



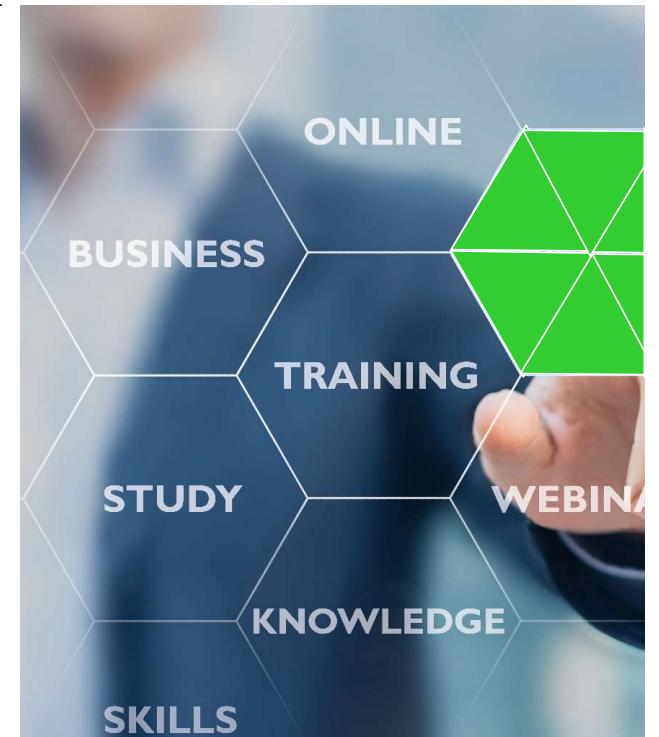
Welcome

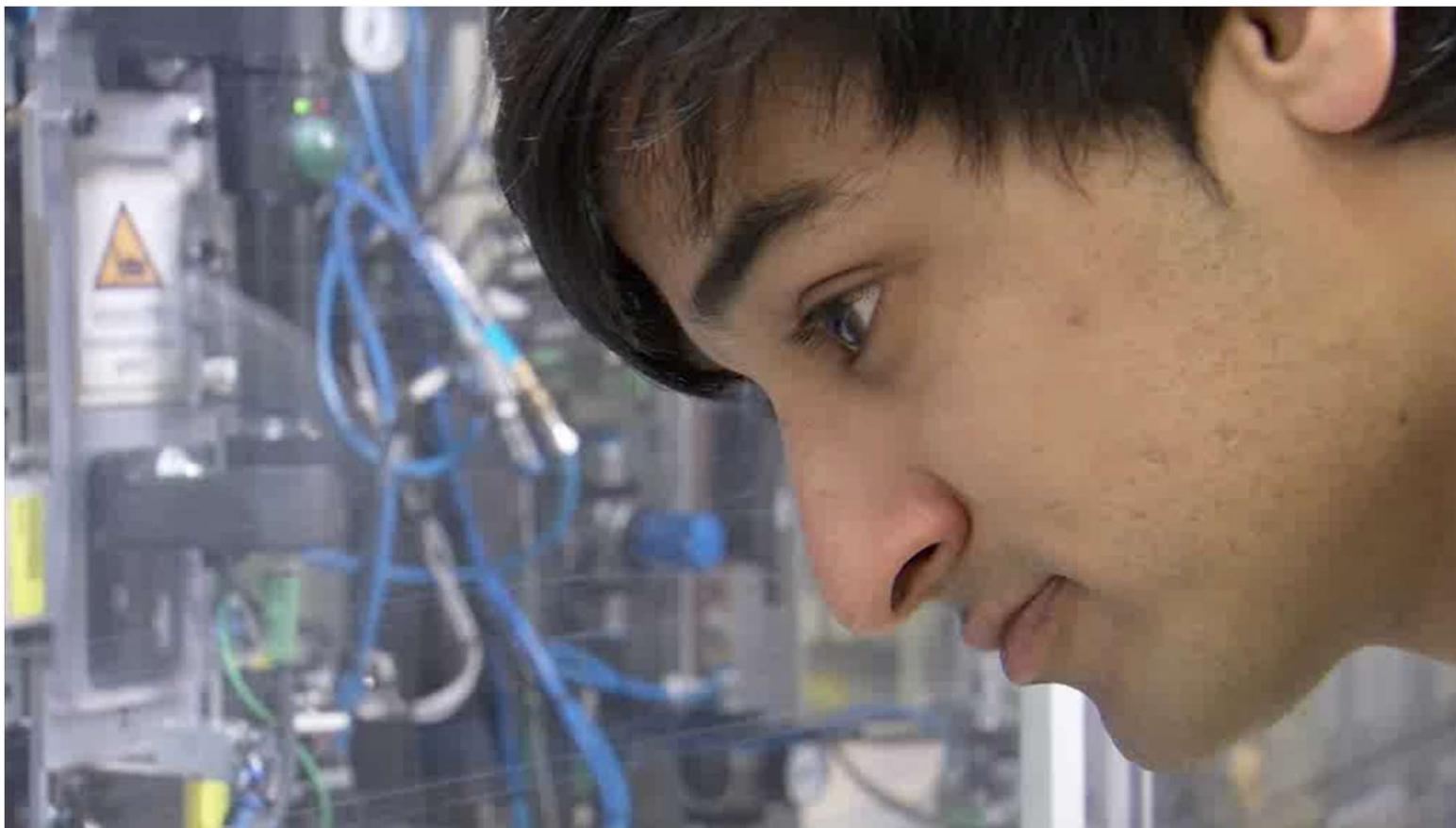
PC WORX

**Tipos de software, equipos
y ejemplos**

Agenda

- PC WORX
 - Tipos de Software
 - Equipos
 - Ejemplos
-





PC WORX



PC WORX

Worldwide consistent programming – IEC 61131

Integrated software-tools

Fast and flexible programming

- Additional standard libraries

Extensible

- User functions
- Function blocks or libraries

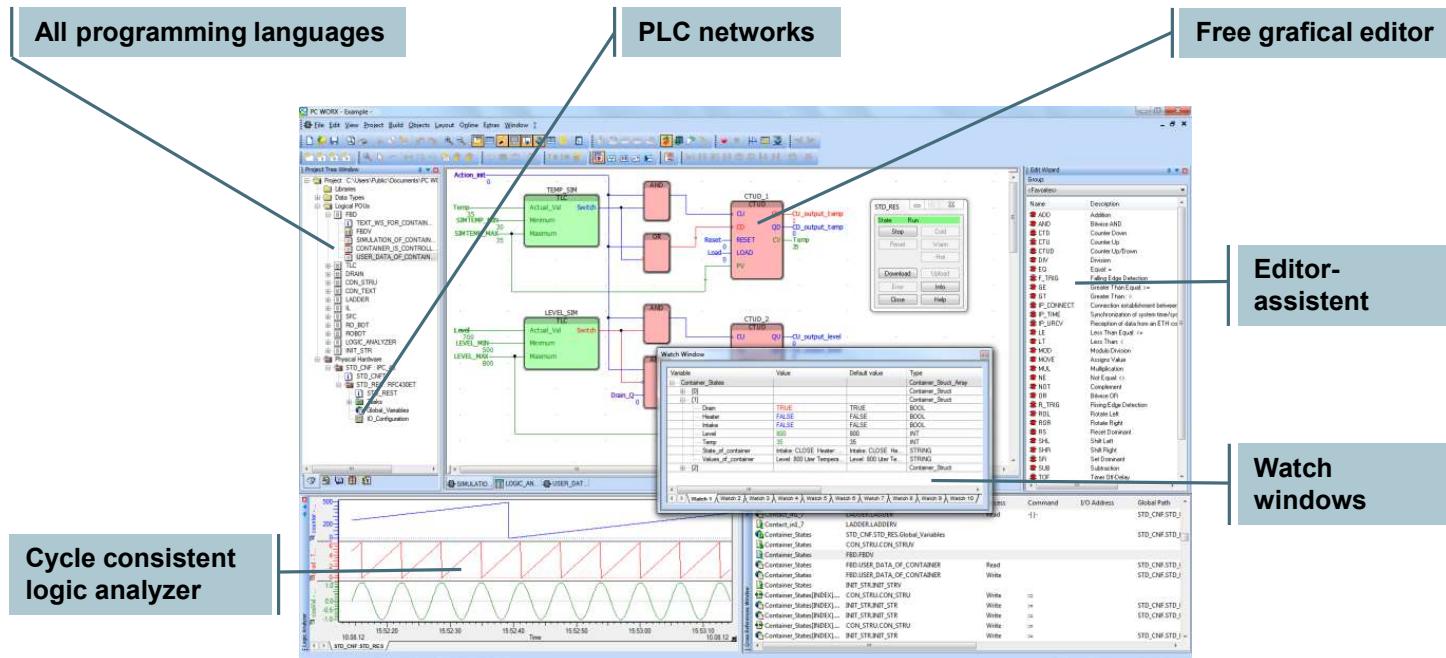
Easy handling

- Intuitive user interface
- Clear structures

 **One software for every engineering step**



PC WORX – IEC 61131

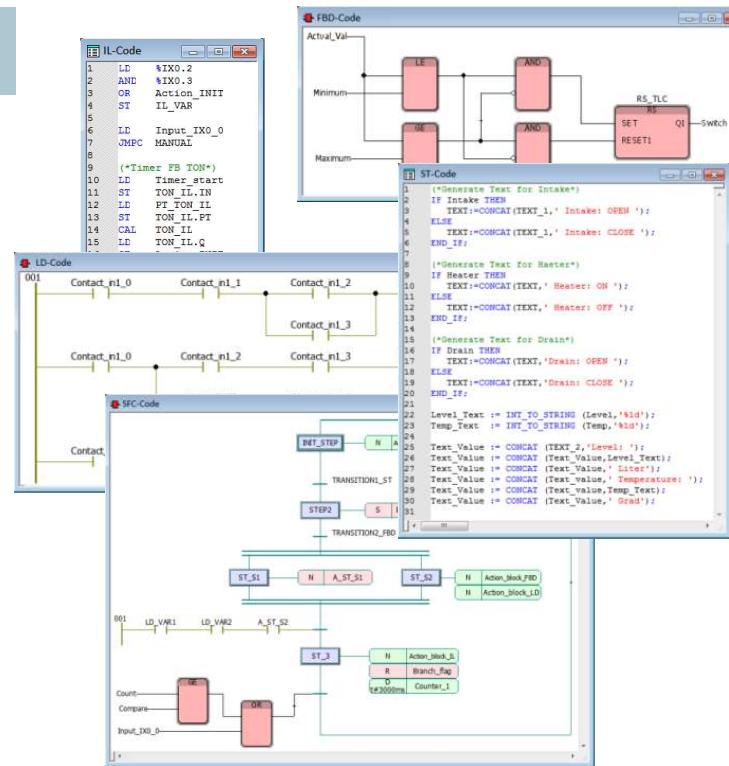


One programming system for all controllers

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)



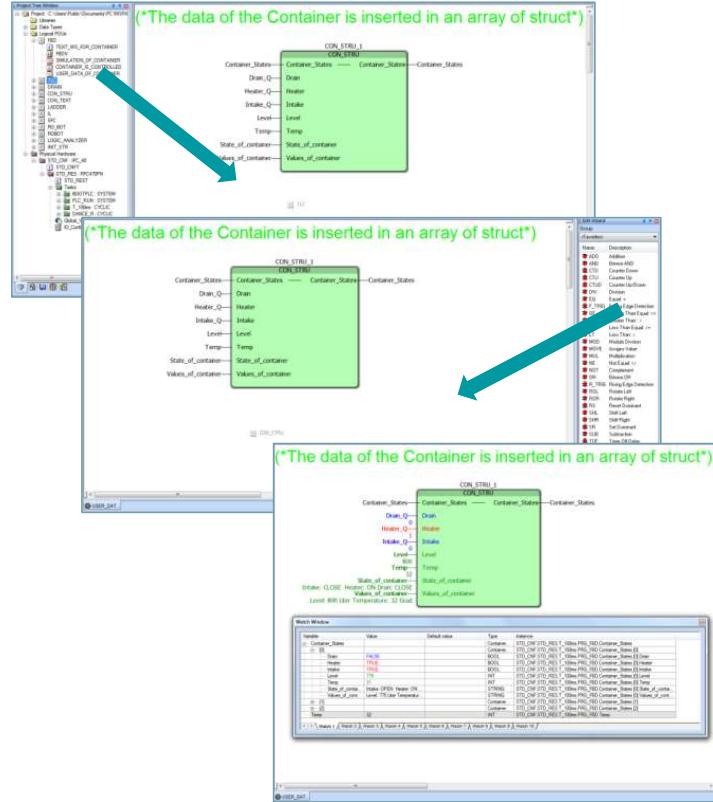
→ Easy handling

PC WORX – IEC 61131

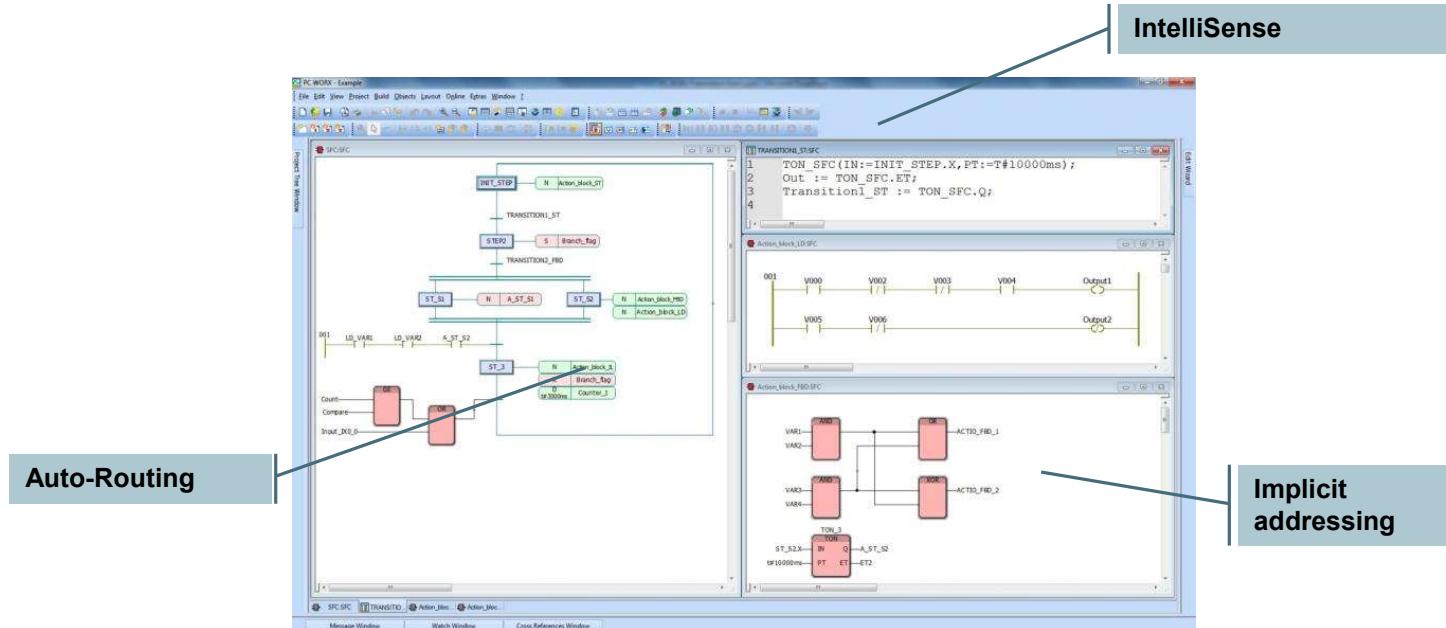
Consistent Drag & Drop

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

Easy programming



PC WORX – IEC 61131 editors

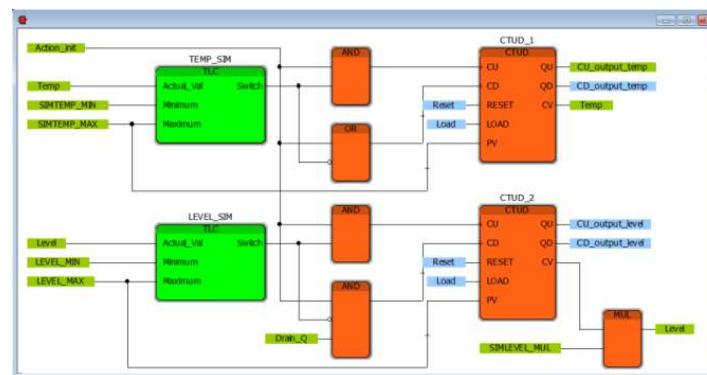
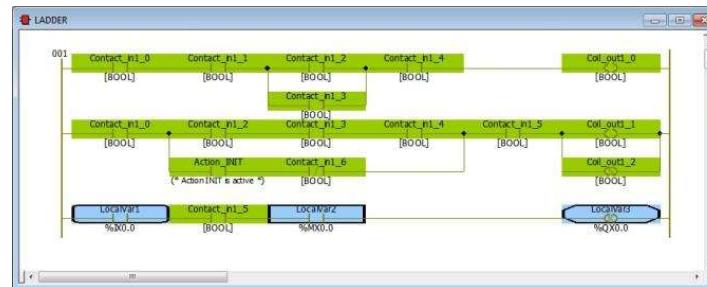


Free graphical or network based programming

PC WORX – Graphical programming

LD and FFLD

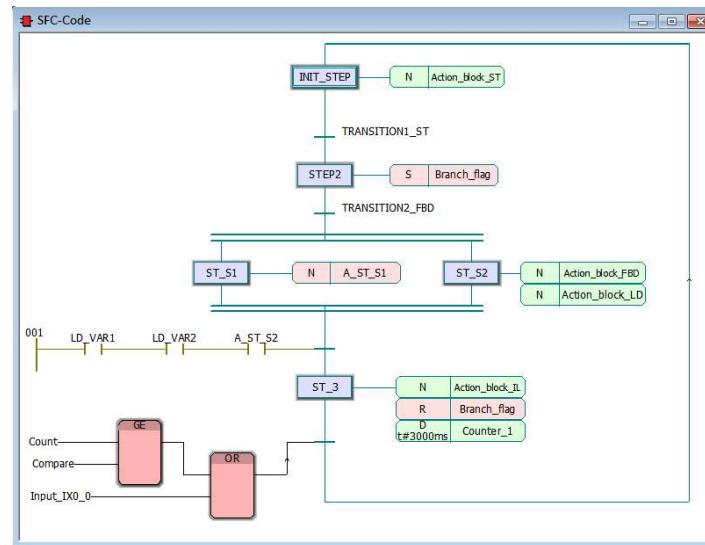
- Free graphical or network based programming
- ST-statements possible (IF, THEN, ELSE)
- LD and FFLD objects mixable
- Auto-Routing
- Easy keyboard handling – programming without mouse



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

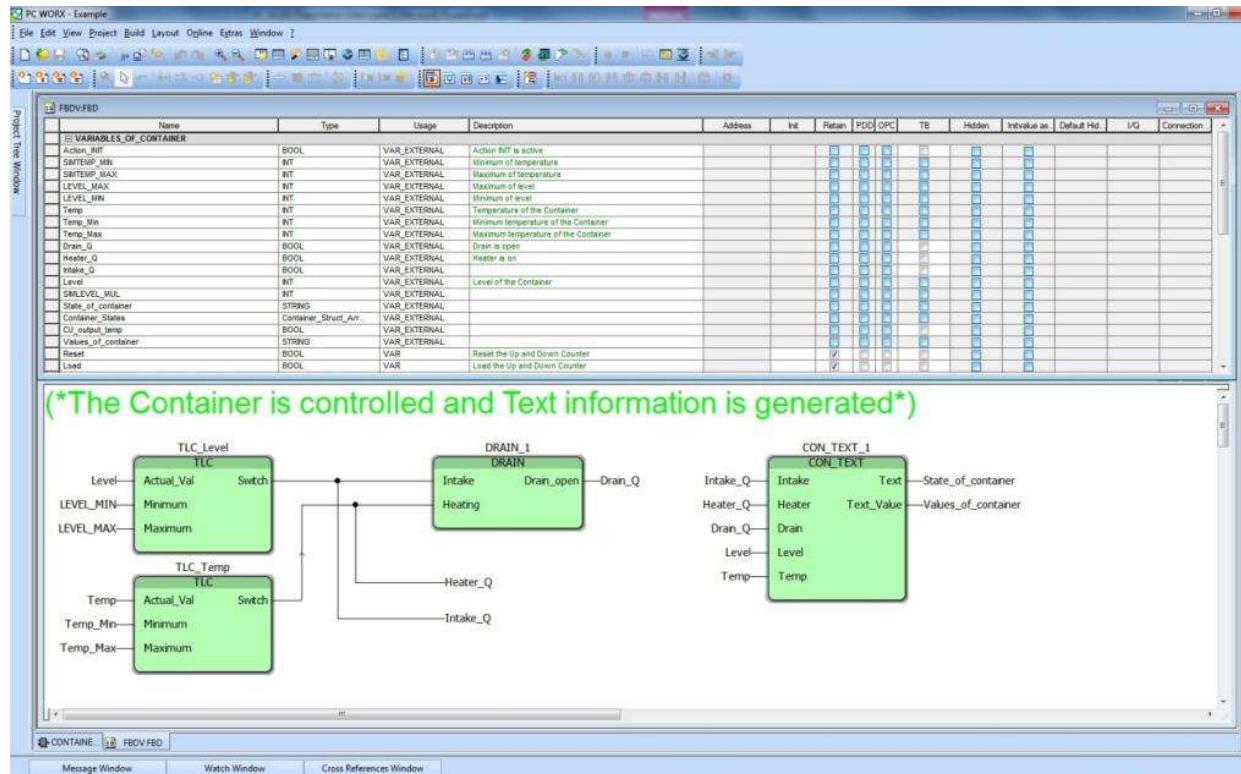
- Syntax highlighting
- Editor assistant for keywords, functions and function blocks
- Context sensitive menus

```
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



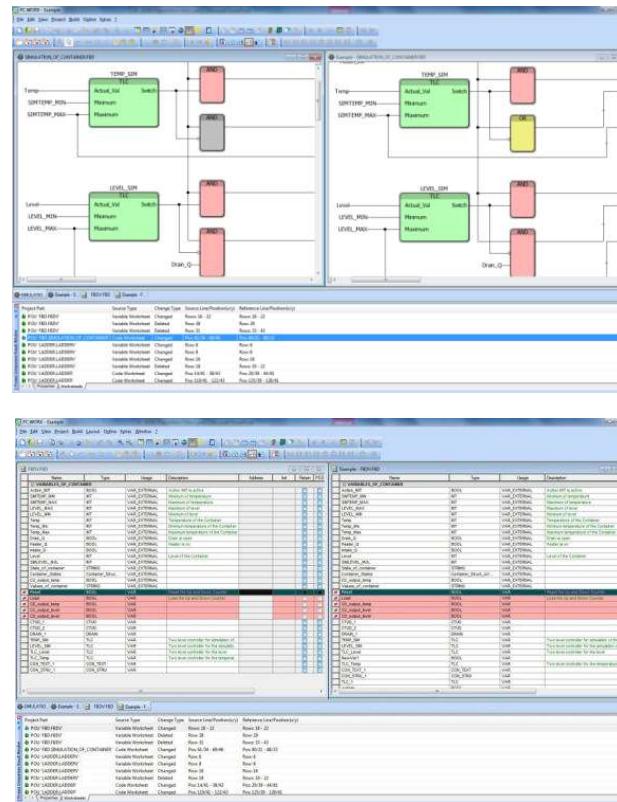
(*The Container is controlled and Text information is generated*)

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

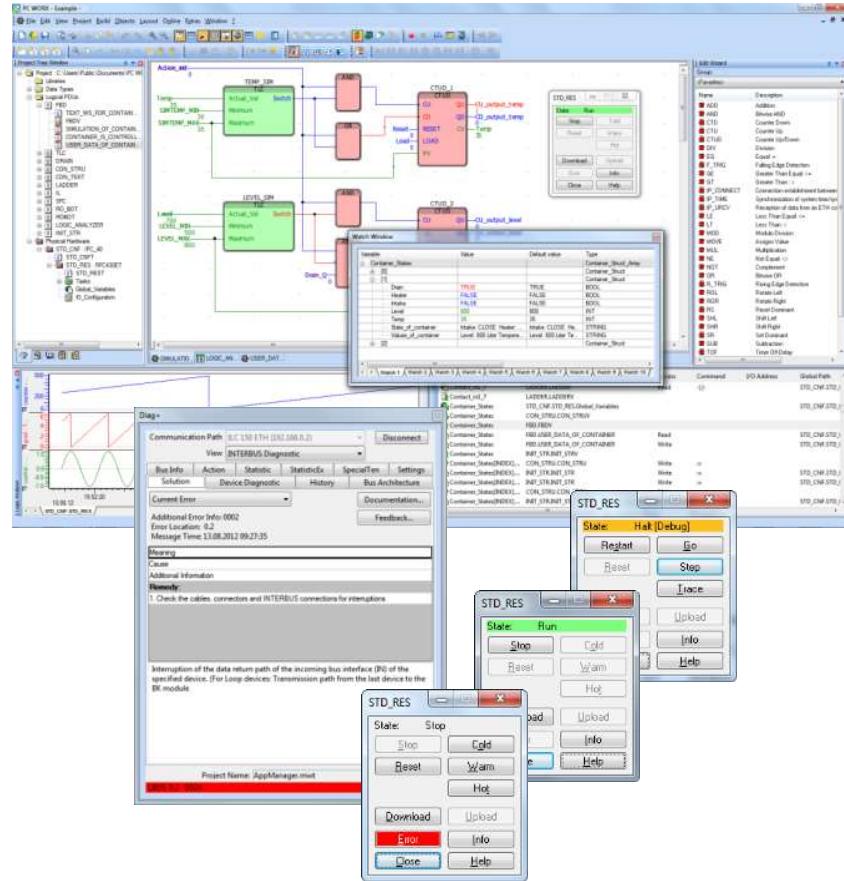


PC WORX – Features

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**



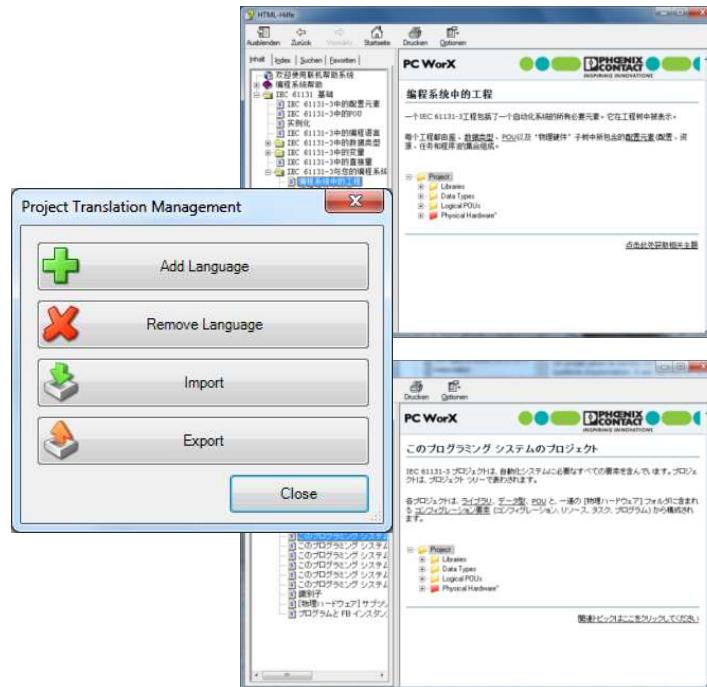
Ethernet



PC WORX – Features

Usable worldwide

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



→ Easy project translation management

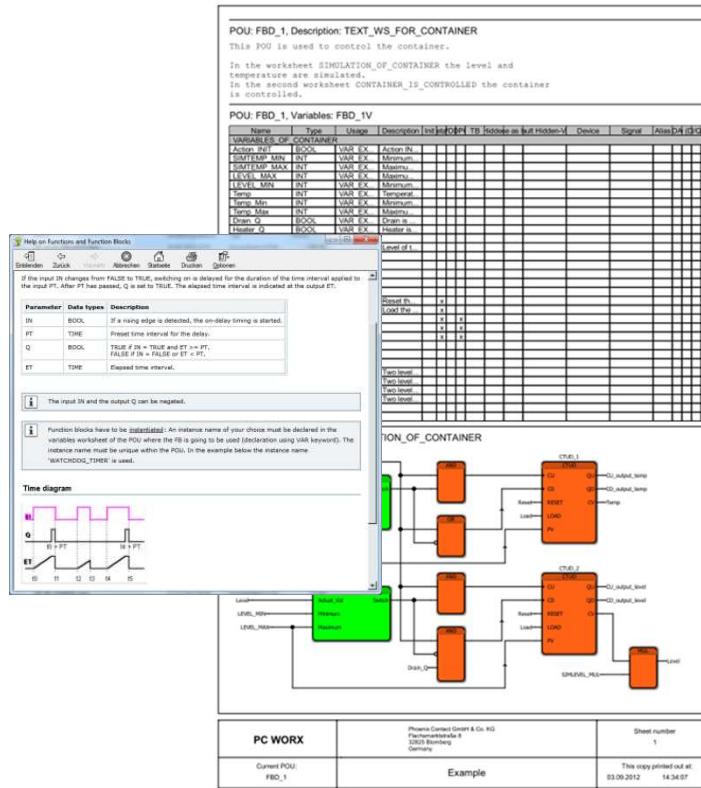
PC WORX – Features

Projekt documentation

Print layout configurable with comfortable page layout editor

User defined documentation for:

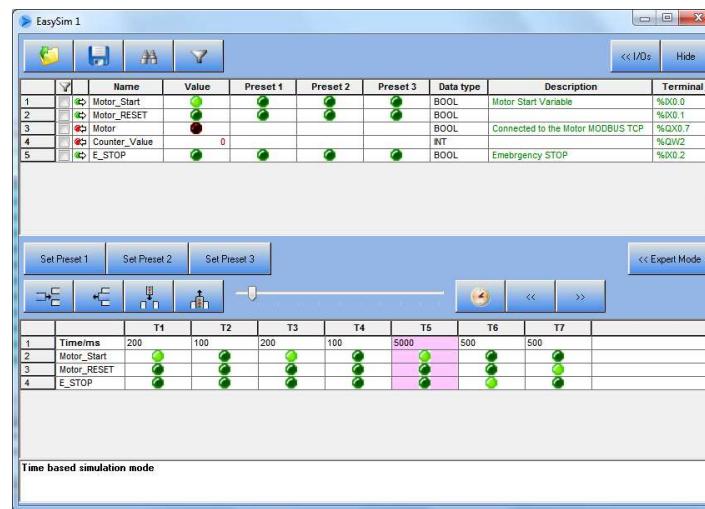
- Projects
- Libraries
- Function block functions



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



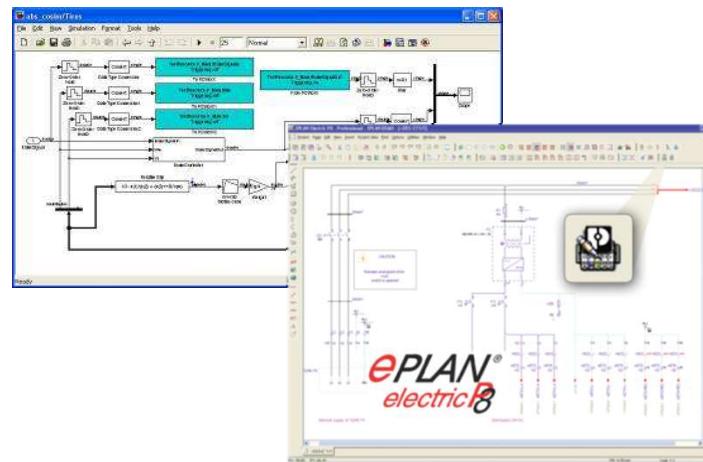
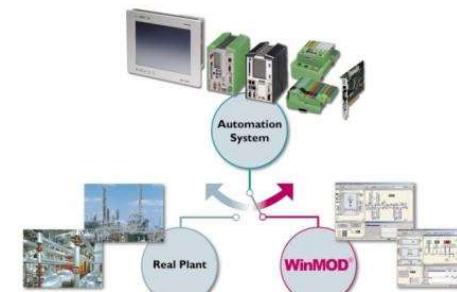
→ EasySim

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

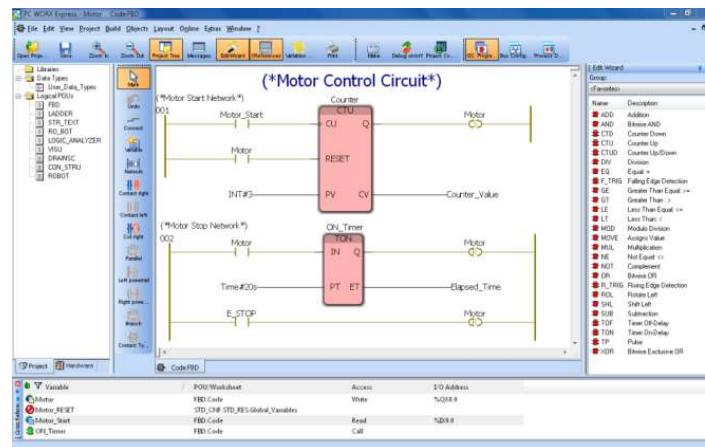
→ Consistency



PC WORX – features

Easy Automation - EXPRESS

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

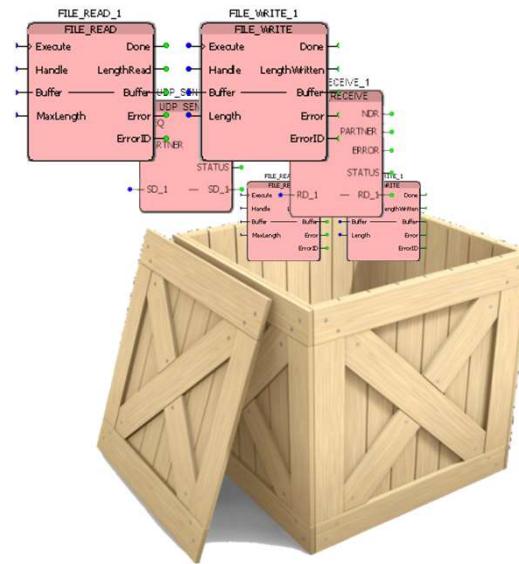


Free download: www.phoenixcontact.com

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...

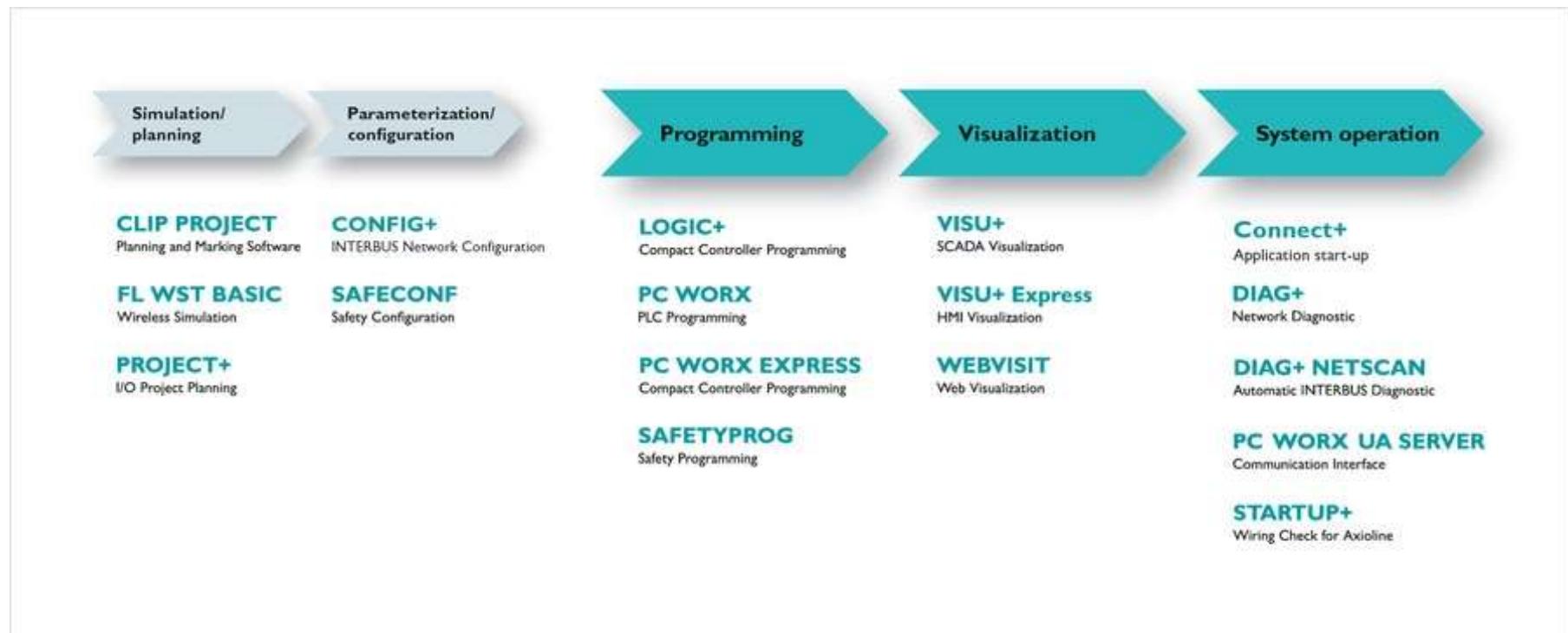




Tipos de Software

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

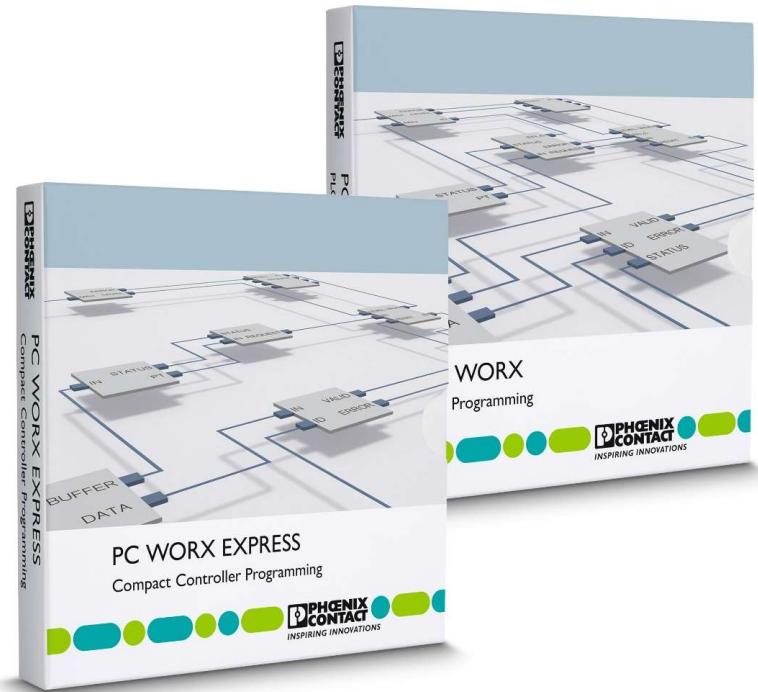
PC WORX EXPRESS

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



Licencias

PC WORX

2985660	AX SW SUITE DEMO
---------	------------------

2985275	PC WORX BASIC LIC
---------	-------------------

2985262	PC WORX BASIC UPD
---------	-------------------

2985259	PC WORX BASIC-PRO LIC
---------	-----------------------

2985385	PC WORX PRO LIC
---------	-----------------

2985372	PC WORX PRO UPD
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2400419	PC WORX PRO LIC TL180
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2985534	PC WORX PRO OEM LIC
---------	---------------------

2988560	PC WORX PRO LIC CPY
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2400041	PC WORX TARGET FOR SIMULINK
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2402684	PC WORX UA SERVER-PLC 10
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2402685	PC WORX UA SERVER-PLC 40
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2402686	PC WORX UA SERVER-PLC 80
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Note:

2985725 PC WORX DEMO not available

2988670 PC WORX EXPRESS not available



AX SW SUITE DEMO

Software - AX SW SUITE DEMO - 2985660



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+, WEBVISIT, AX OPC SERVER. The demo version is available free of charge and does not require a license key. It can be downloaded under "Downloads".

[Generate product PDF](#)

Delivery time on request

Software

	Description	Language	Revision
<input type="checkbox"/>	<p>[zip, 958 MB] Software AUTOMATIONWORX Software Suite 1.88 programming, configuration, parameterization, diagnostics. The AUTOMATIONWORX Software Suite is a comprehensive collection of coordinated software tools consisting of: PC Worx, PC WORX EXPRESS, DIAG+, DIAG+ NetScan, CONFIG+, WEBVISIT, and AX OPC SERVER.</p> <p>SHA256 Checksum: d884750471d5062e7f2b8886eddcd745d390fdac15cc3e5d30e06b3bae297a AX_SW_Suite_2021_188.zip</p>	International	1.88

AUTOMATIONWORX

2868059 CONFIG+

2700779 CONFIG+ OEM

2868062 CONFIG+ CPY

2730307 DIAG+

2985521 DIAG+ OEM

2730404 DIAG+ CPY

2985945 AX OPC SERVER

2985547 AX OPC SERVER OEM

2988463 AX OPC SERVER CPY

2700443 SAFETYPROG BASIC

2700441 SAFETYPROG ADVANCED

2700442 SAFETYPROG PROFESSIONAL

2700514 SAFETYPROG PROFESSIONAL OEM

2868075 DIAG+ NETSCAN

2868088 DIAG+ NETSCAN CPY

2721439 IBS CMD SWT G4

2721442 IBS CMD SWT G4 E

2721455 IBS CMD SWT G4 SP

2721468 IBS CMD SWT G4 P

2721471 IBS CMD SWT G4 F

2721507 IBS CMD SWT G4 CPY

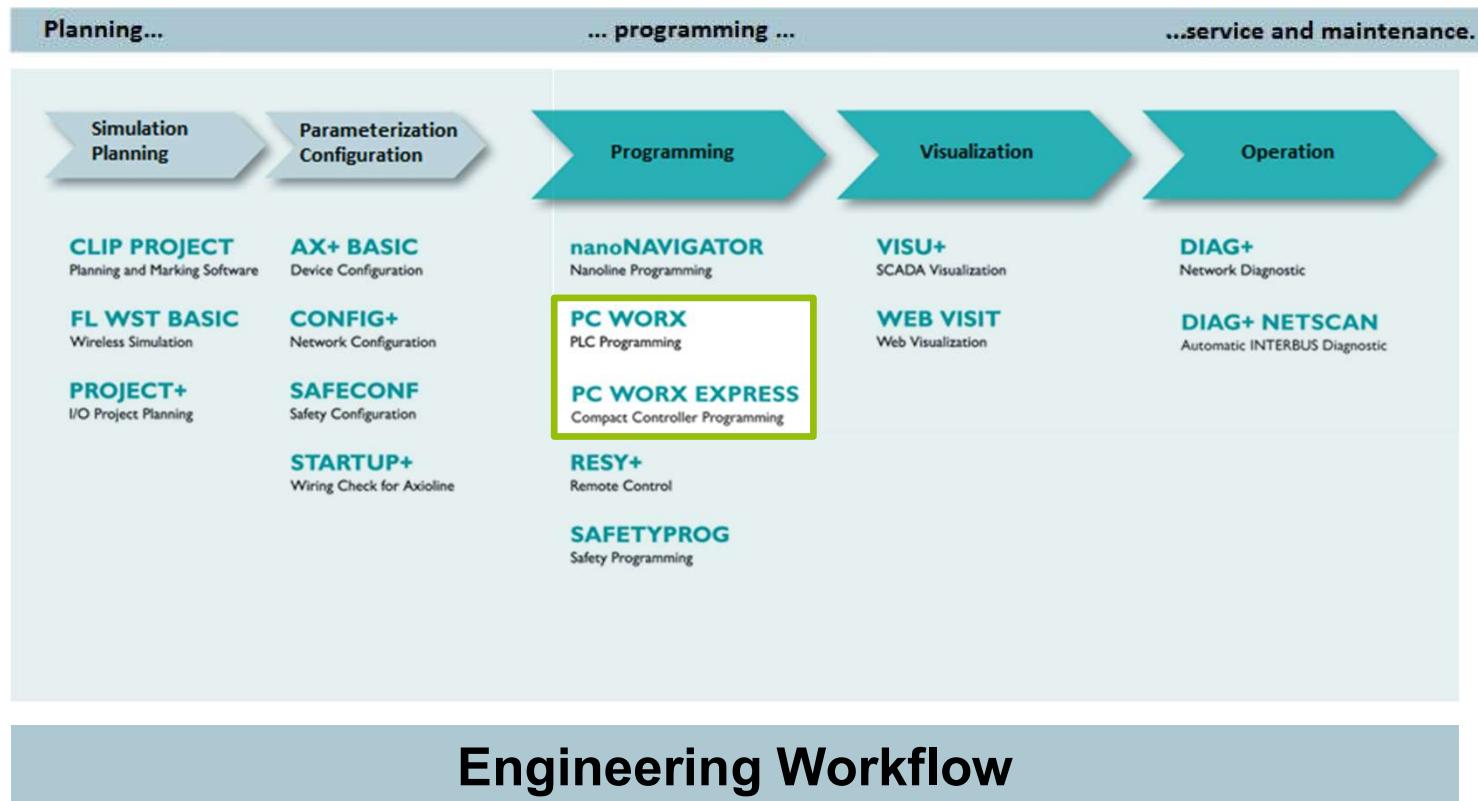
2722247 IBS CMD SWT G4 UM

2730776 IBS CMD SWT G4 4.6 F

2730789 IBS CMD SWT G4 4.6 SP

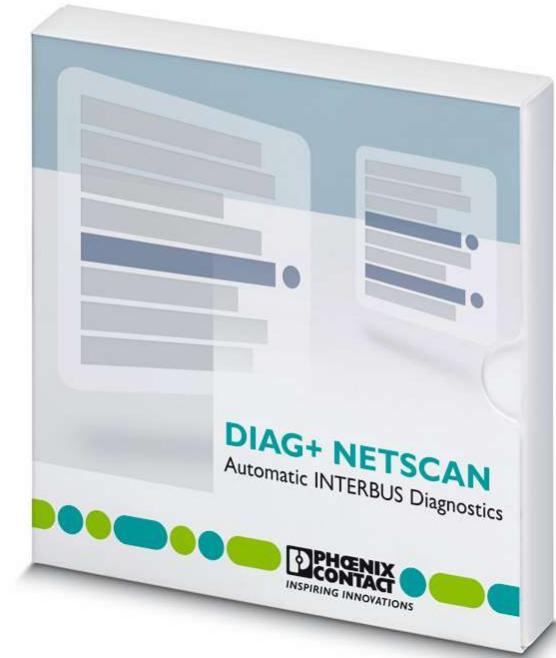
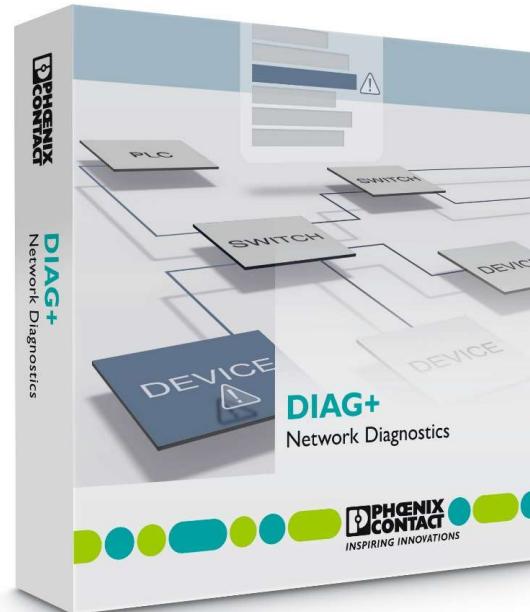


AUTOMATIONWORX Software Overview



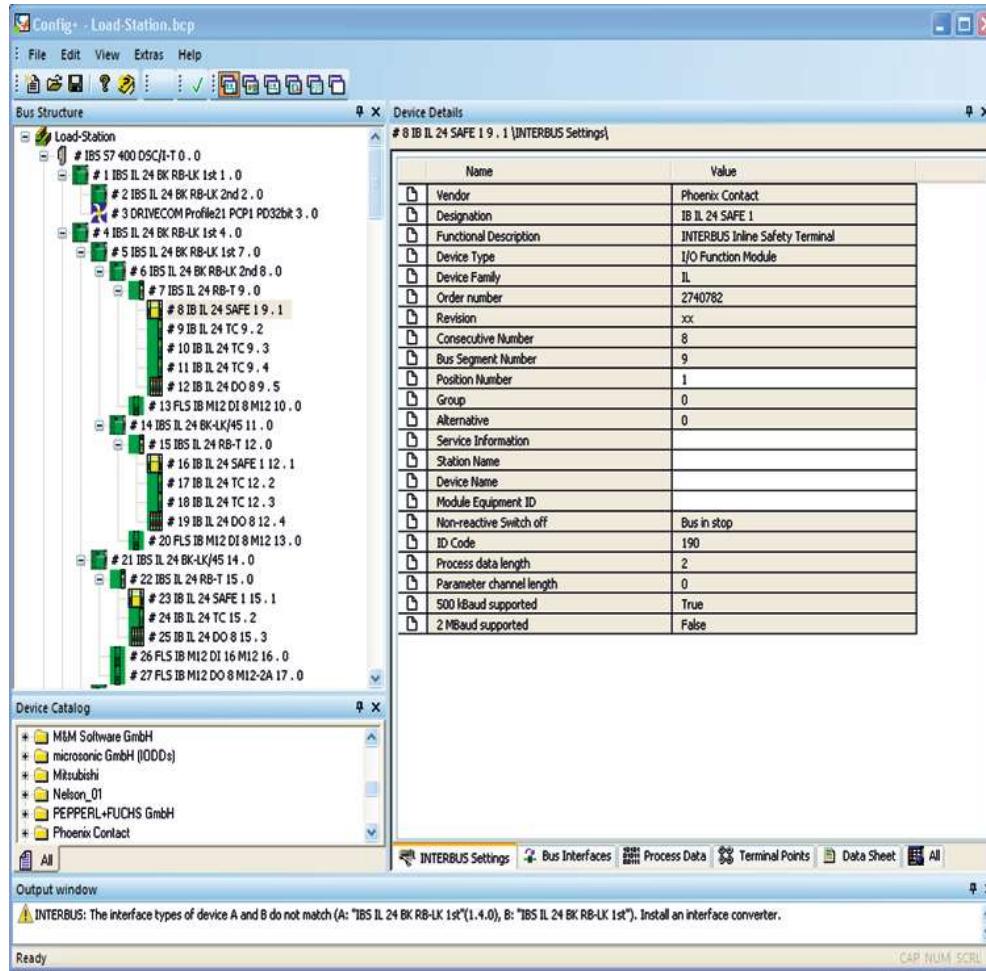
Software de Diagnóstico y Configuración para Sistemas de Control

CONFIG+ DIAG+ DIAG+ NETSCAN



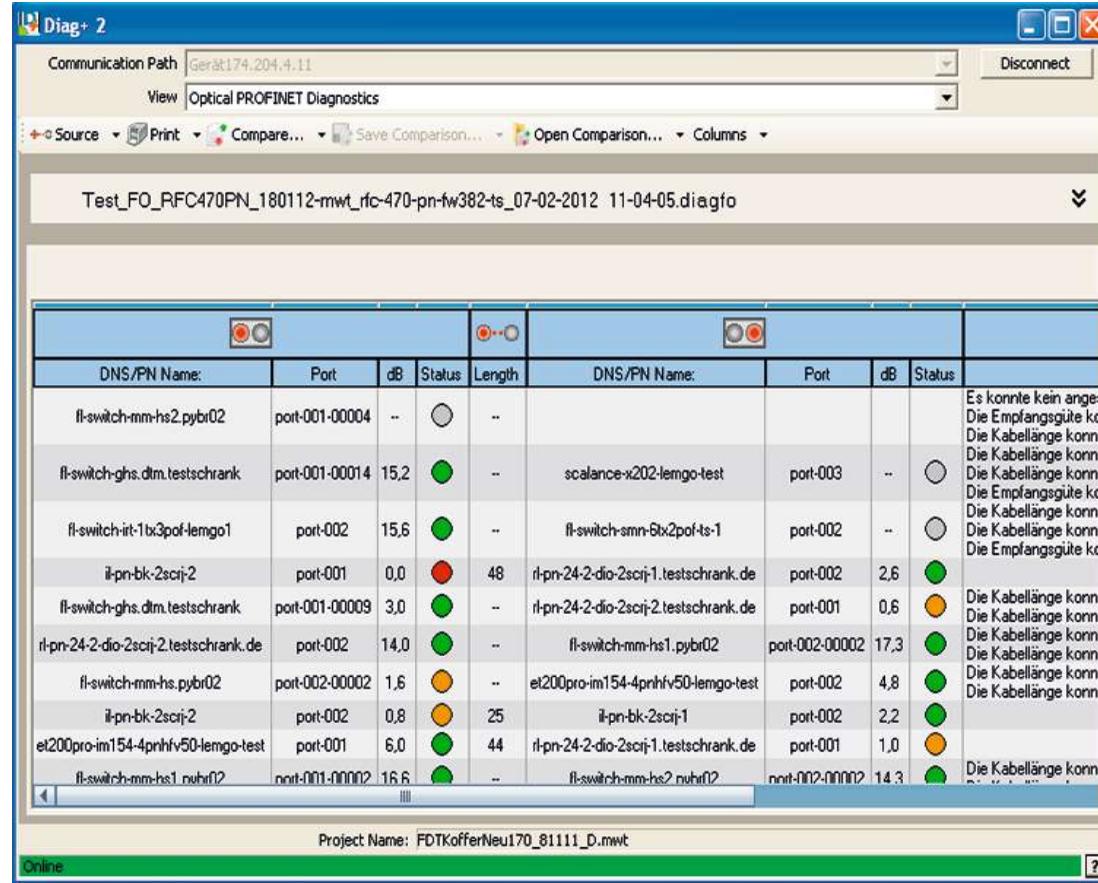
Software de Diagnóstico y Configuración para Sistemas de Control

CONFIG+



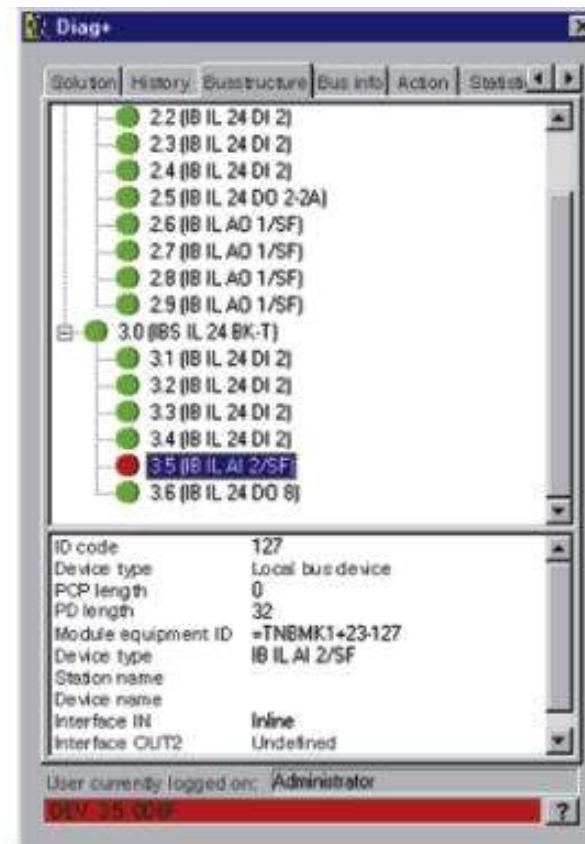
Software de Diagnóstico y Configuración para Sistemas de Control

DIAG+



Software de Diagnóstico y Configuración para Sistemas de Control

DIAG+ NETSCAN

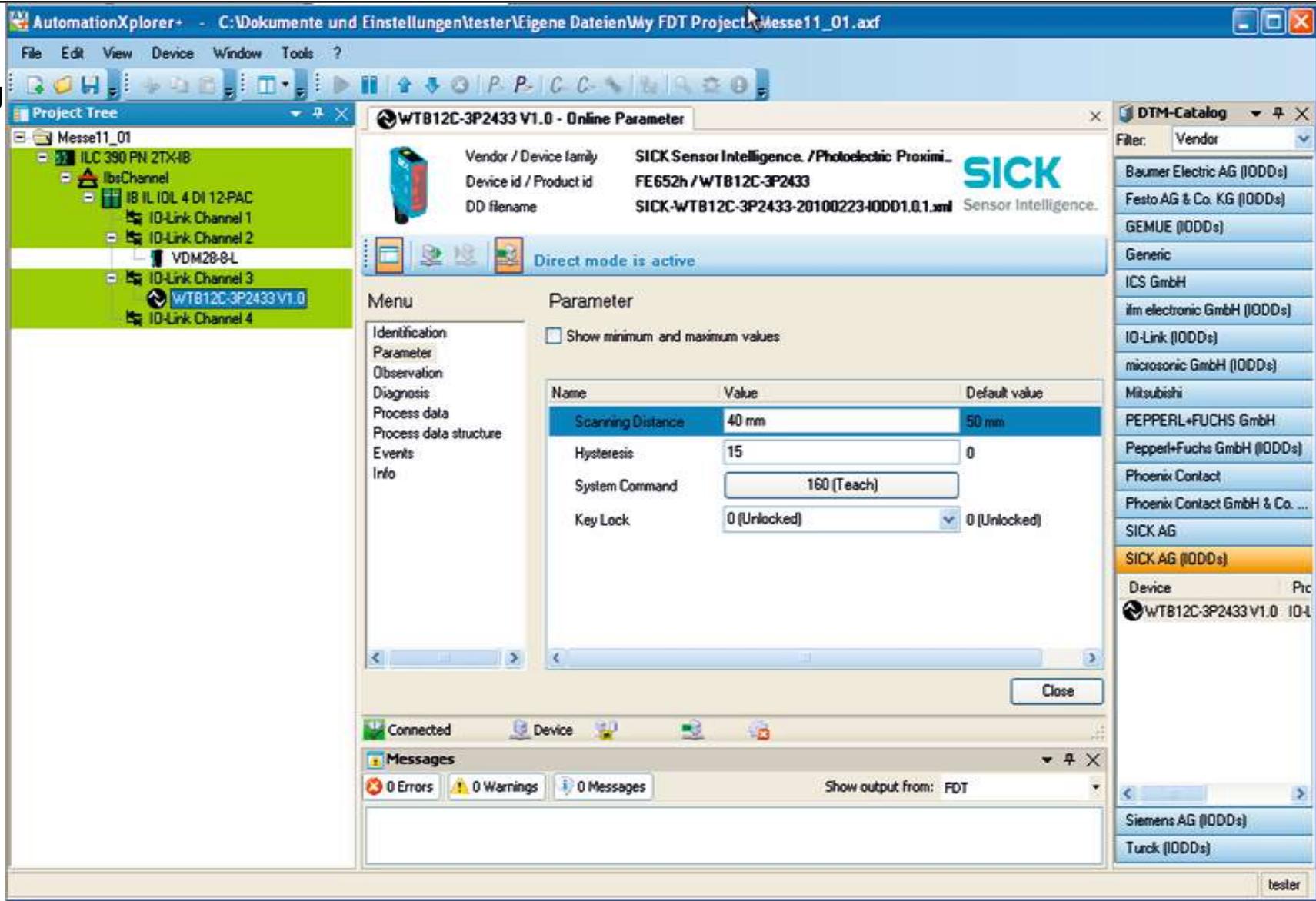


Software de Diagnóstico y ción para DIAG+ NETSCAN



Software de Diag

DIAG+

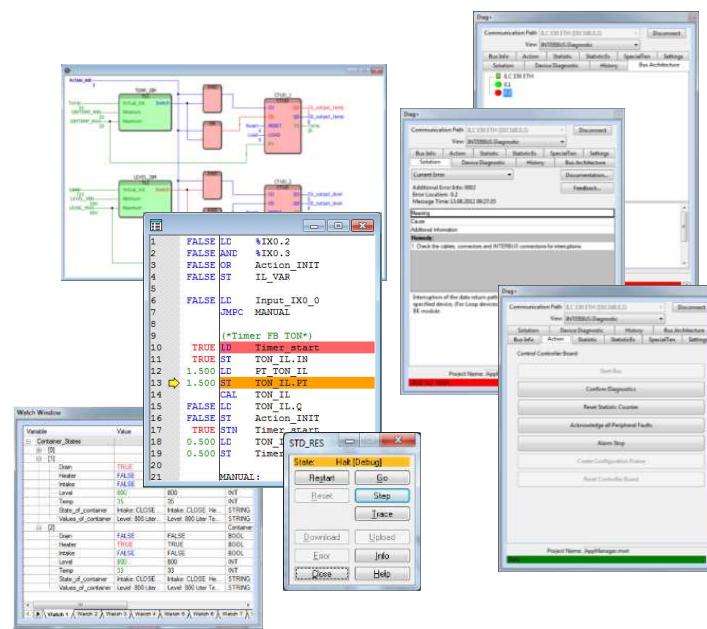


DIAG+ Network Diagnostics

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.

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

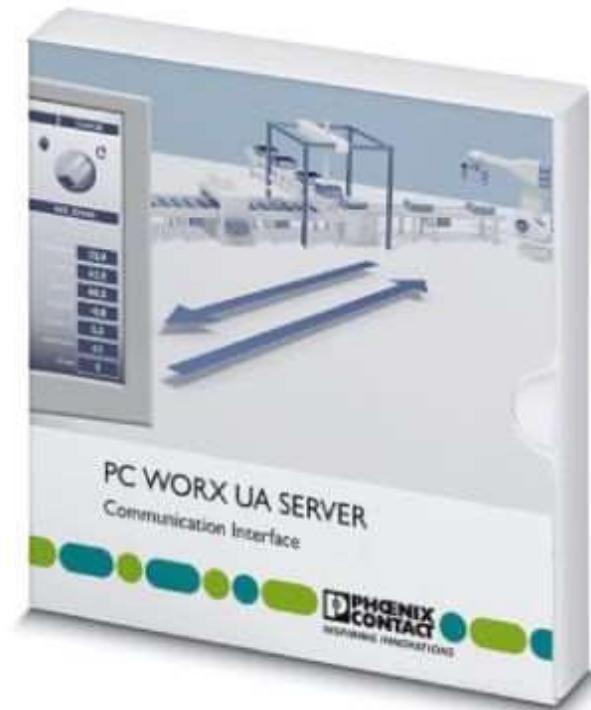
Visualization Software as VISU+

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.



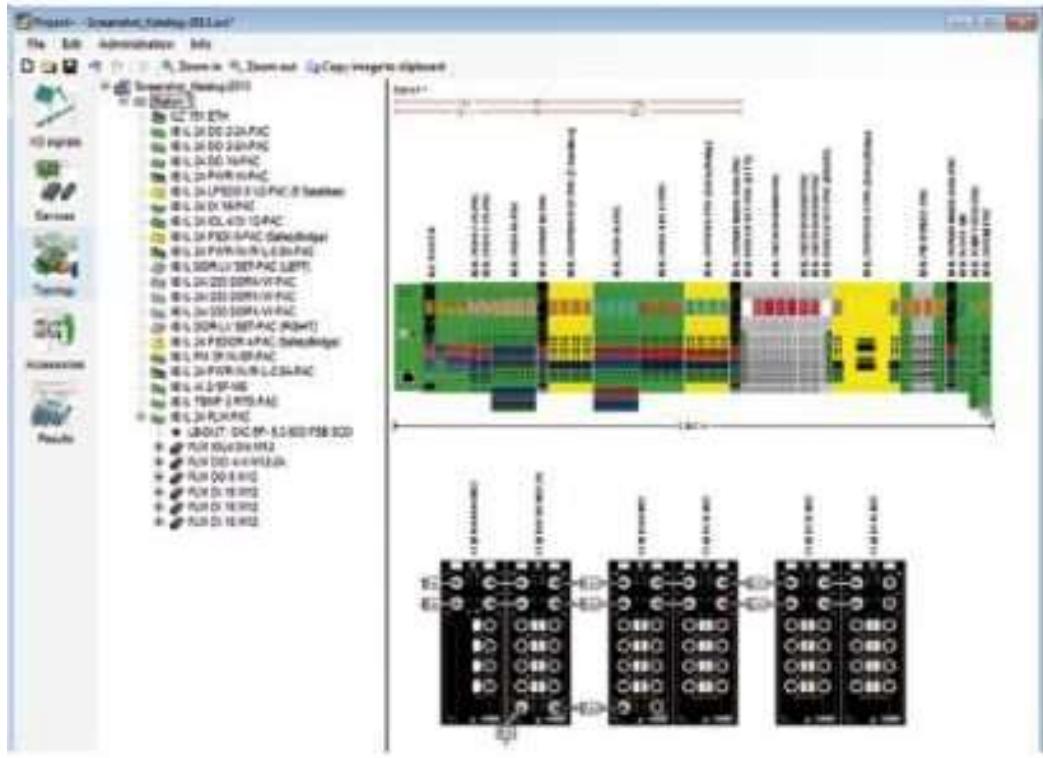
Software and Technologies

PROJECT+ 2.8

PROJECT+ 2.8

Inline Controllers & Buskopples
I/O

Fieldline Modular



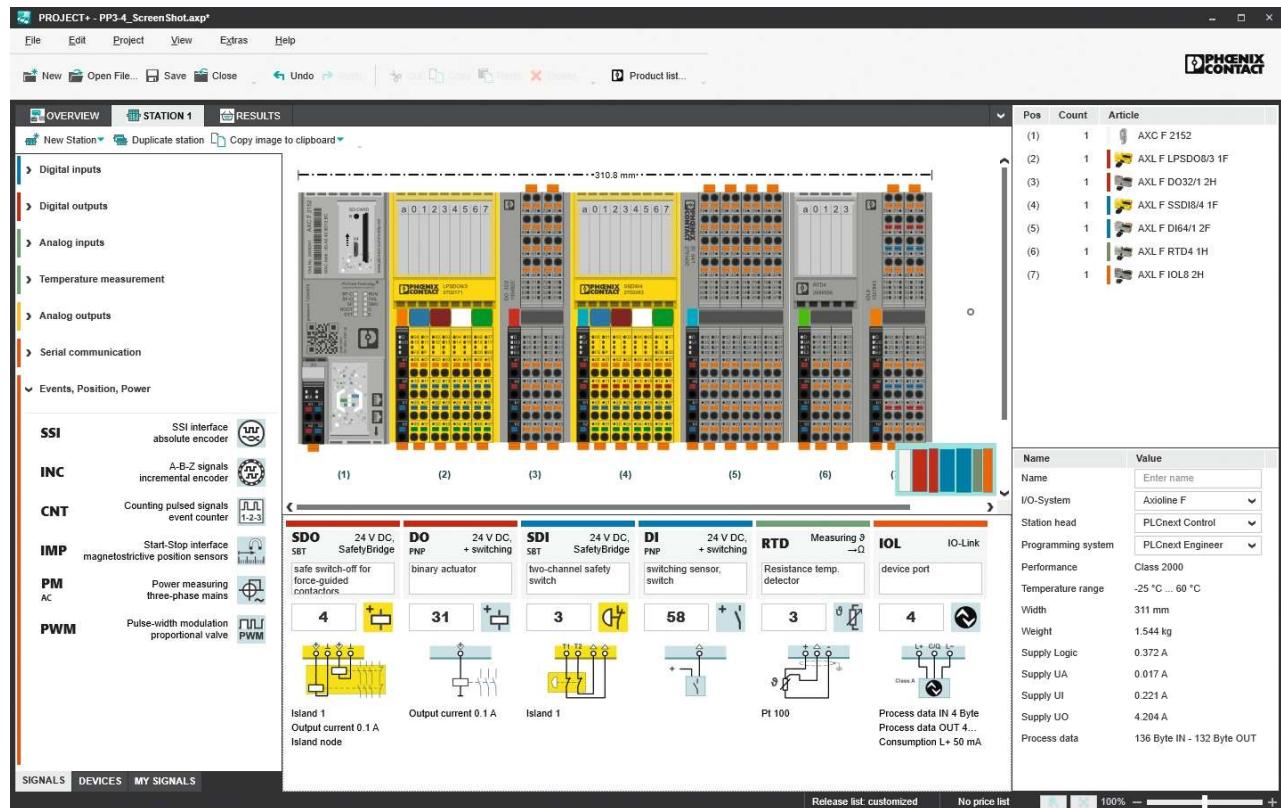
Software and Technologies

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.

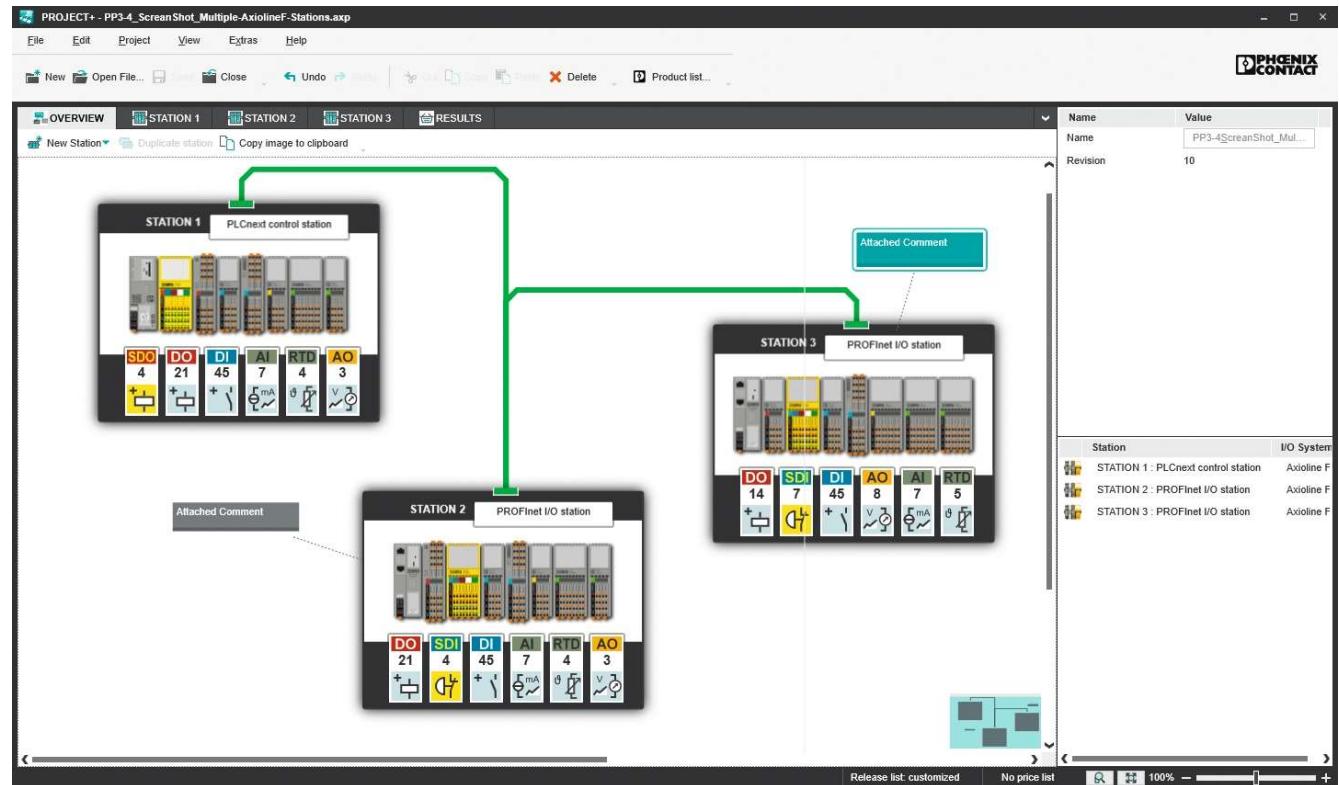
Project + 3: Planning for AxioLine F and Inline I/O stations



Software and Technologies

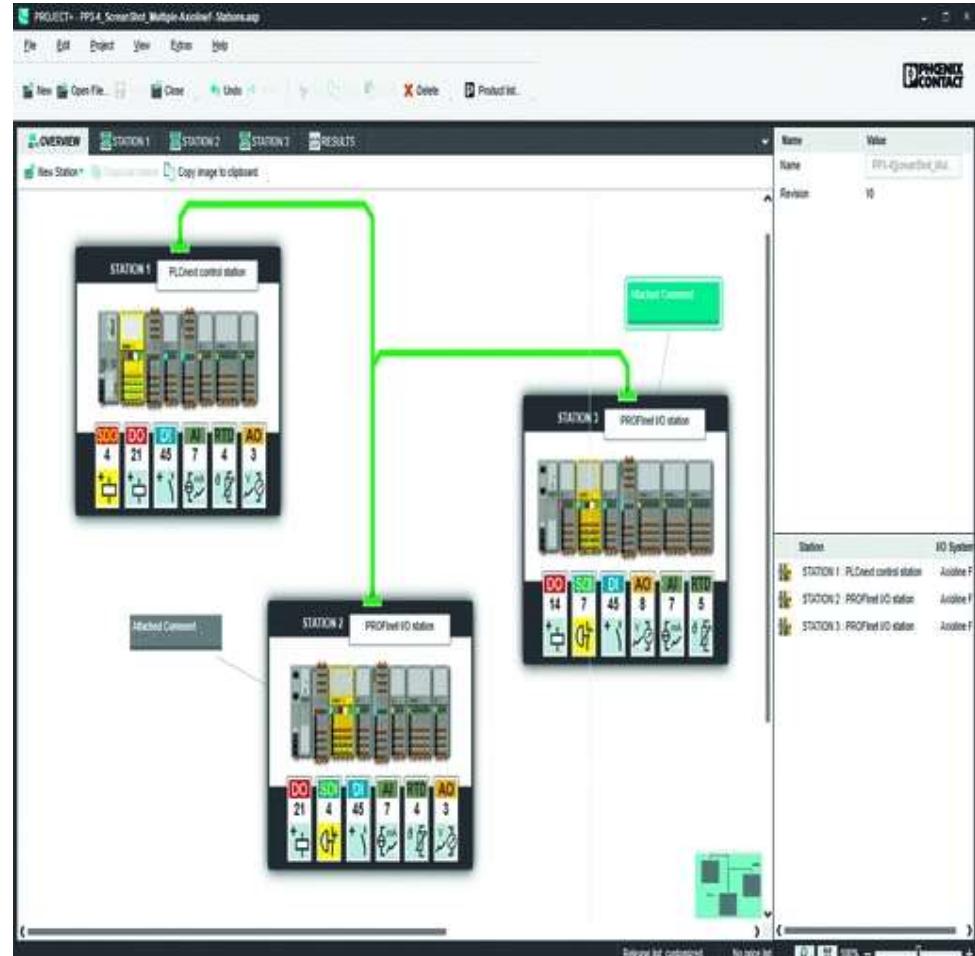
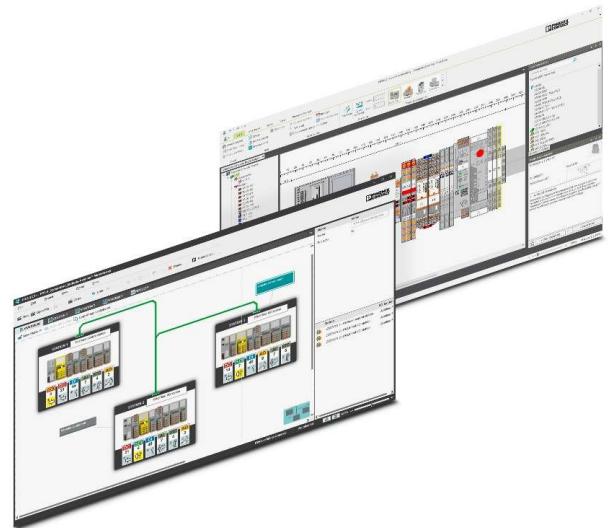
PROJECT+

PROJECT+ I/O Project Planning



Software

PROJECT+

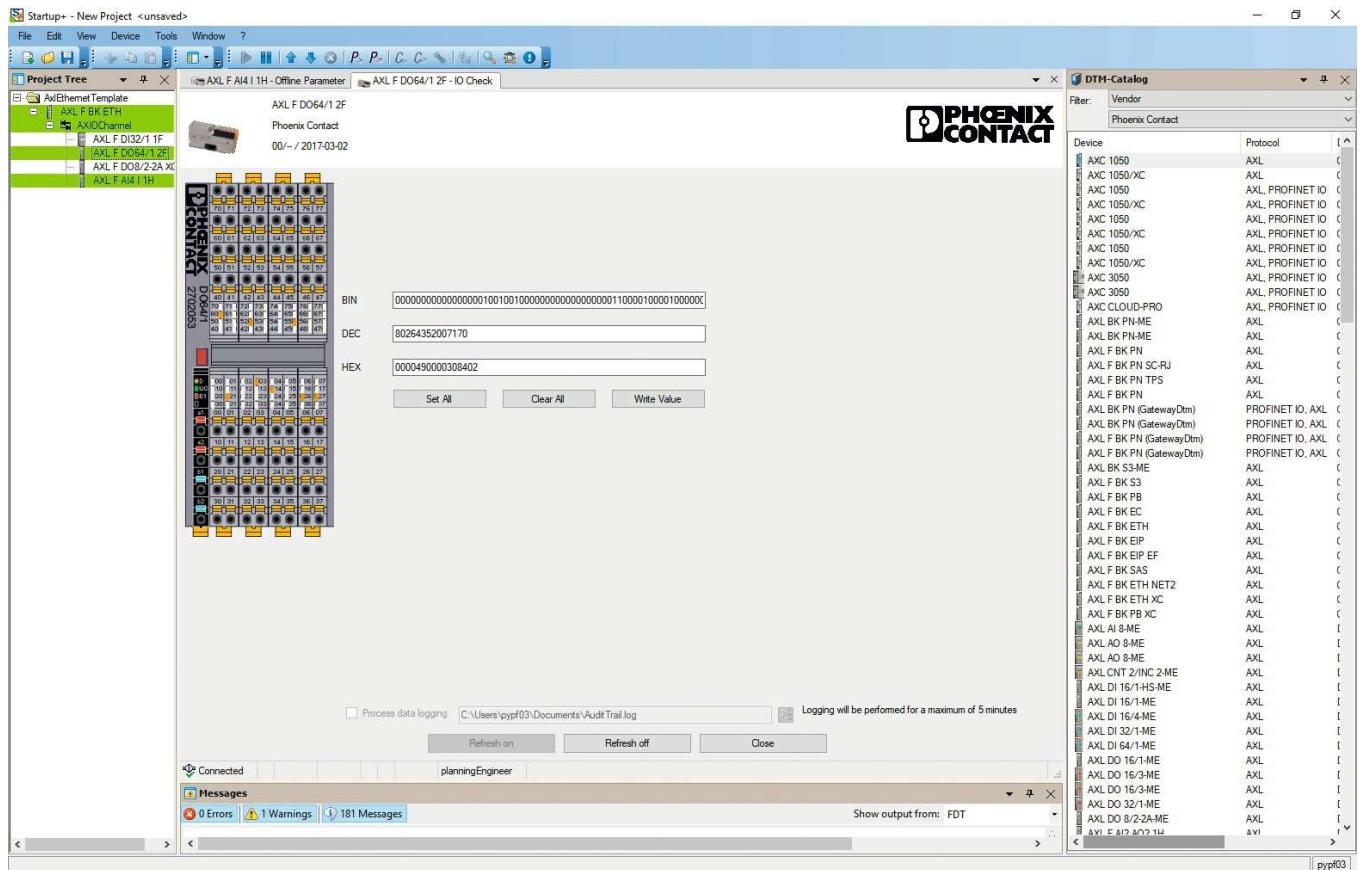


Software for setting Axioline

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.

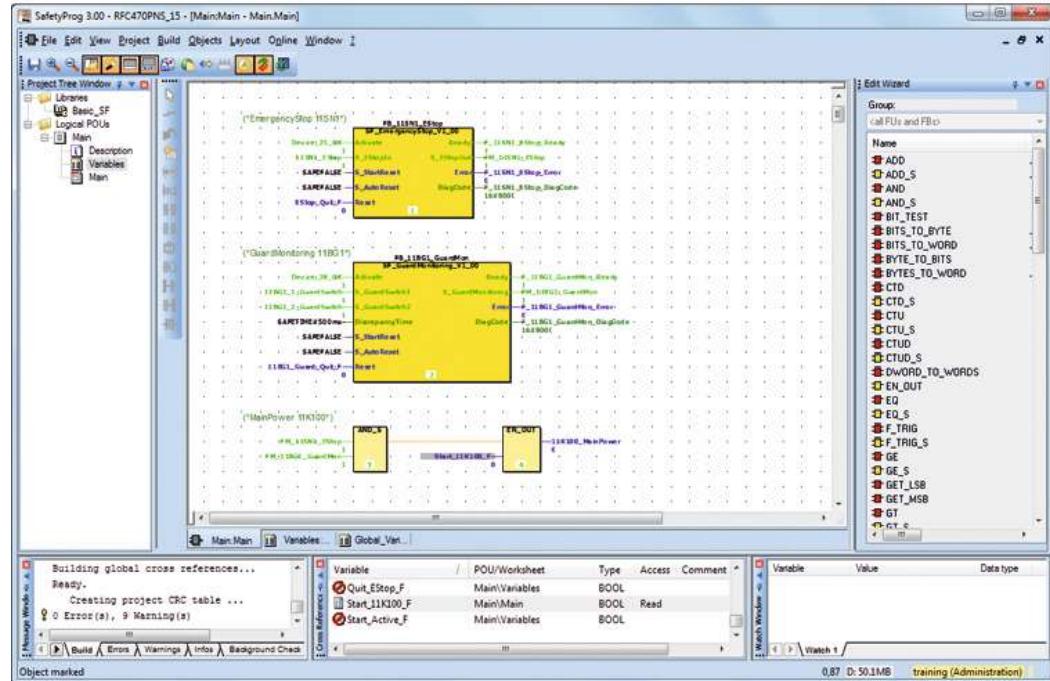
Benefit from the advantages of the free software tool:

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



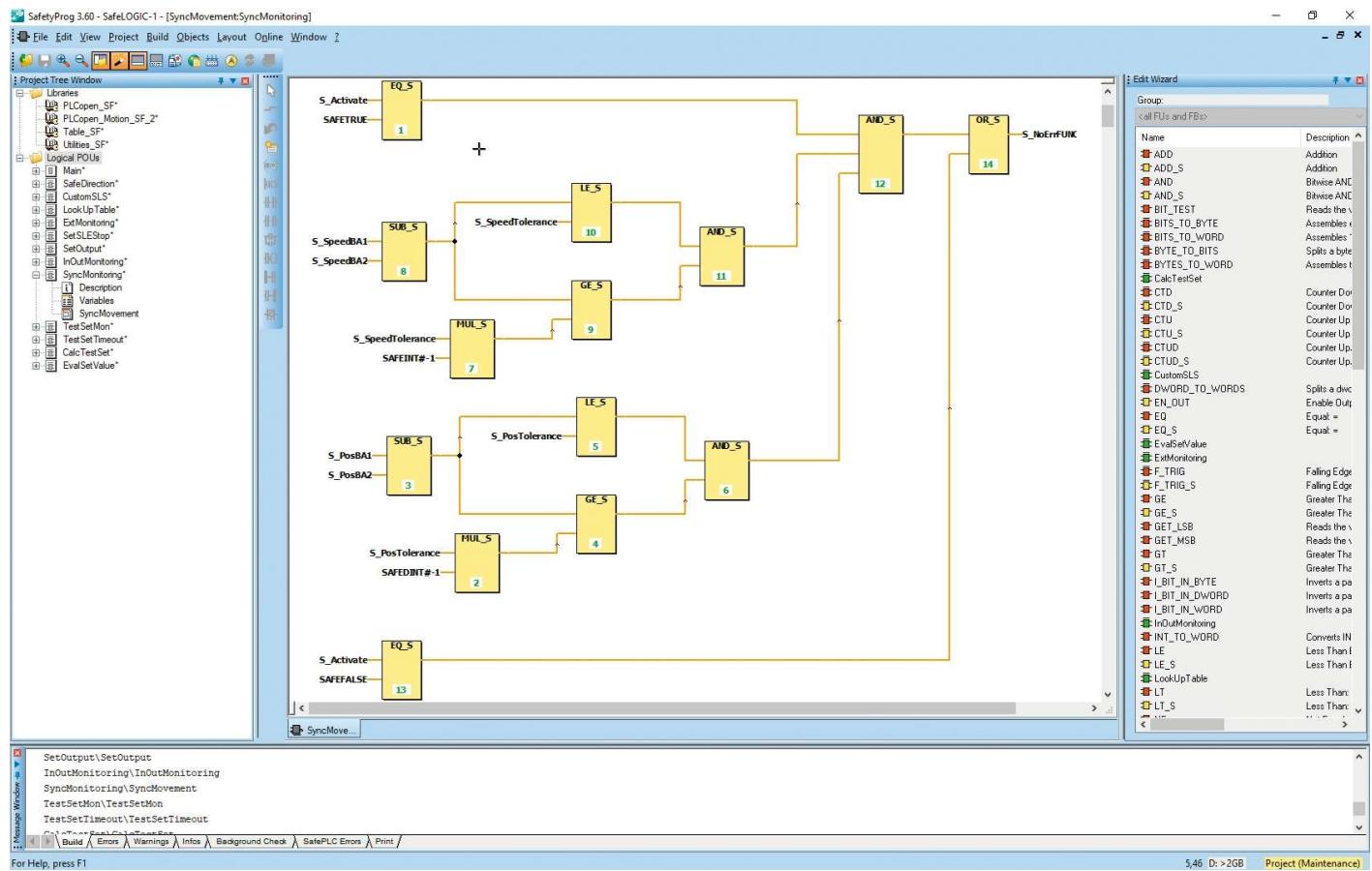
Software for Safety Controllers

SAFETYPROG



Software for Safety Controllers

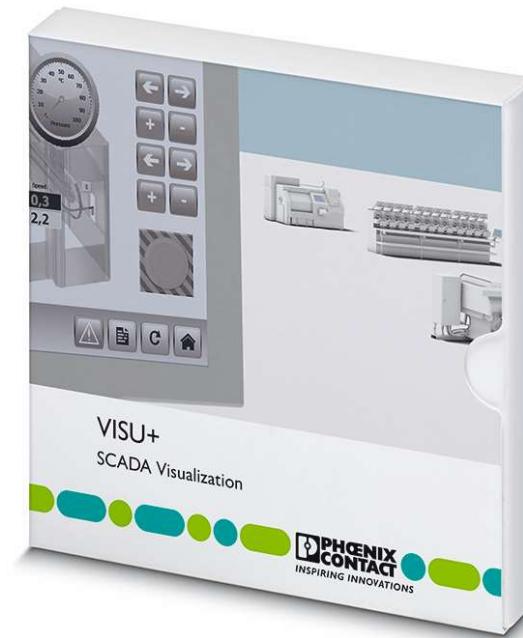
SAFETYPROG



Softwares de Visualización

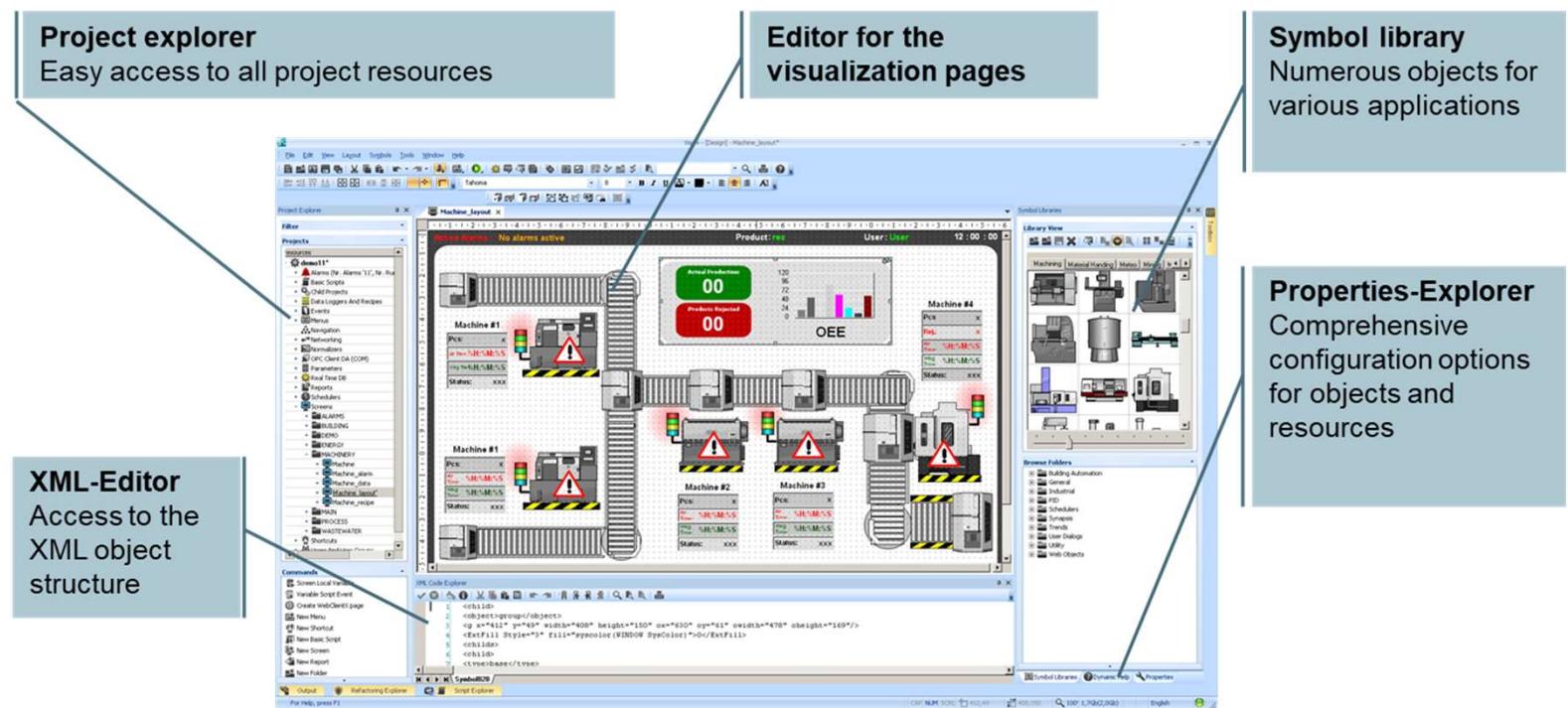
VISU+ EXPRESS

VISU+



Softwares Visualización

VISU+



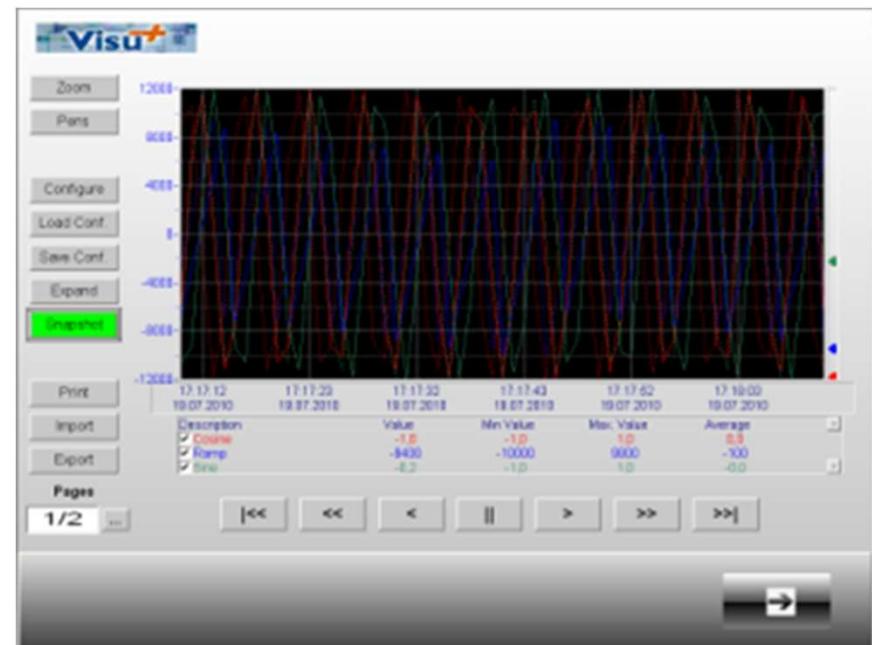
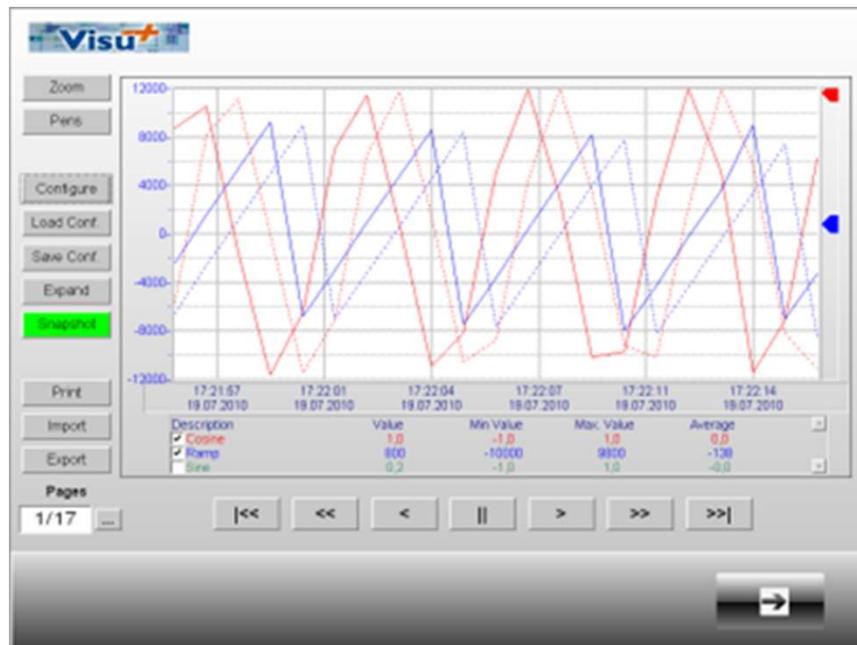
Effective engineering in a modern environment

VISU+ / VISU+ Express – communication drivers



Softwares Visualización

VISU+



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

Active Alarms					
ALL1	ALL2	ALL3	Severity	Status	
Emergency ON	19.07.2018 17:		S	ON	
High Level Water - Warning!	19.07.2018 17:00:00		S	ON	
Low Level Water - Warning!	19.07.2018 17:00:00		S	ON	

Software Visualization

Websit 6

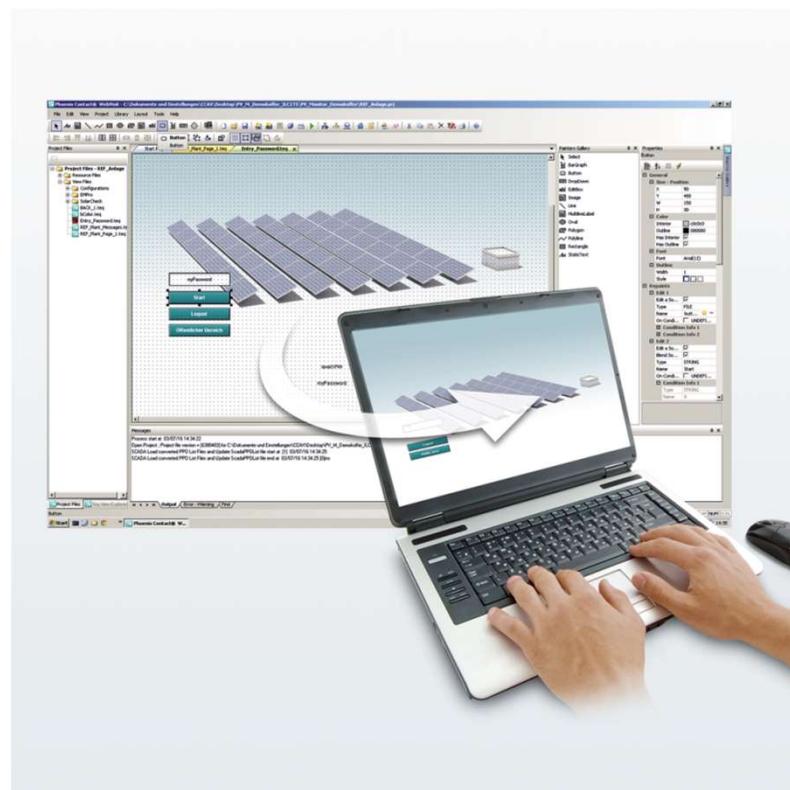
WEBVISIT
Web Visualization



Software Web development

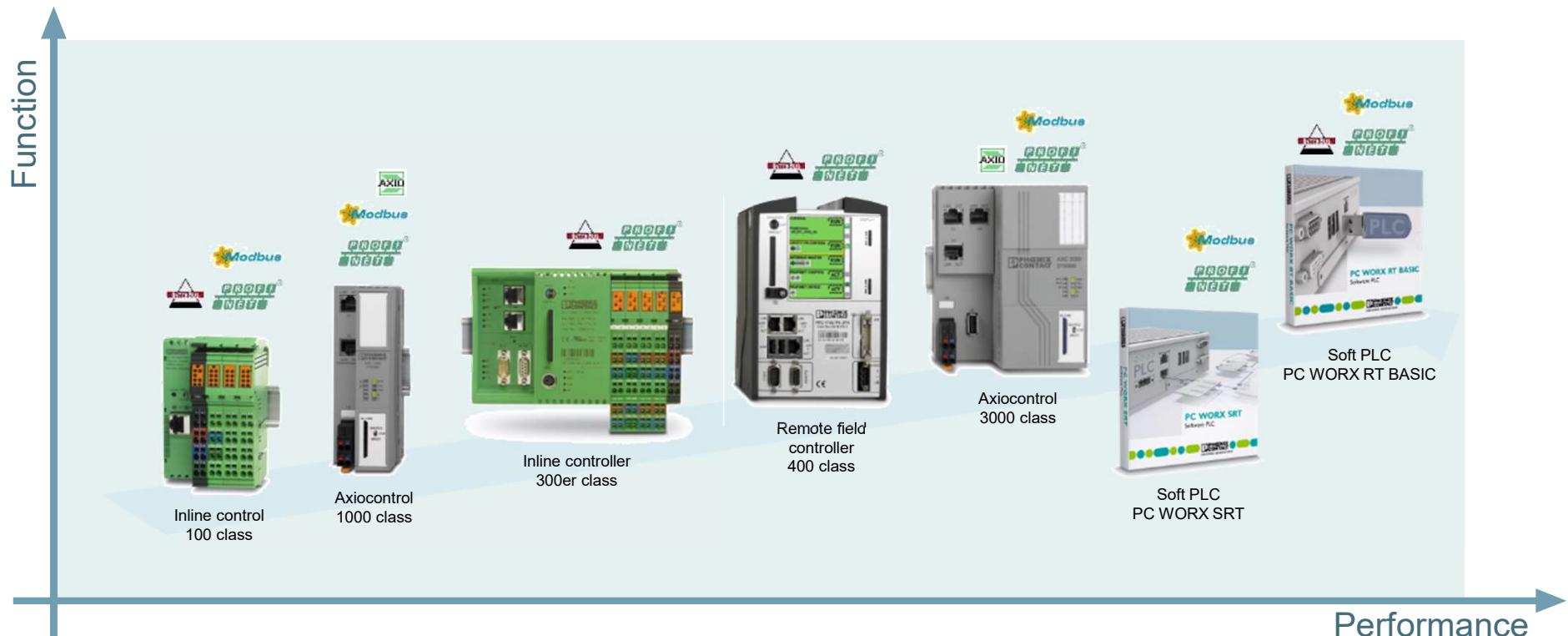
Webvisit – your advantages

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



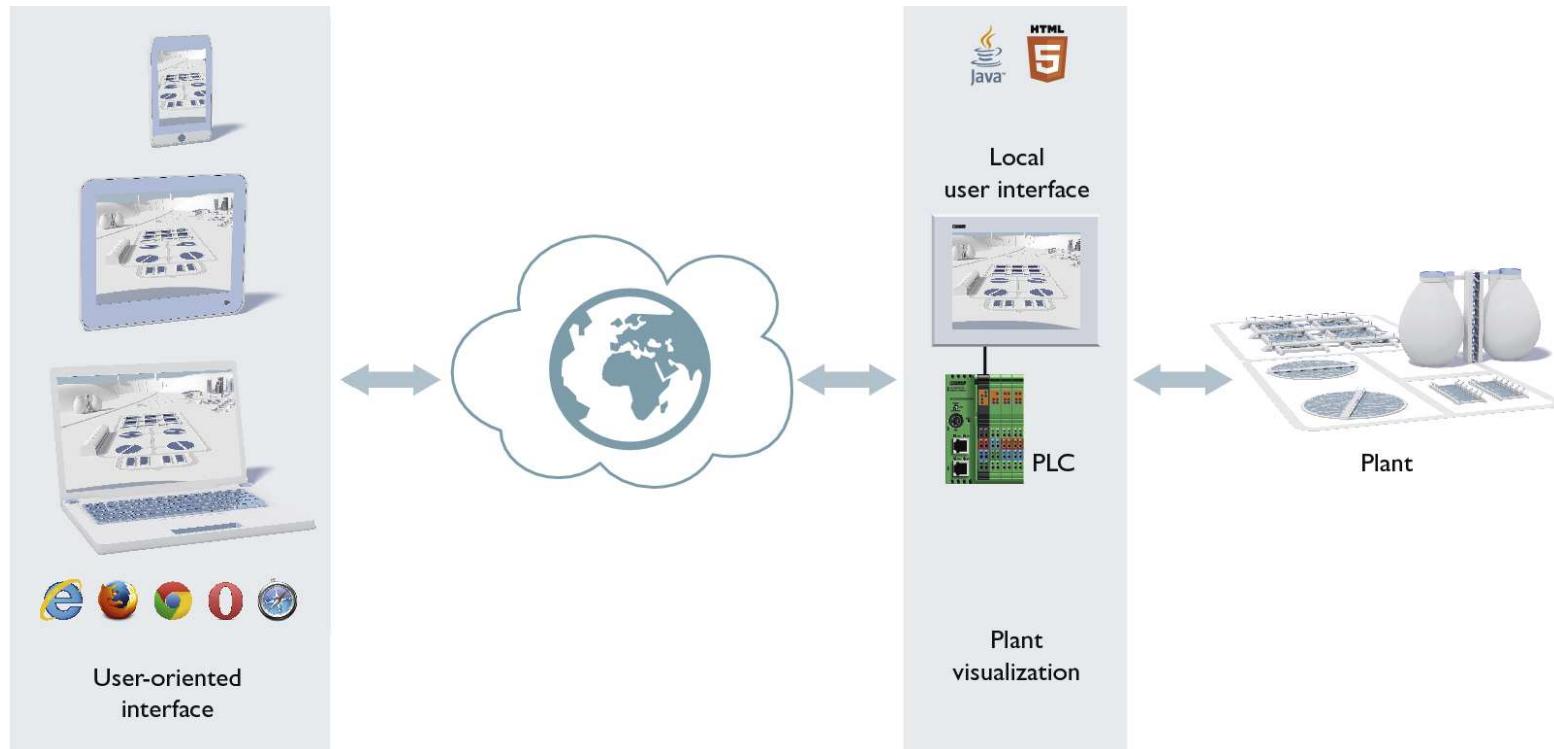
Software development for web server controller

Webvisit - Compatible controller



Software development

Webvisit - Topology



AUTOMATIONWORX Software Suite

A complete application in just a few steps



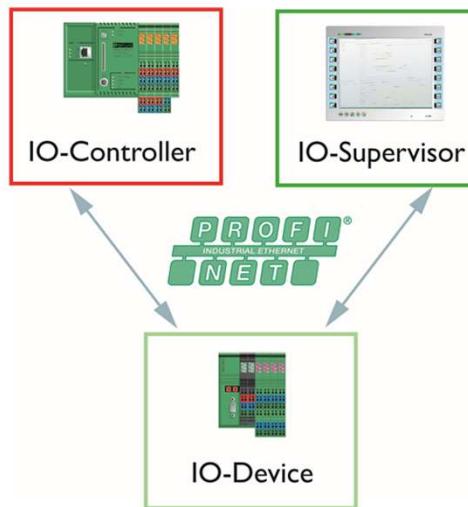
- Creating visualization pages using the Webvisit editor
- Importing and linking variables from PC WORX, if required
- Downloading the completed project to the controller
- Viewing the application with HMIs (MicroBrowser) or standard/mobile browser



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

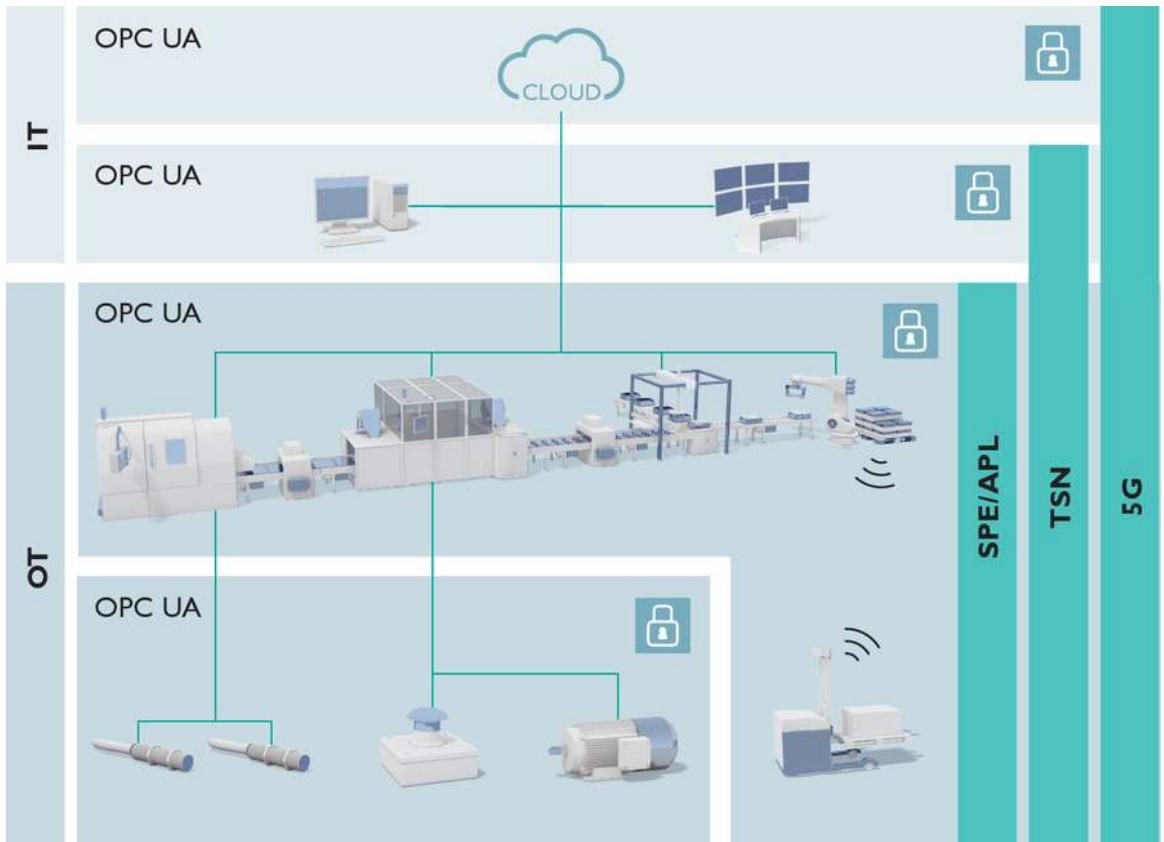
PROFINET IO-Device:

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

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

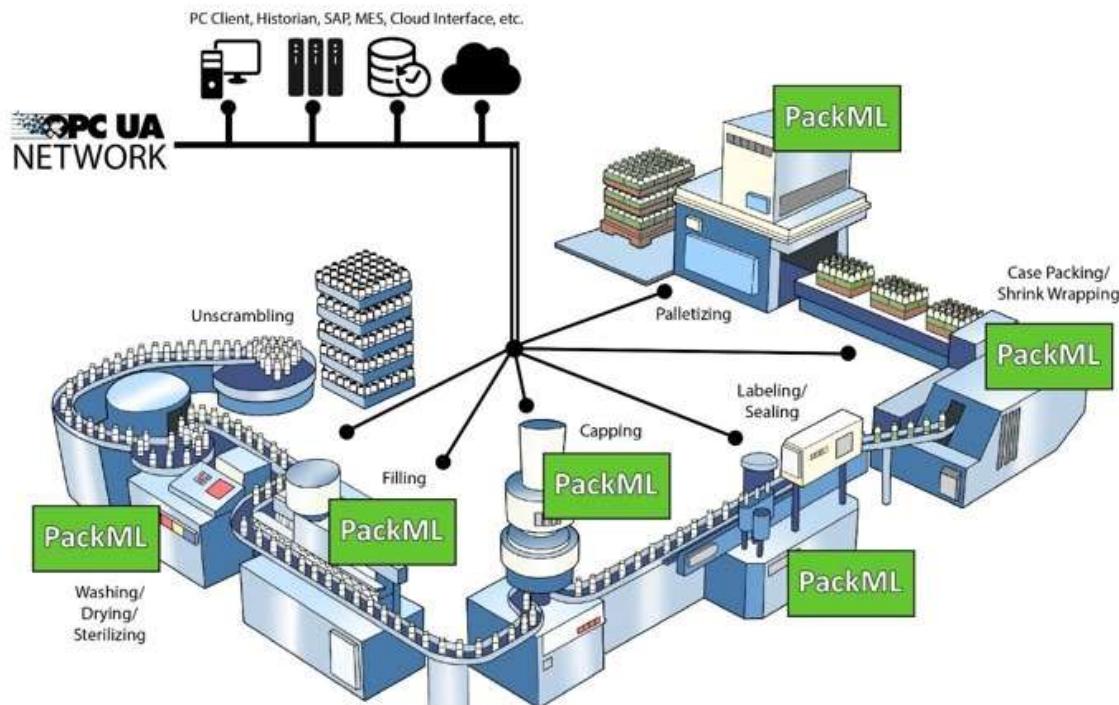
OPC UA

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

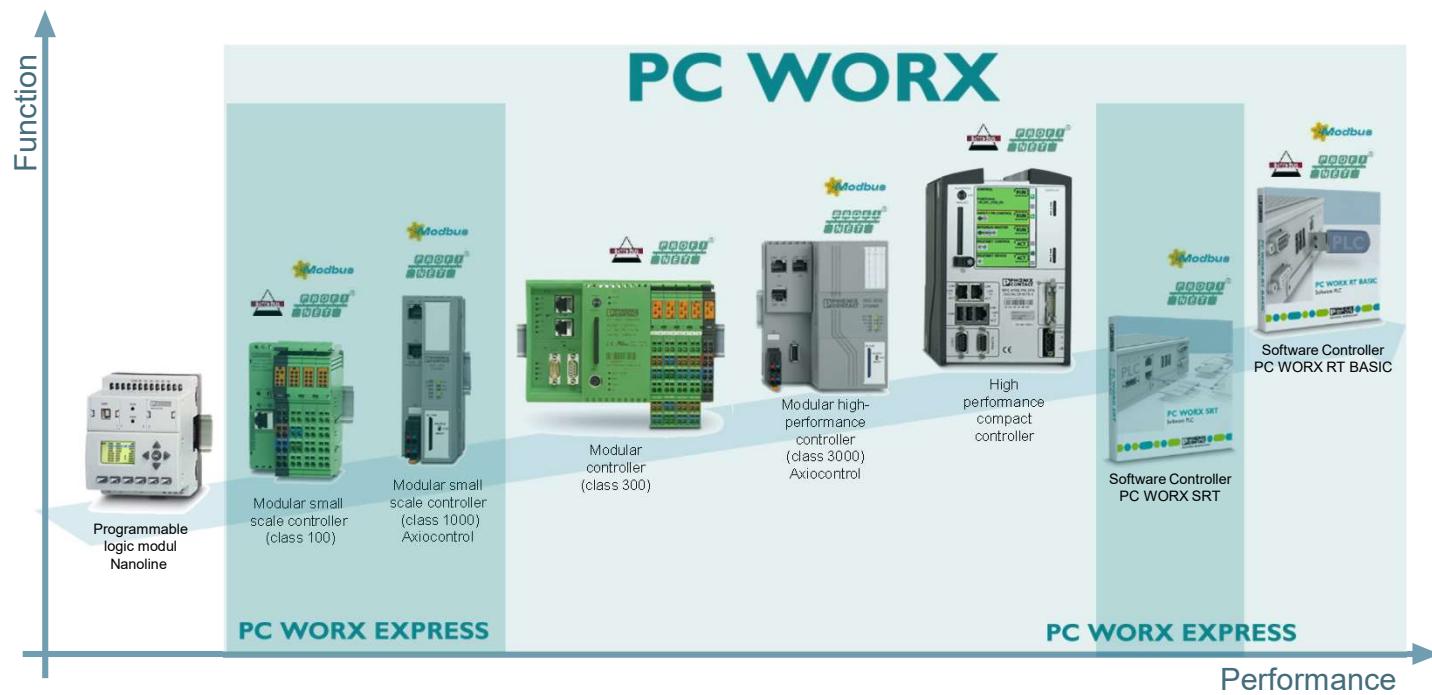
OPC UA Arquitecture



Equipos



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**



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