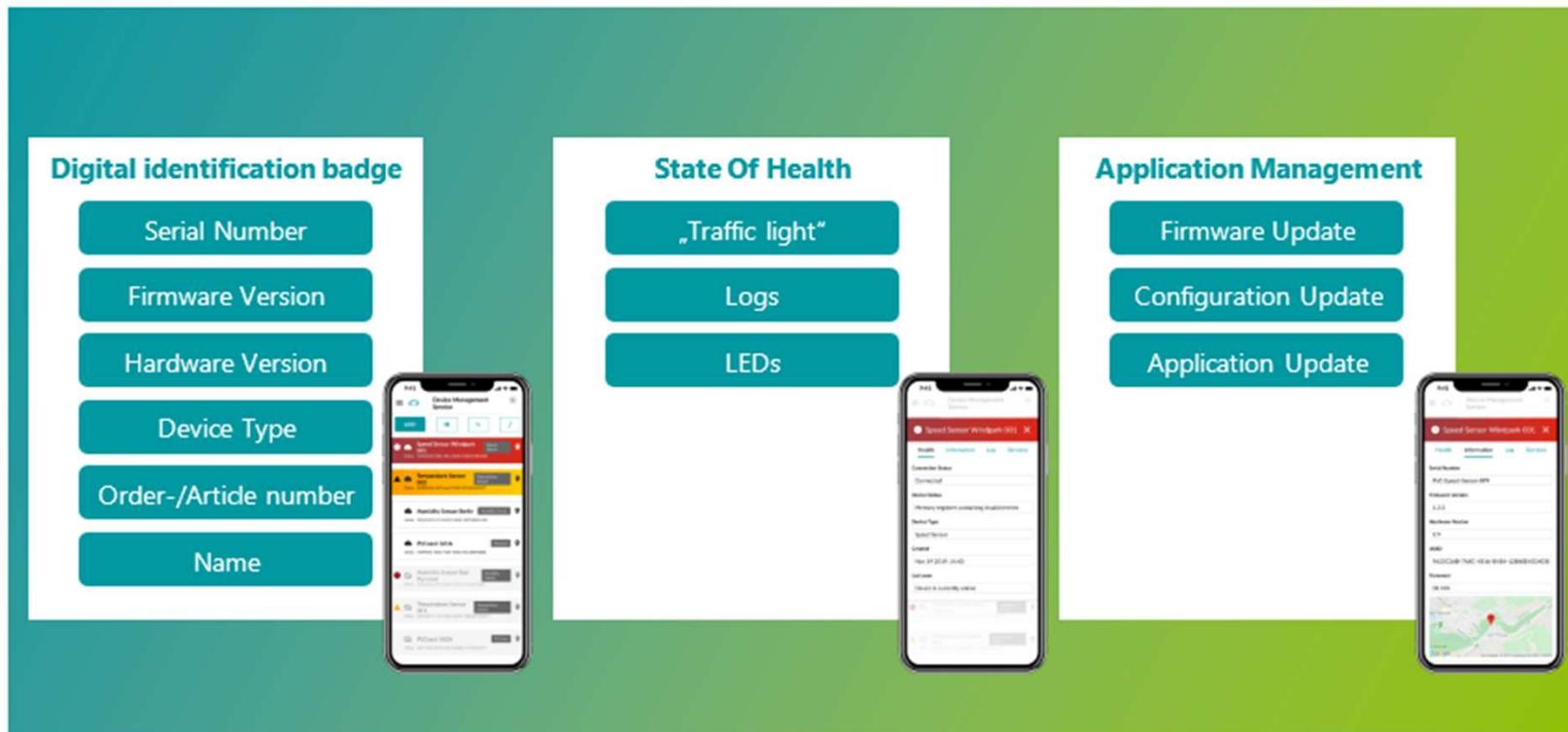
SPS Local Test
Status: OK - Last 10 min average consumption

Pressure Sensor
Status: OK - Last 10 min average consumption



PHOENIX CONTACT
INSPIRING INNOVATIONS

Device Management Service



Technology

E-Mobility

Market trends and market potential

Customer behavior – refueling vs. charging



From present to future



Perspectively charging

- Nearly any location – integration to everyday life
- Decentral charging
- Side effect while everyday life
- Battery level not enough for planned distance

- @ night
- @ work
- @ supermarket
- @ shopping
- @ restaurant
- @

Applications and standards on e-mobility

Charging infrastructure – configurations



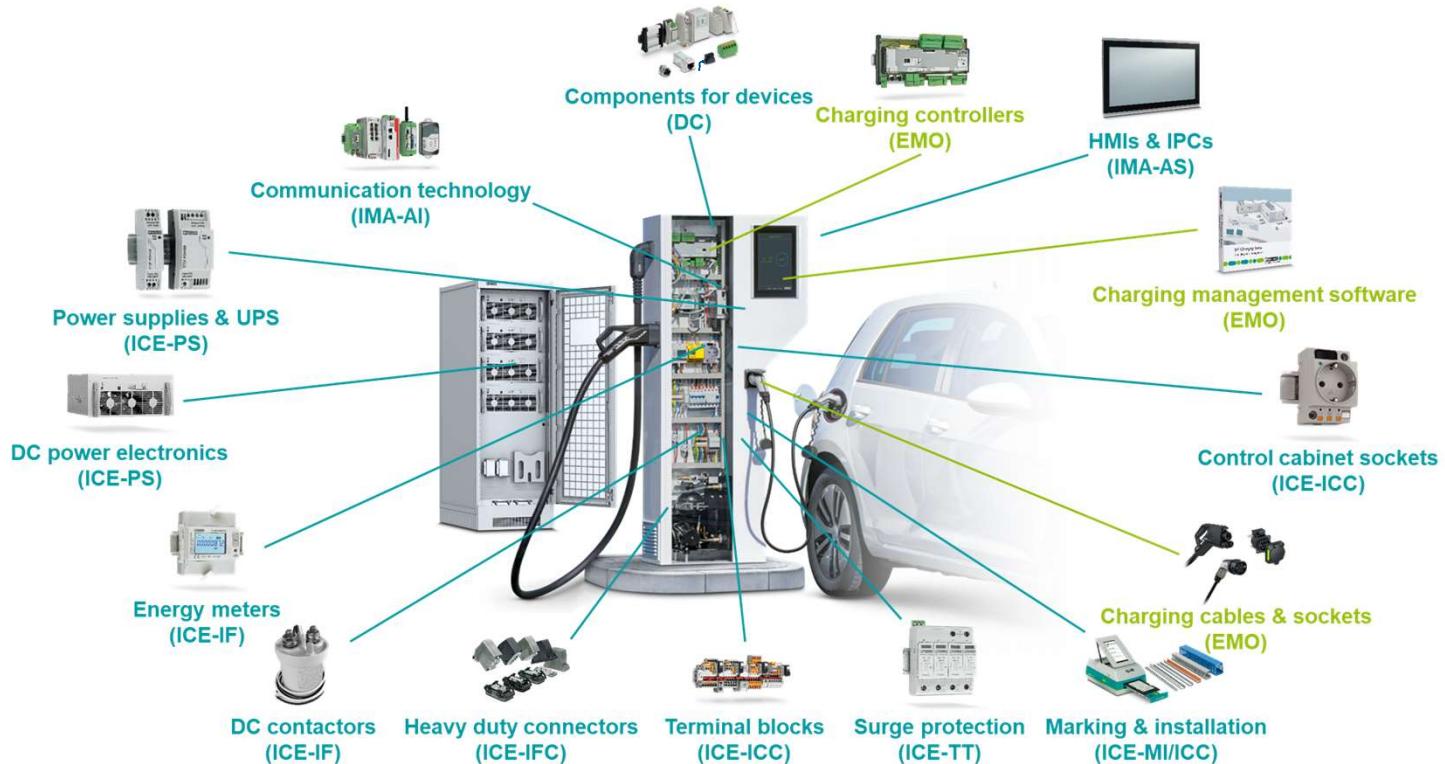
Applications and standards on e-mobility

Charging modes, standards and power classes

AC charging		DC charging	
2,3 kW; 3,7 kW; 11 kW; 22 kW; 43 kW		50 kW; 150 kW; 350 kW; 500 kW	
Charging mode 2	Charging mode 3, case B	Charging mode 3, case C	Charging mode 4
			
Charging standards			
 AC & CCS Type 1	 AC & CCS Type 2	 AC & DC GB/T	 PHOENIX CONTACT INSPIRING INNOVATIONS
			

Product portfolio PHOENIX CONTACT

A complete portfolio for charging infrastructure



Technology

IIoT

INDUSTRIAL INTERNET OF THINGS

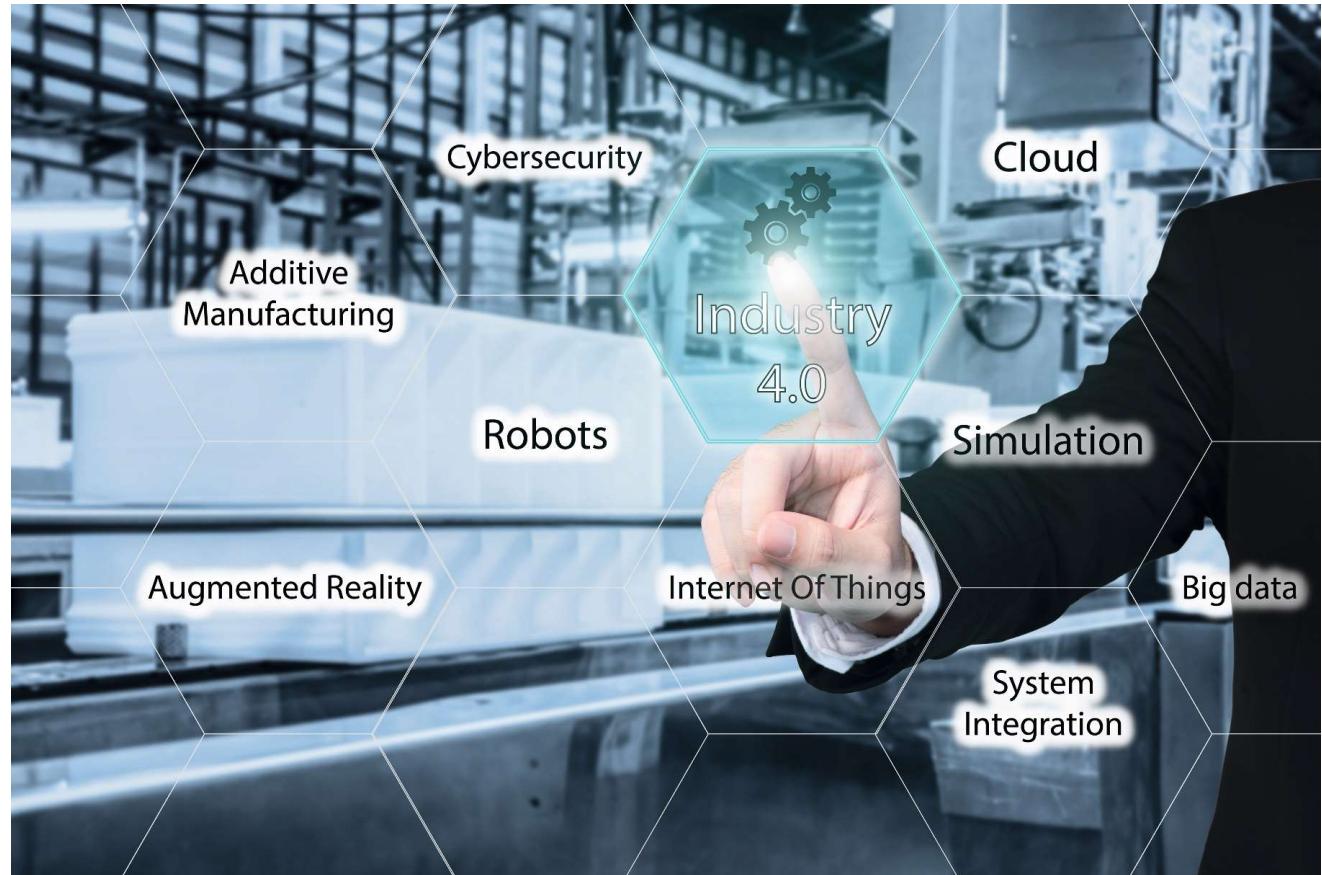
Figure 1: The first step in creating an IIoT application is to make sure that your devices – both legacy and new – can communicate with each other, so that you are getting the most out of all of your data.



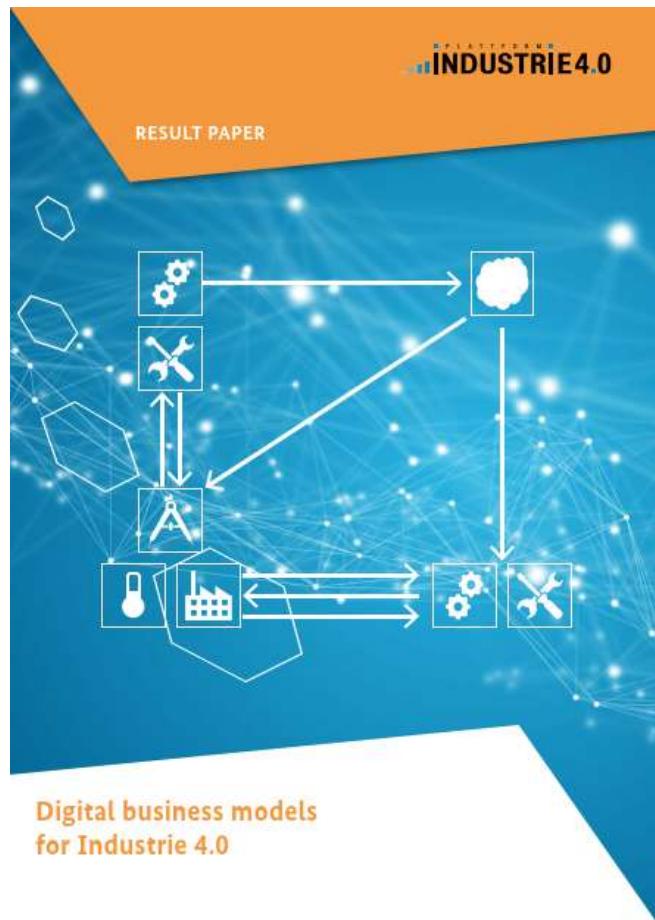
Speaking a common language: Getting your devices ready for IIoT

Technology

Industrie 4.0



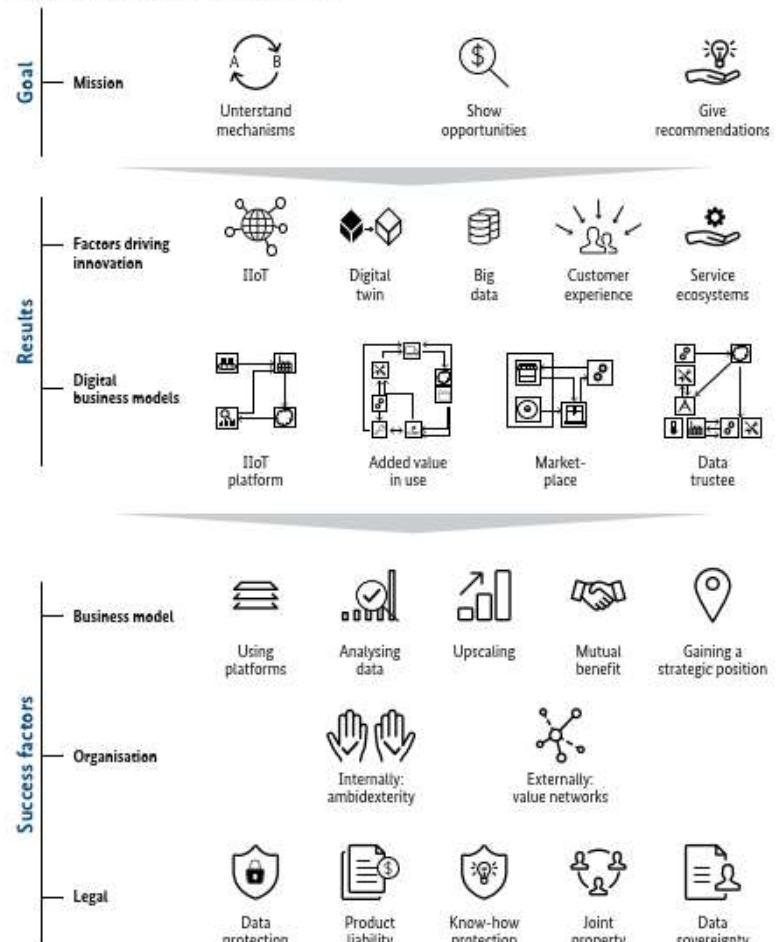
PLATTFORM Industrie 4.0



Plattform Industrie 4.0

Through Industrie 4.0, Germany has created a globally recognized brand. Numerous countries have built their strategies for the transformation of production on German standards. For example, Industrie 4.0 has inspired China to seek an “Initiative to completely enhance Chinese Industry” with its ‘Made in China 2025’ plan. In addition, 20,000 publications about Industrie 4.0 have been published in German-speaking countries alone since 2014, with well over 100,000 published internationally.¹ Authors include ministries, scientific and research institutions, academies, associations, companies, consulting firms, trade unions and foundations. A remarkable achievement!

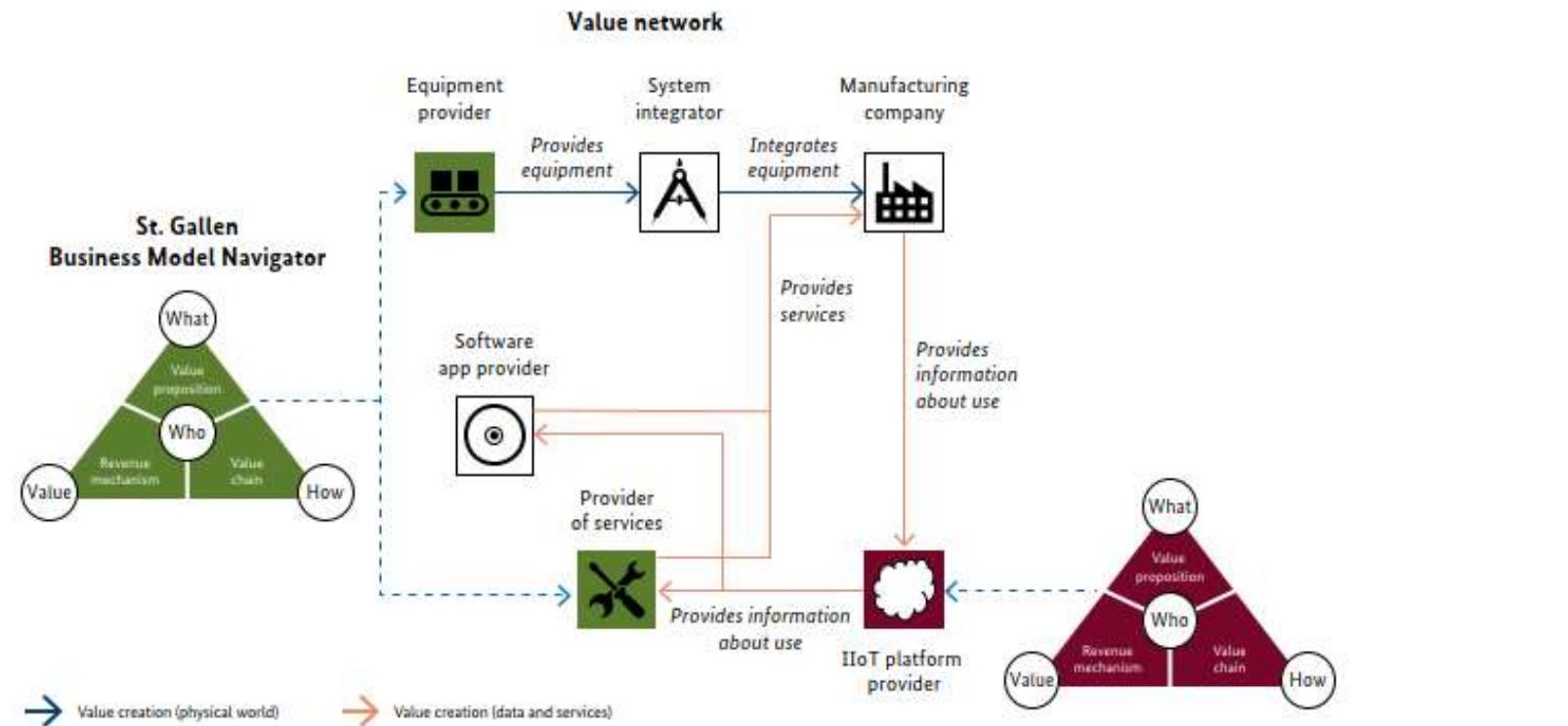
Figure 1: Digital business models for Industrie 4.0



Source: Plattform Industrie 4.0

Technology

Plattform Industrie 4.0



Source: Plattform Industrie 4.0

Webinar IMA Septiembre 2020

Panorama y guía de selección de Software y Tecnologías



Fecha	14 Septiembre 2020
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Descubra y conozca las herramientas de software de manera general para parametrización, configuración, programación, diagnóstico, monitoreo, visualización web, configuración y diagnóstico de buses de campo, soporte y configuración de interfaces de comunicación, configuradores especiales de conectividad así como un panorama general de las tecnologías actuales que se desarrollan hacia la digitalización inteligente en los campos de la automatización.

Panorama y guía de selección desde Softwares para programación, configuración, diagnósticos de controladores, herramientas de softwares para red, configuradores OPC, planeación de estaciones de automatización para las líneas de controladores y sus sistemas E/S, diversas formas de parametrizar desde radios, equipos de seguridad, visualización HMI, SCADA así como una panorama general de las principales tecnologías como PROFINET, OPC UA, Digital TWIN, PLCnext Technology, SMART Business, Tecnologías E-Mobility, IIoT, y Plataforma Industrie 4.0



Webinar IMA 2020

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