



Digitalization

Industria 4.0

Smart Production

E-Mobility

Smart Energy

Energy Efficiency

Smart Infrastructure

Smart Buildings

Renewables

Antonio Gordillo

IMA

Enero 2021

Welcome

Sistema de Control

PLCnext



Webinars

Agenda

- PLCnext Technology:
 - PLCnext Control Controladores
 - Configuración hacia nubes
 - Aplicaciones
 - Webinars
-

PLCnext Technology 
Designed by Phoenix Contact



Webinar IMA Enero 2021

Sistema de Control PLCnext



Fecha	8 Enero 2021
Hora	9:00
Hora	
Duración	1 hora
Costo	gratuito

Logre mayor conocimiento sobre nuestro sistema de Control llamado PLCnext Control por medio de un amplio conocimiento de la oferta actual mostrada a finales de este año.

Durante esta sesión usted reconocerá la plataforma más reciente de controladores, así como descubrir en las herramientas, como los Sistemas de Control PLCnext Technology ayudan a realizar tareas diferentes y programaciones alternas para brindar mayor flexibilidad en los sistemas modernos de Control que requieren otro tipo de conectividad y se orientan a la digitalización y cómputo cognitivo de alta exigencia.

PLCnext Technology[®]

Designed by PHOENIX CONTACT



PLCnext Control

Open Control Platform

Devices in various performance classes including PLCnext Runtime System and accessories



PLCnext Engineer

Engineering Software

Engineering tool for commissioning, configuring and programming PLCnext Control



PLCnext Store

Software Store

Apps for functional extension of PLCnext Control and PLCnext Engineer



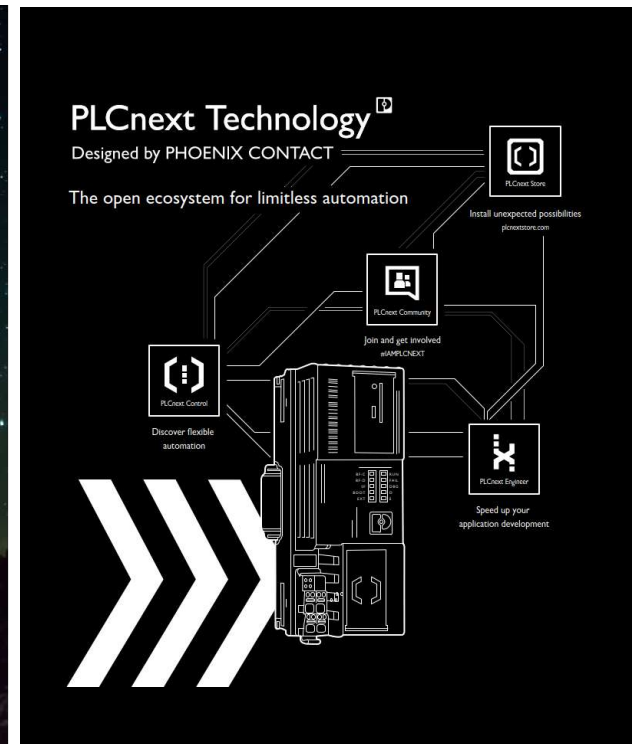
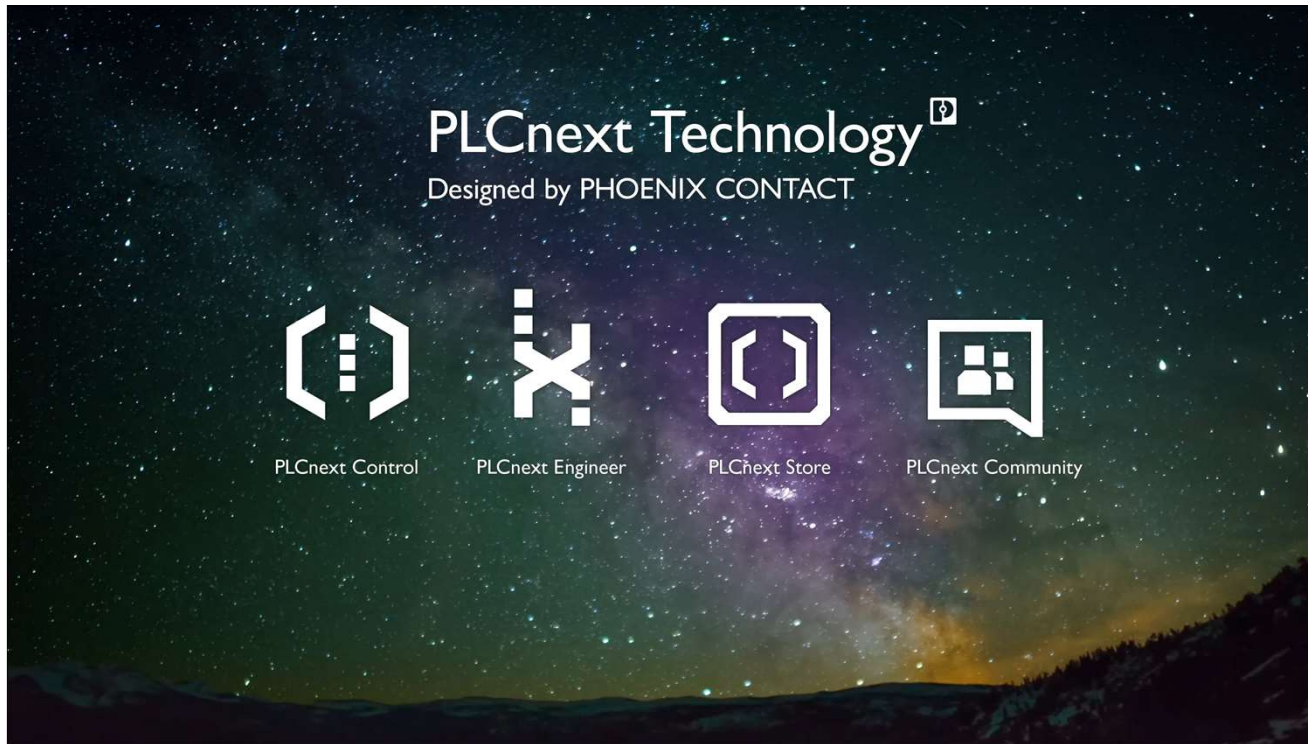
PLCnext Community

Collaboration & Resources

We offer our community Information, support and helpful resources, including FAQs, forums, tutorials, and a GitHub presence

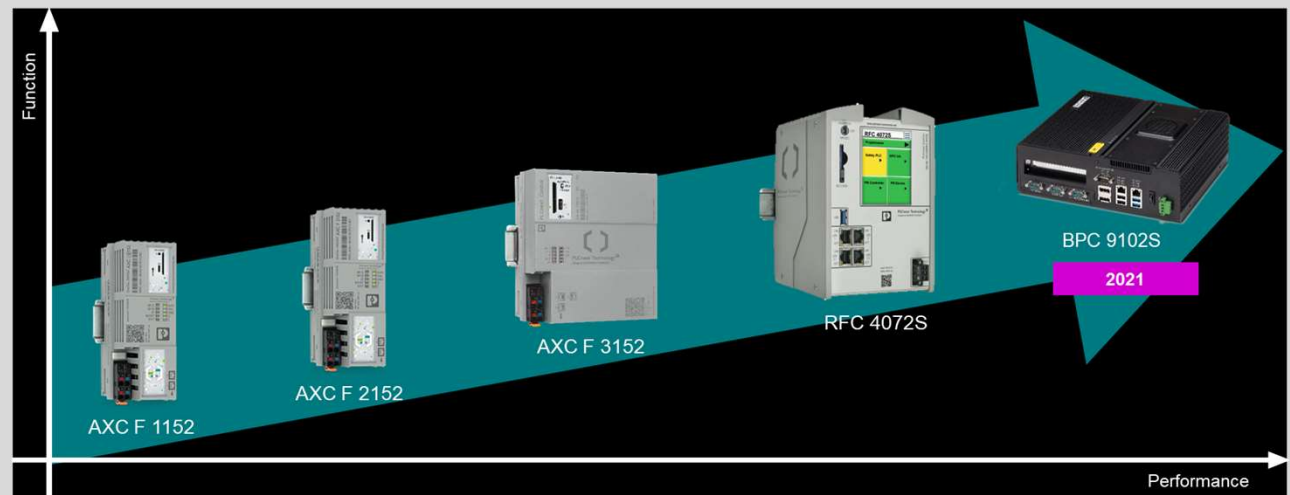
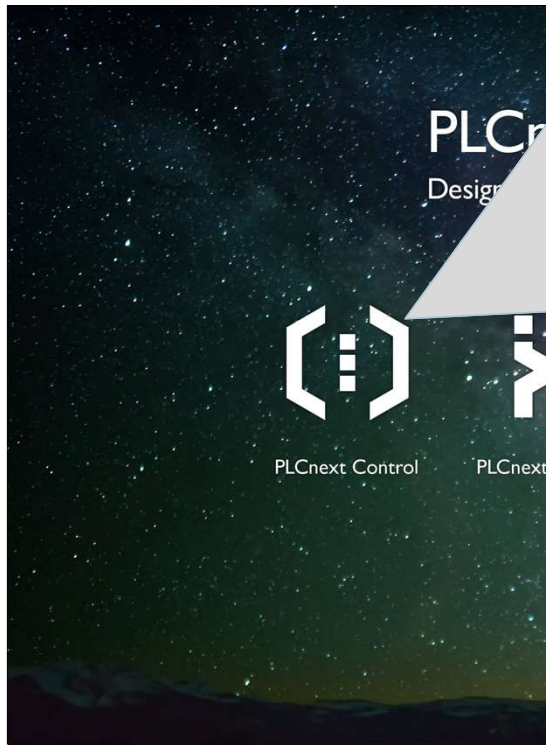
PLCnext Technology Ecosystem

PLCnext Technology



PLCnext Ecosystem

PLCnext Technology

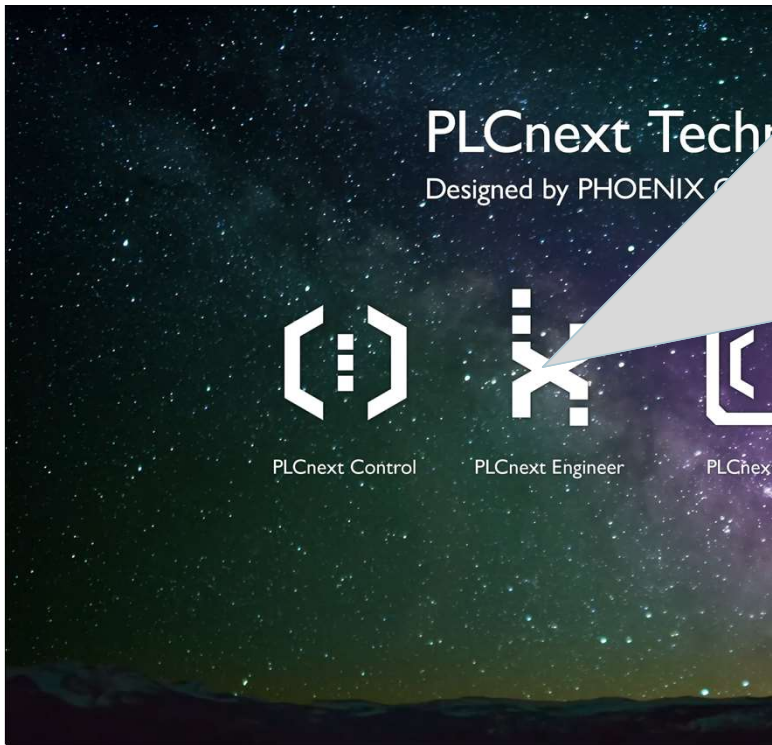


Open Control Platform

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

PLCnext Ecosystem

PLCnext Technology

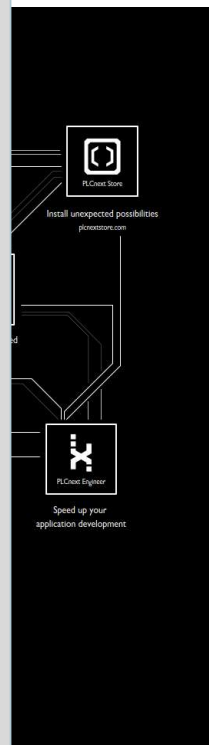


PLCnext Engineer
Engineering Software

PHOENIX CONTACT
INDUSTRIAL AUTOMATION

Features: SFC+, Code Analysis, Trending, Application Control, IEC 61850, Service Programs, Alarming, C#, Safety Basics, Safety FBs, Source Code Management.

Engineering Software
Engineering tool for commissioning, configuring, and programming PLCnext Controls



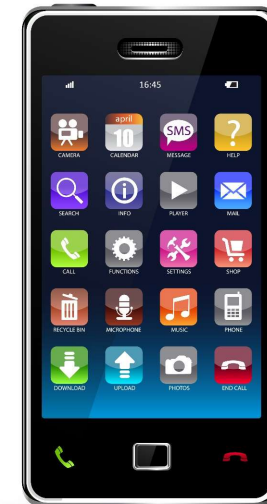
PLCnext Technology

The reliability and robustness
of the classical PLC world



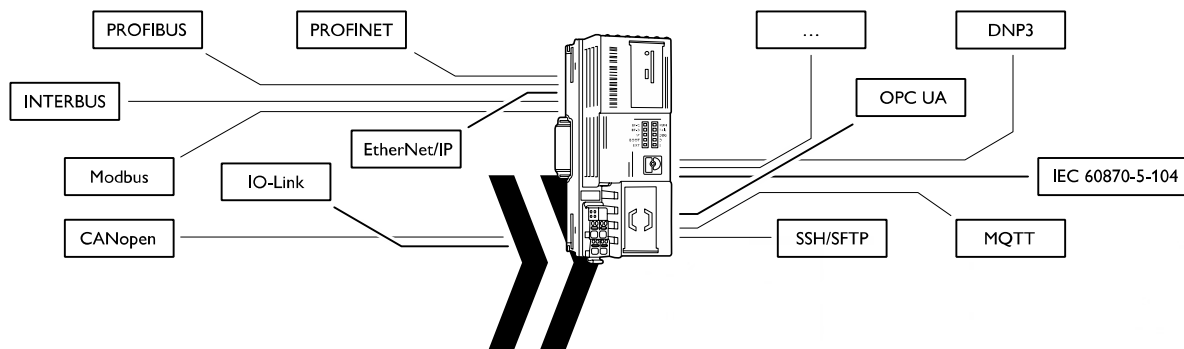
enhances

with the openness and flexibility
of Smart Devices.

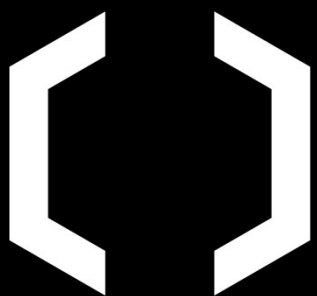


enhanced connectivity – Intelligent Networking

Future-proof Connectivity



PLCnext Technology 
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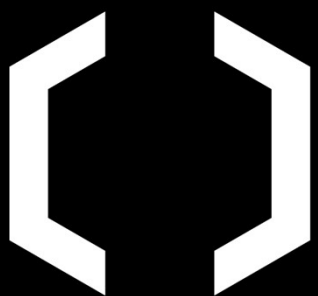
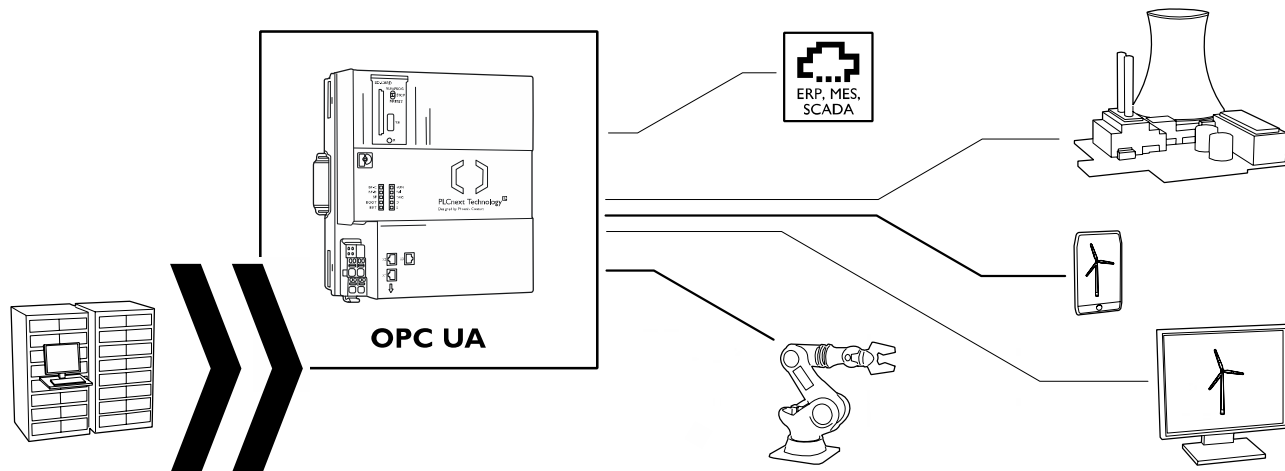


PLCnext Technology enables the integration of current and future interfaces and protocols for open communication in highly networked automation systems.

enhanced connectivity – Intelligent Networking

Integrated OPC UA Server

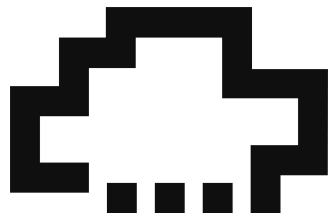
PLCnext Technology 
Designed by PHOENIX CONTACT



Data Access, Alarms and
Conditions, Programs, Historical
Access, Global Discovery Server

Cloud Strategy for Intelligent Networking

Proficloud, Public Cloud, Private Cloud, any Cloud



PROFICLOUD



Alibaba Cloud



Google Cloud



Azure



Implement new IoT-based business models through direct connection to cloud-based services and databases. With the cloud agnostic strategy, a cloud connector to any cloud can be downloaded via PLCnext Store and a fully integrated Proficloud connectivity, PLCnext Technology provides full support for any cloud strategy - public, private, hybrid - including AWS, IBM, Azure, Alibaba and MindSphere.



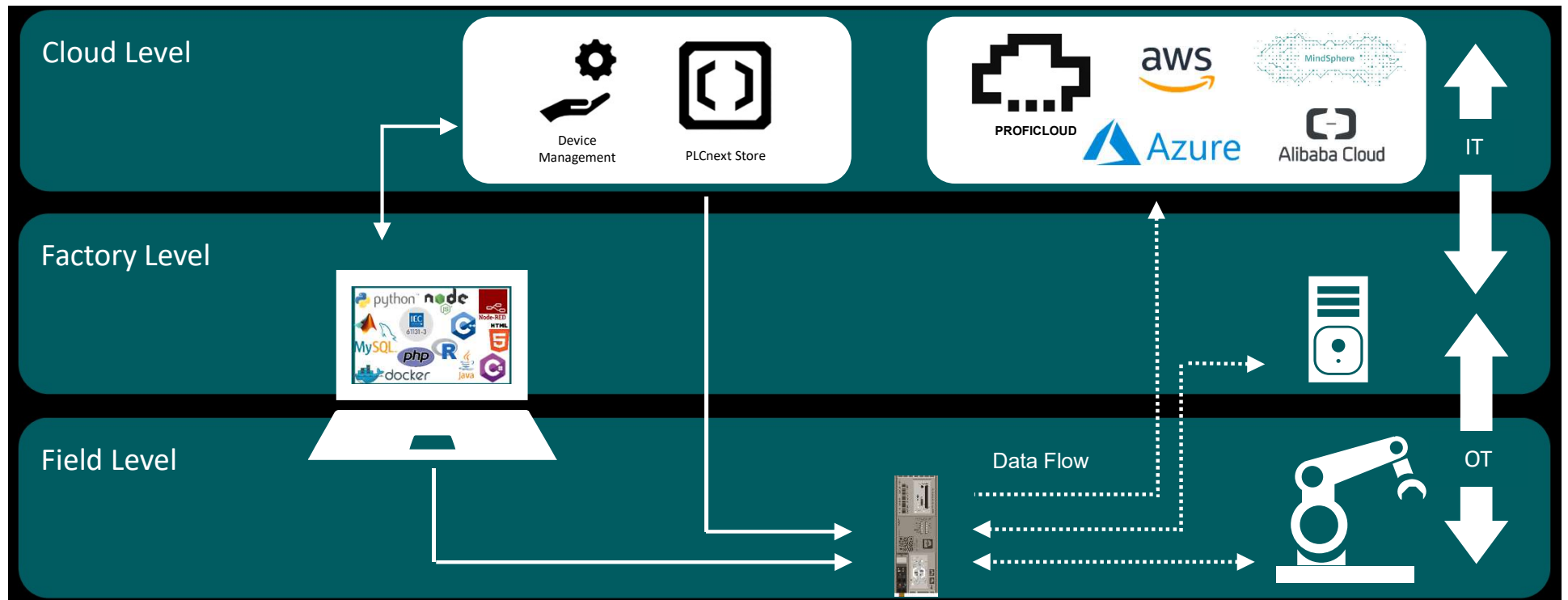
PLCnext Lesson 15- Sending PLC values to IBM Cloud (1)



PLCnext Lesson 15 - Sending PLC values to IBM Cloud (2)

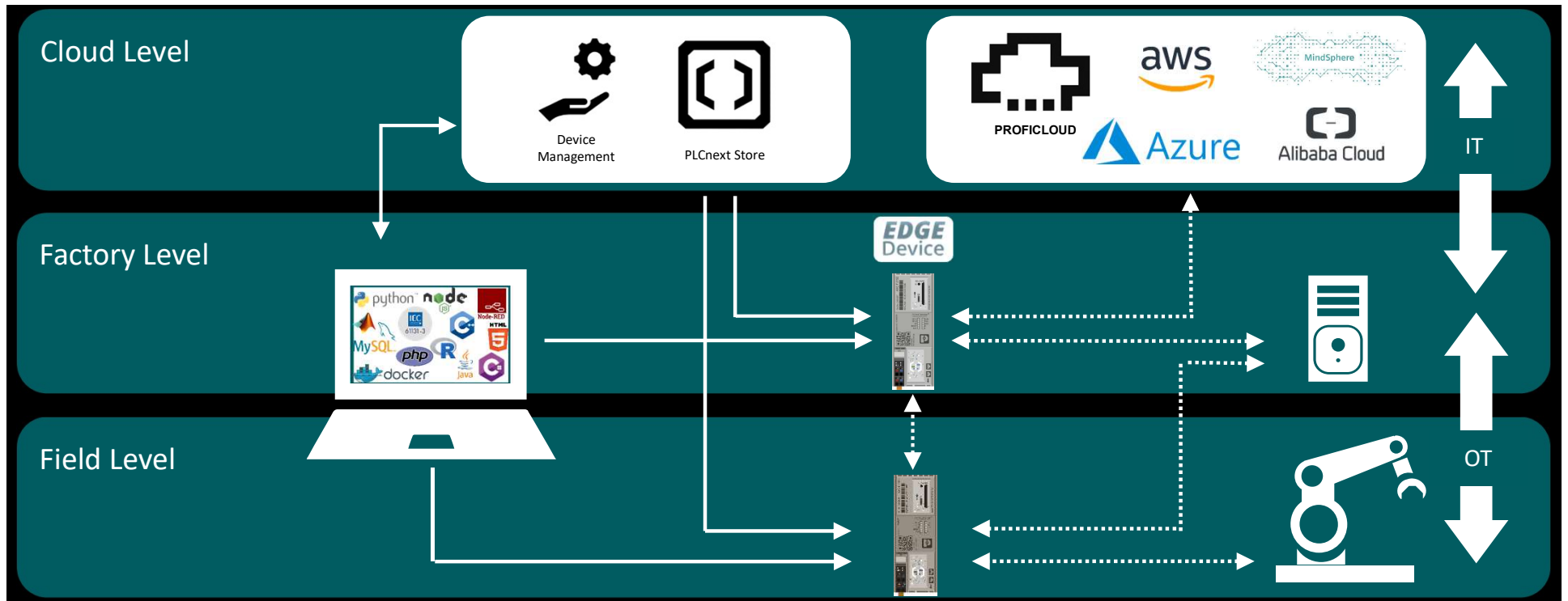
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as PLC



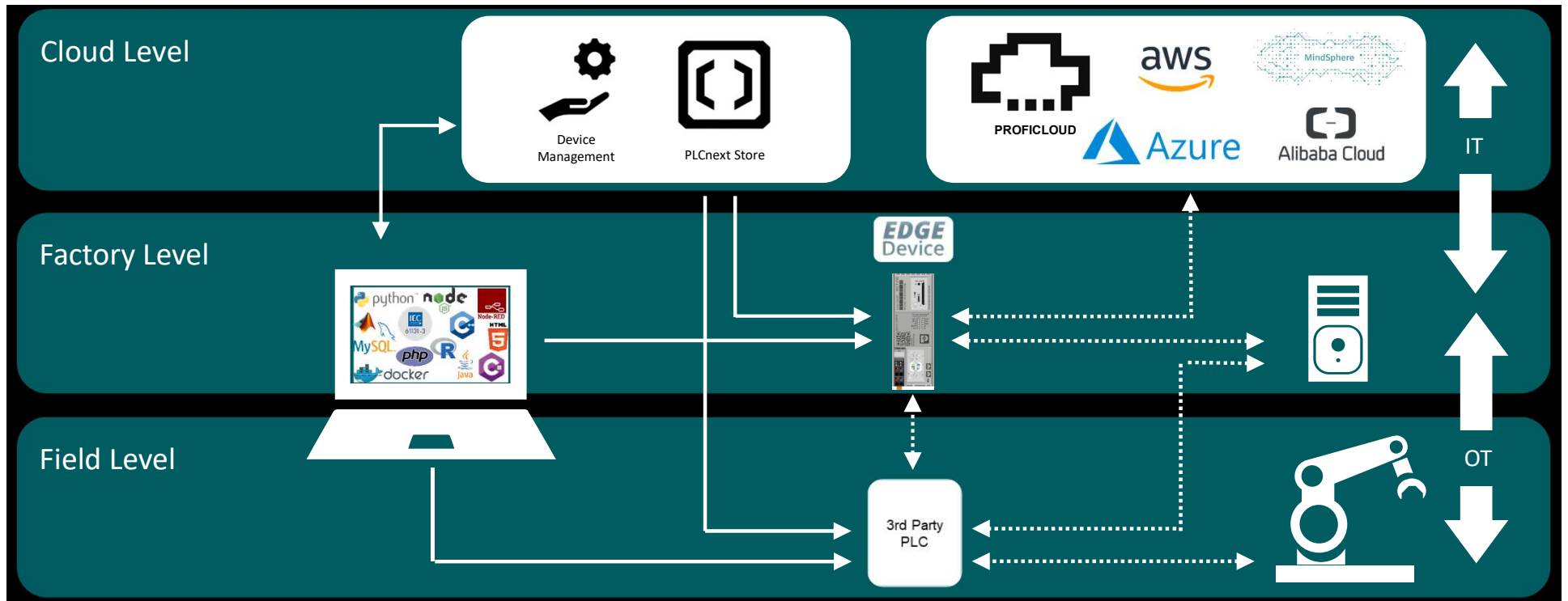
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as PLC and Edge Device



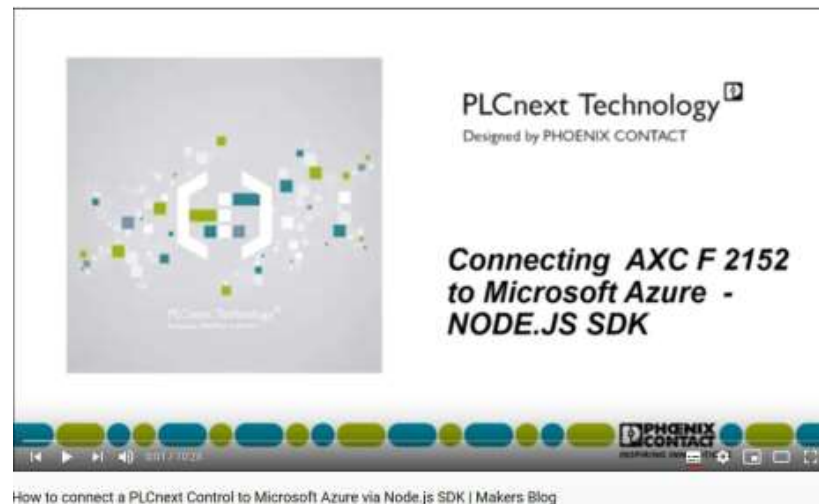
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as Edge Device



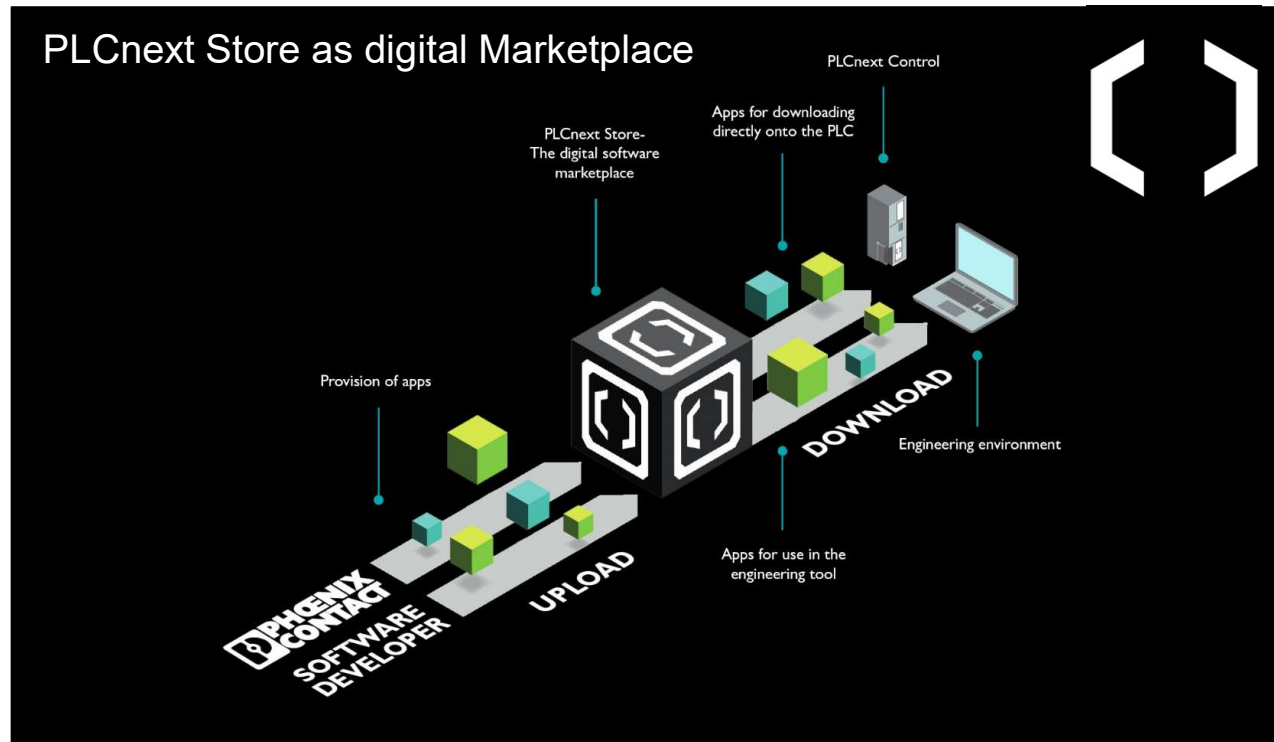
Video Youtube

PLCnext Engineer Tutorial(s)



enhanced freedom

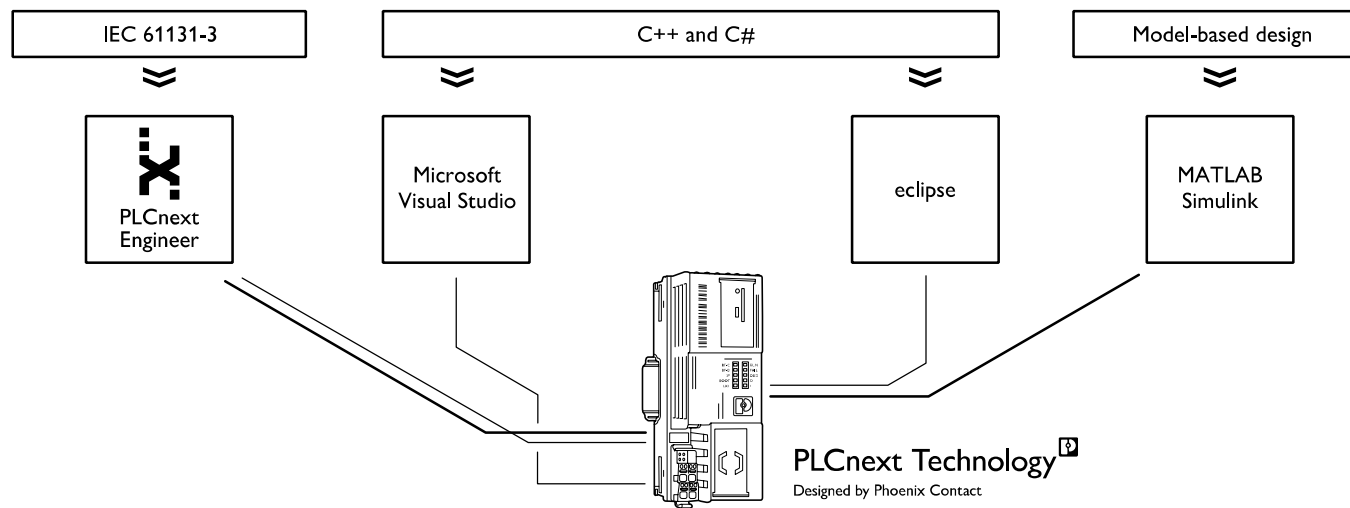
Limitless Adaption Capability



enhanced convenience

PLCnext Technology 
Designed by Phoenix Contact

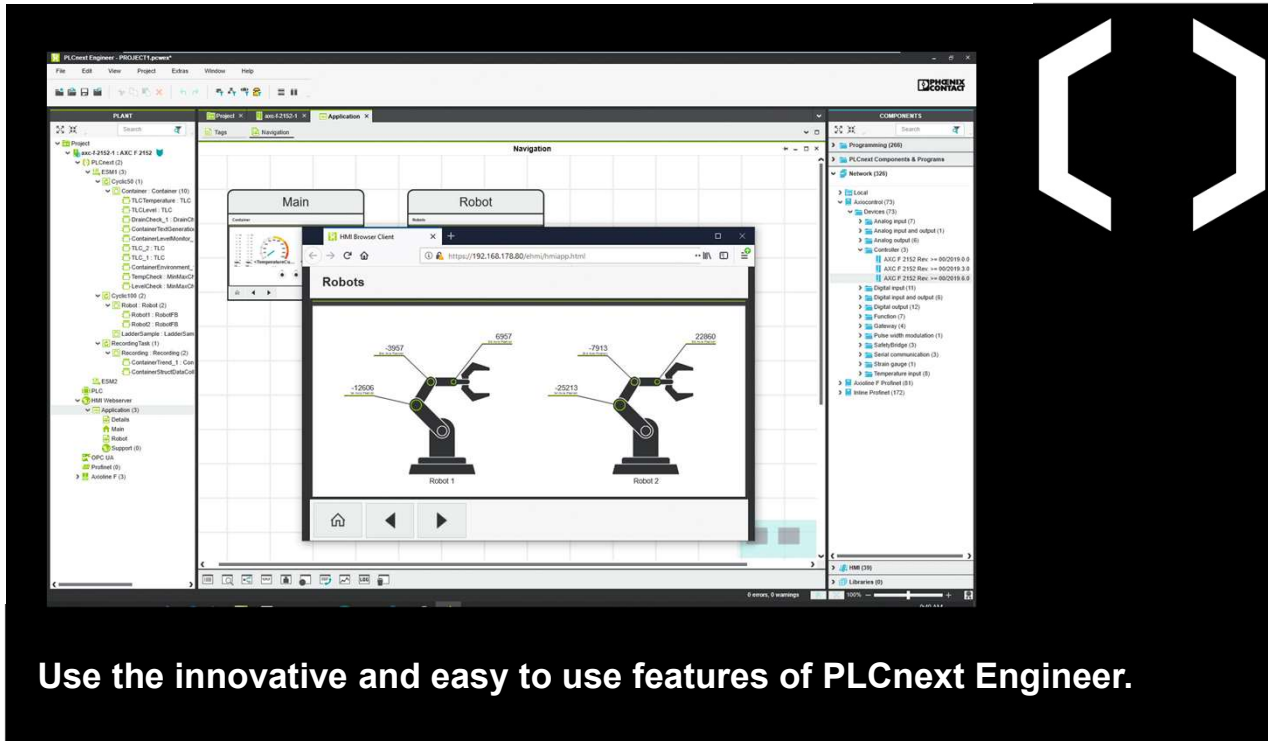
Engineering and Application Development



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.

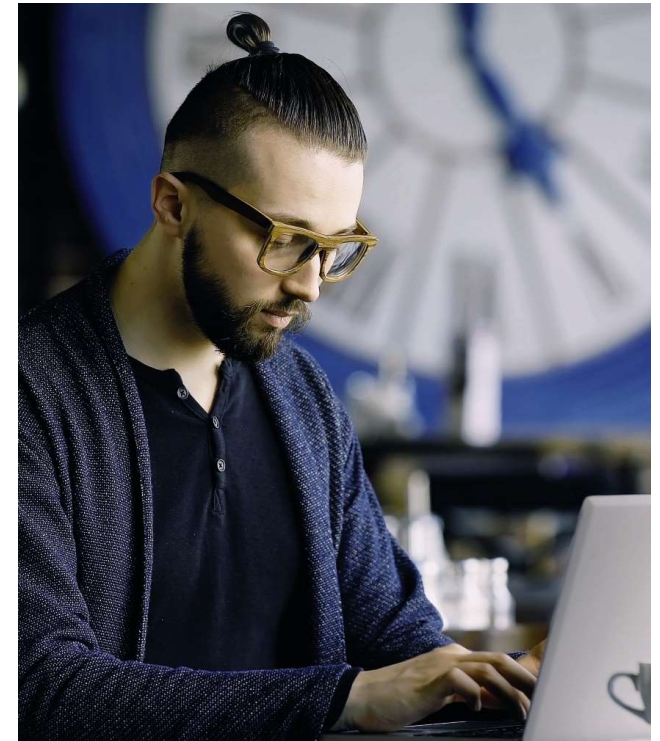
enhanced convenience

IEC 61131-3 Programming with PLCnext Engineer



The screenshot displays the PLCnext Engineer software interface. On the left, a project tree shows a hierarchy of components including PLC, HMI, and various containers. The main workspace is divided into several panes: a 'Navigation' pane at the top, a 'Main' pane showing a 'Robot' component, and a 'Robots' pane displaying a 3D simulation of two robotic arms, 'Robot 1' and 'Robot 2', with various sensors and actuators labeled. A 'COMMENTS' pane on the right lists network components and programs. The interface is clean and professional, with a dark theme.

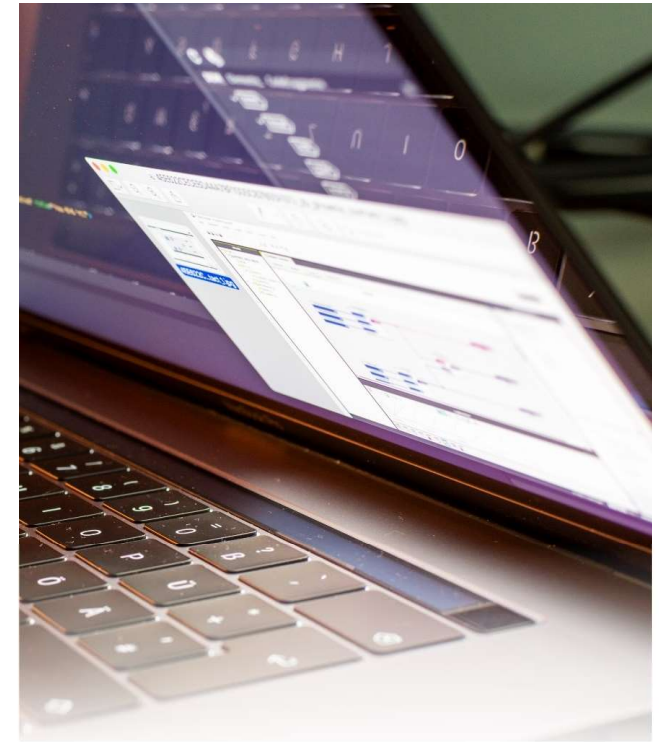
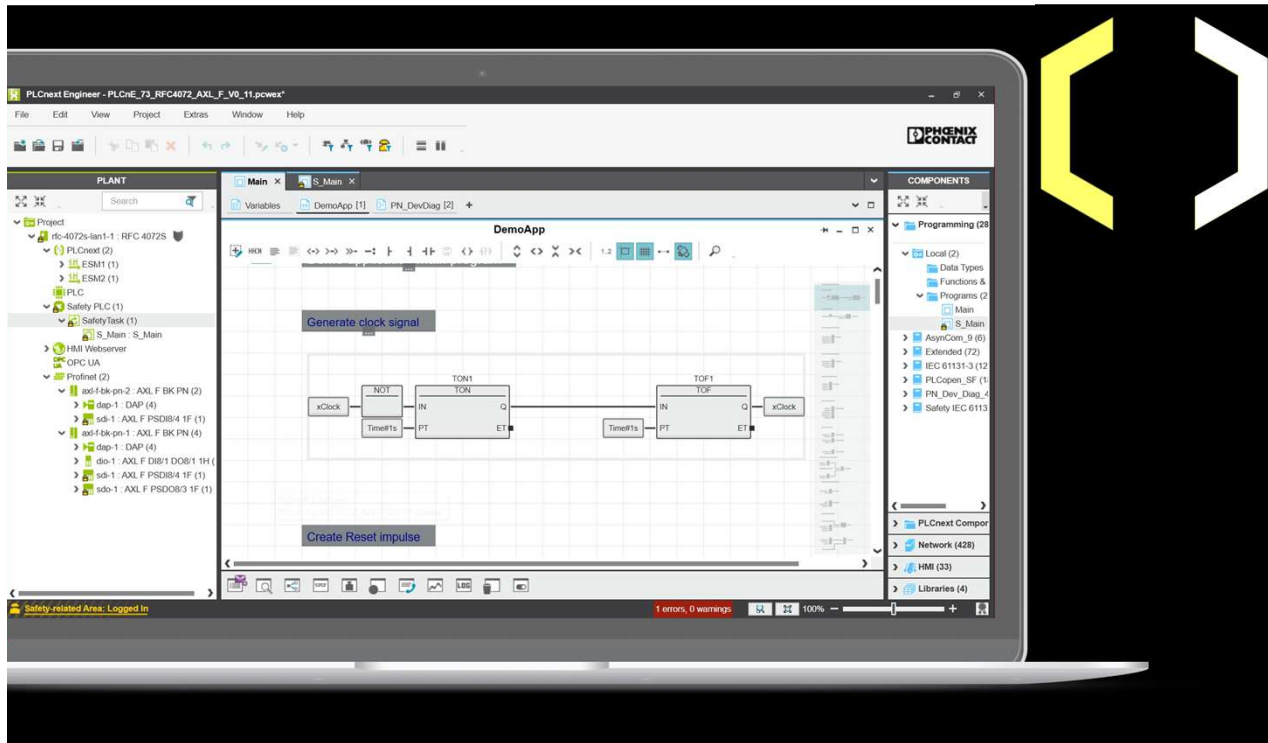
Use the innovative and easy to use features of PLCnext Engineer.



Standard and safety programming in one engineering software

PLCnext Engineer

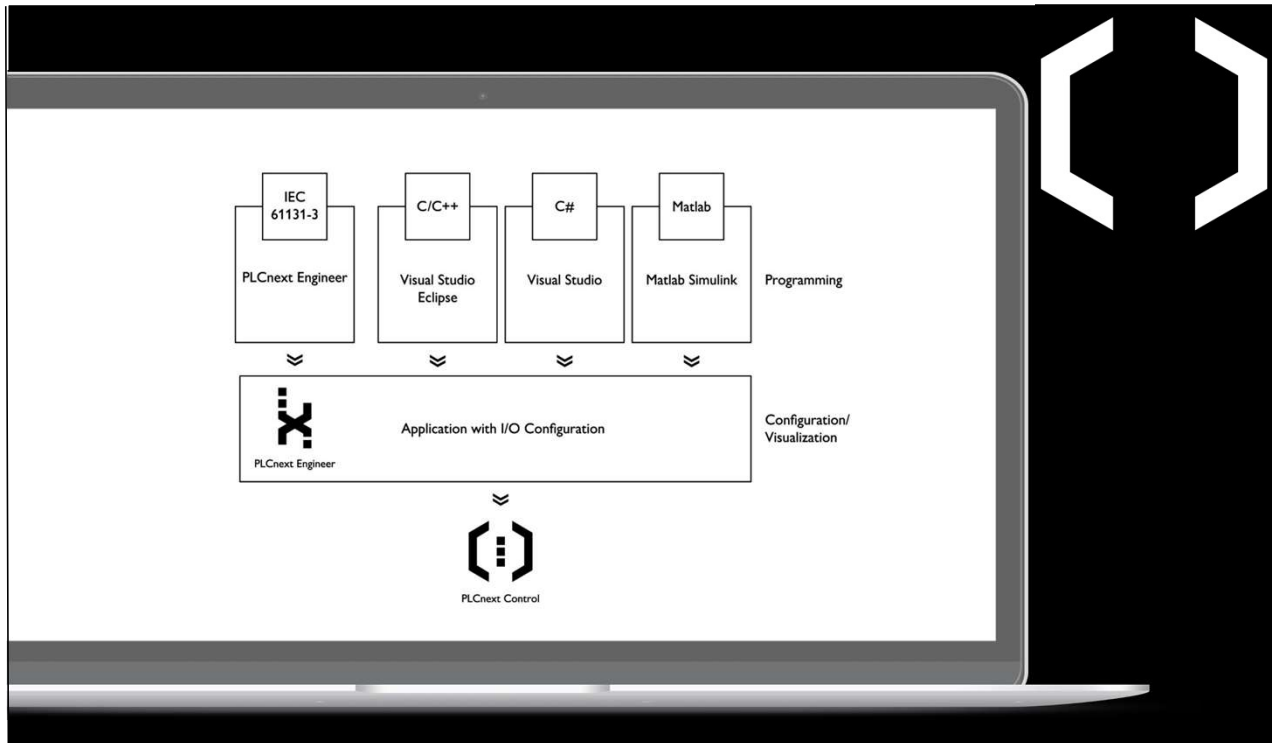
PLCnext Technology 
Designed by PHOENIX CONTACT



PLCnext Technology – Limitless engineering options

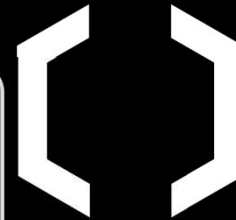
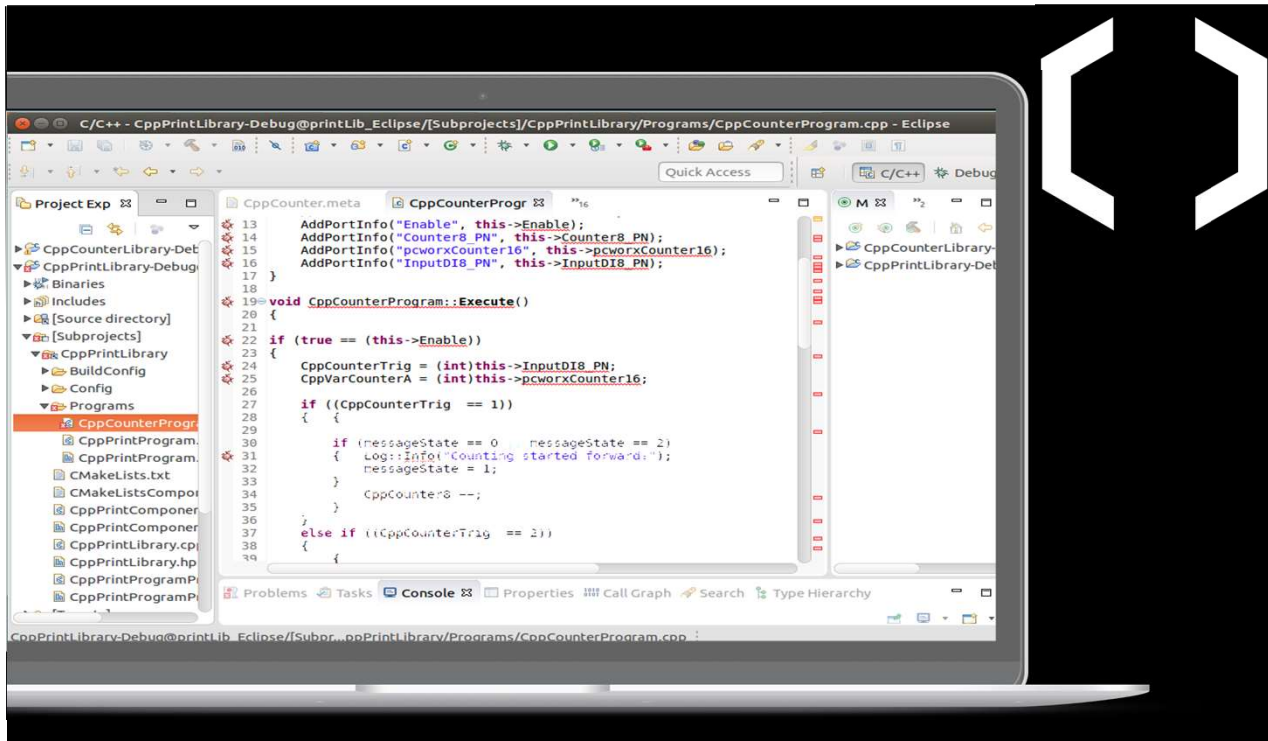
PLCnext Engineer

PLCnext Technology 
Designed by PHOENIX CONTACT



enhanced convenience

Programming – C/C++


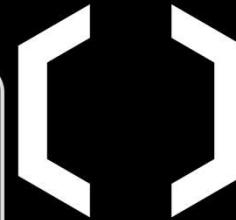
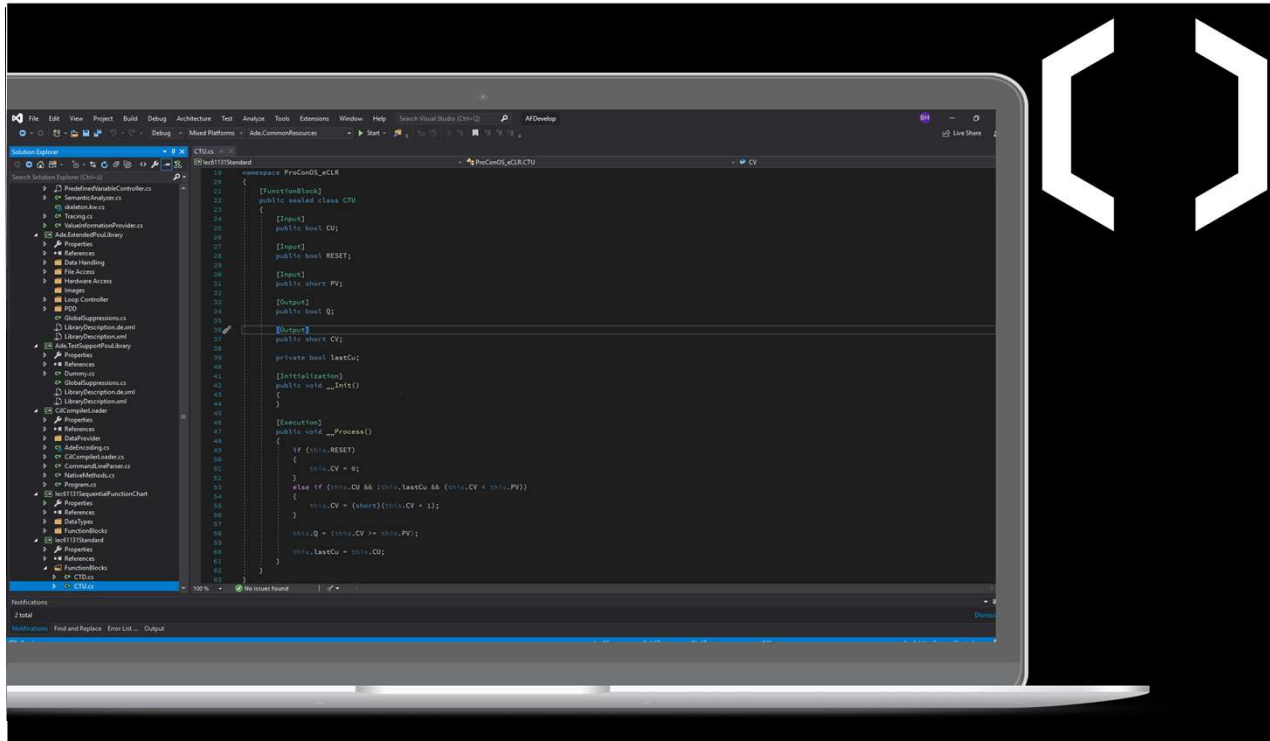


 eclipse

- C/C++ acc. to standard
- Easy interface to the PLCnext Runtime System
- Support of remote debugging
- Use the tool you are familiar with

enhanced convenience

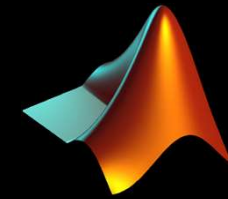
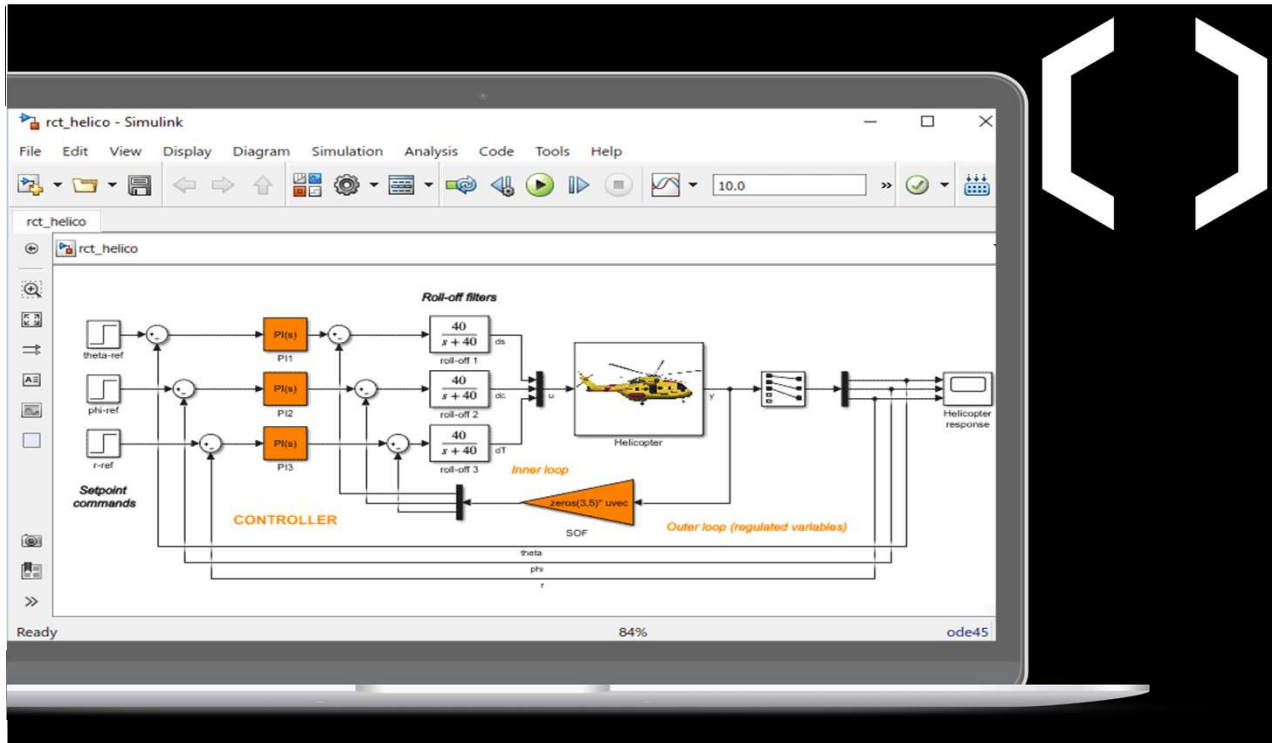
Programming – C/C++



- Development and integration of function blocks with C#
- Dedicated plug-in for Visual Studio.
- Execute C# function blocks in real-time with the eCLR runtime system.

enhanced convenience

MATLAB Simulink

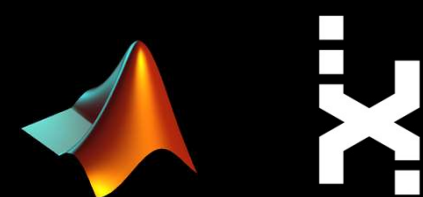
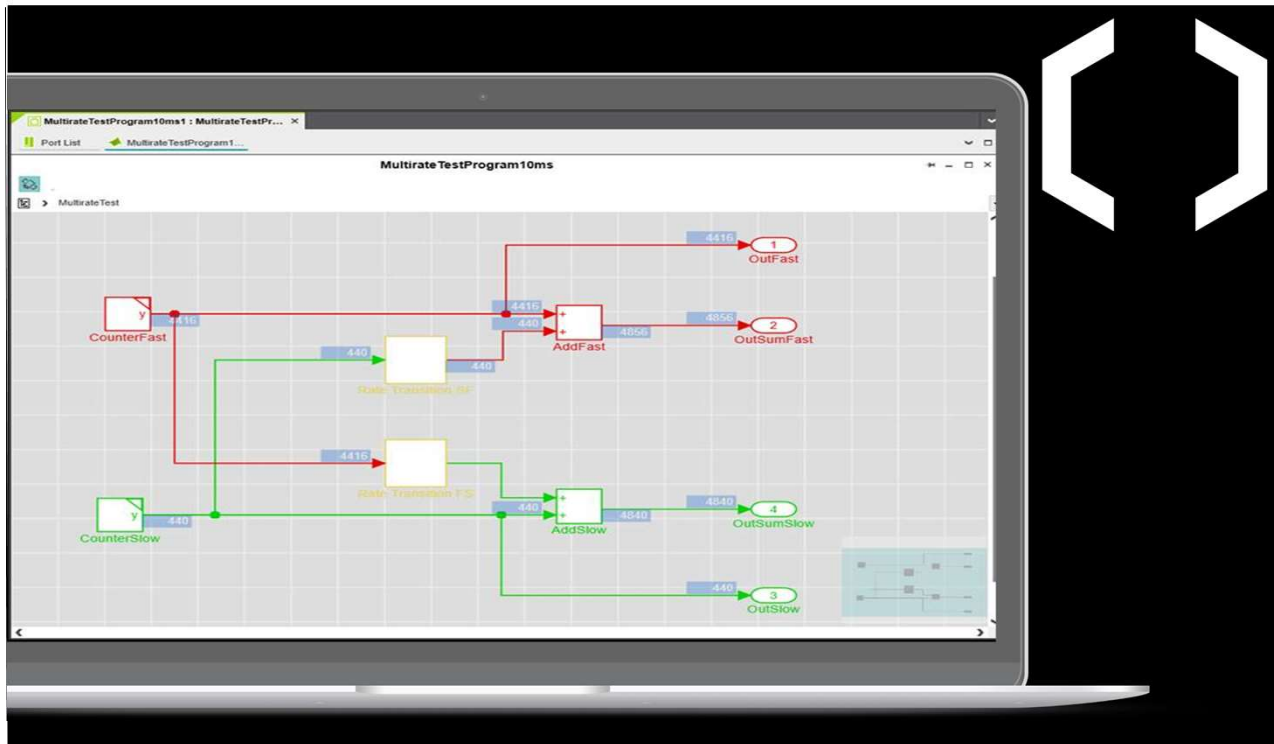


Seamless integration of model-based design & development with MATLAB Simulink.

enhanced convenience

MATLAB Simulink & PLCnext Engineer

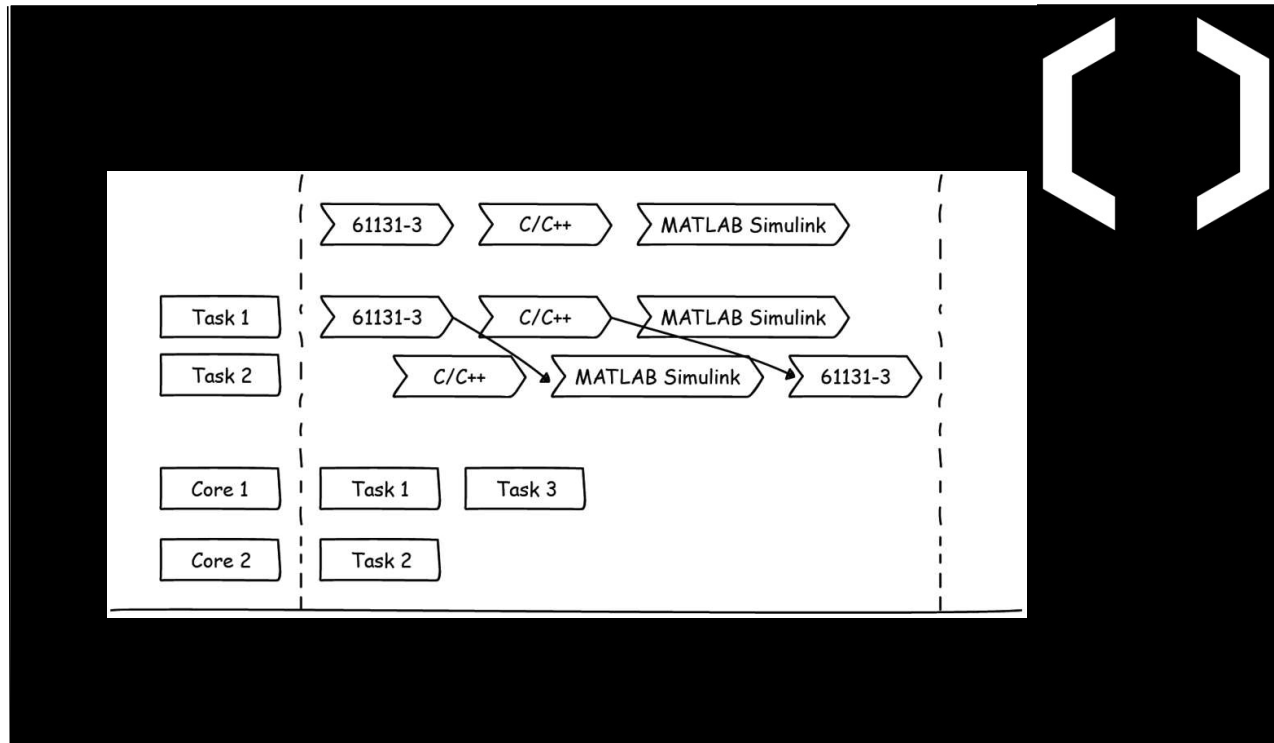
PLCnext Technology 
Designed by PHOENIX CONTACT



Seamless integration of model-based design & development with MATLAB Simulink and PLCnext Engineer.

enhanced performance – PLC-typical Real-time Performance

Execution & Synchronization Manager

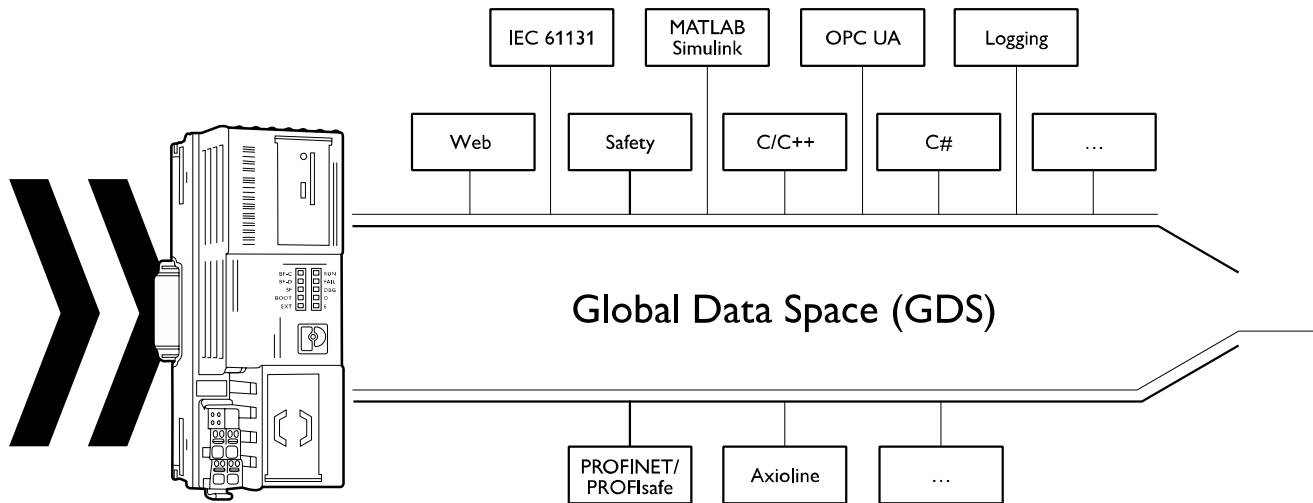


The patent-applied-for task handling of PLCnext Technology lets program routines of different origin run like classical IEC 61131 PLC code. Your high-level language programs become automatically deterministic.

enhanced performance – Data Consistency

Global Data Space

PLCnext Technology 
Designed by PHOENIX CONTACT

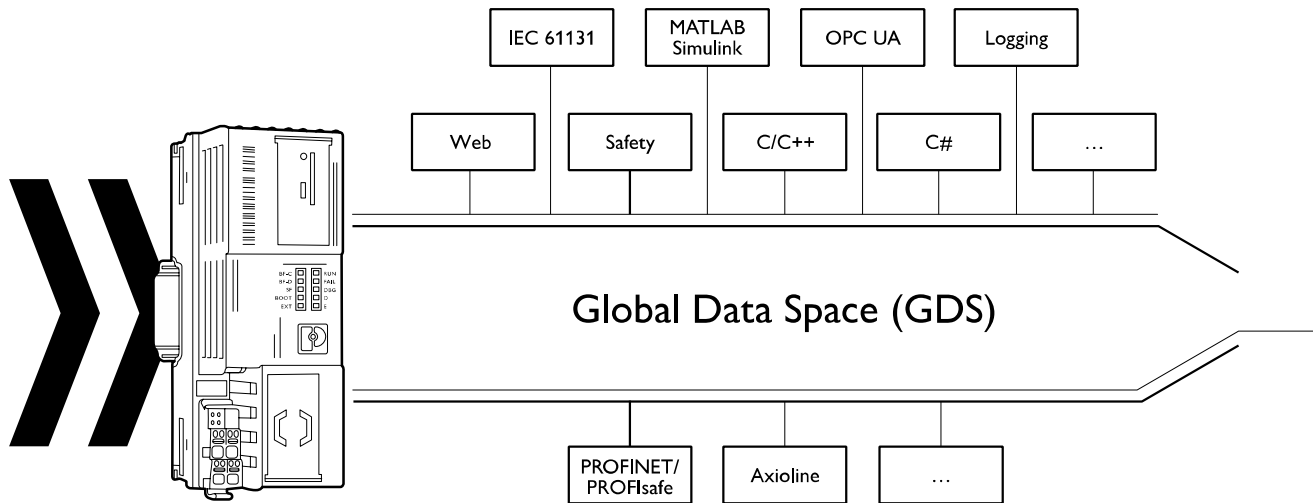


Fast and consistent data exchange between user programs, fieldbuses, and system programs. Access via Data Logger, HMI, and OPC UA. Security aspects for user management.

enhanced performance – Data Consistency

Global Data Space

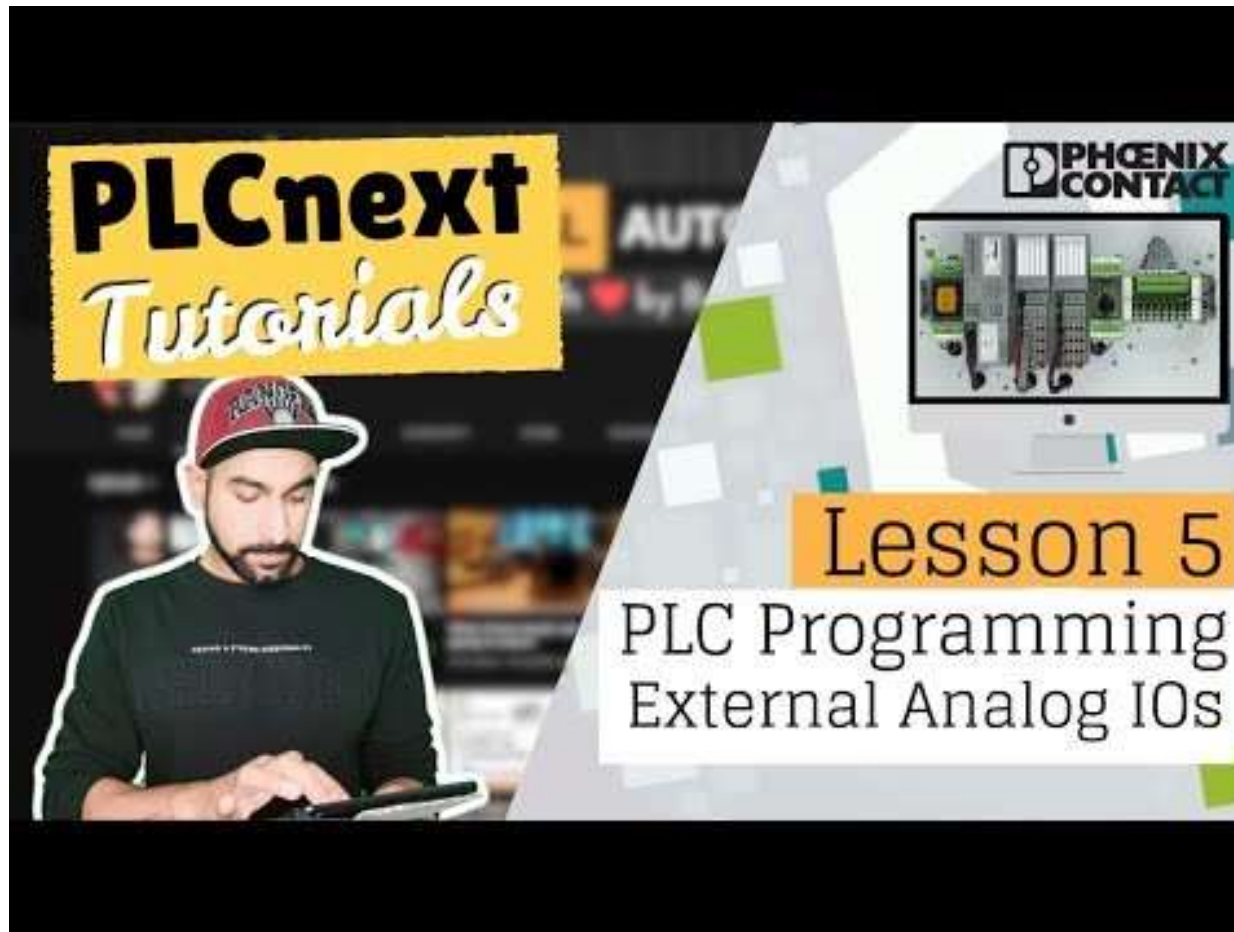
PLCnext Technology 
Designed by PHOENIX CONTACT



Fast and consistent data exchange between user programs, fieldbuses, and system programs. Access via Data Logger, HMI, and OPC UA. Security aspects for user management.



PLCnext Lesson 4 - Programming the Controller's External Digital IOs

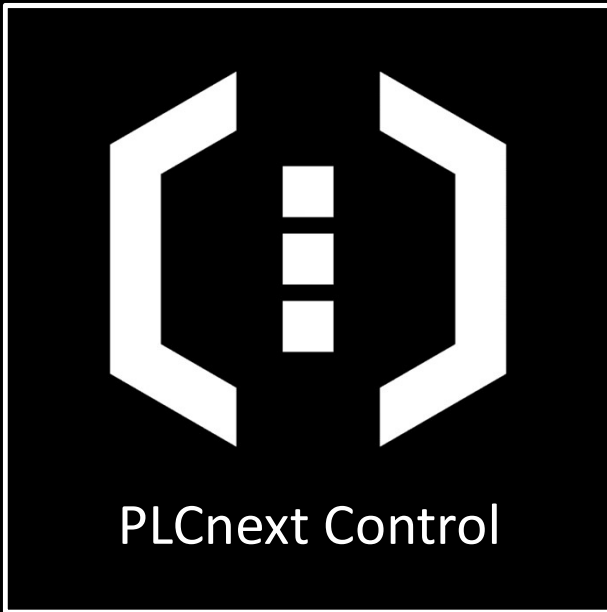


PLCnext Lesson 5 - Programming the Controller's External Analog IOs

PLCnext Technology[®]

Designed by PHOENIX CONTACT

Open control platform for flexible automation



PLCnext Control

Discover flexible
automation



PLCnext Ecosystem – PLCnext Control

PLCnext Control

PLCnext Technology[®]
Designed by PHOENIX CONTACT

PLCnext Technology[®]

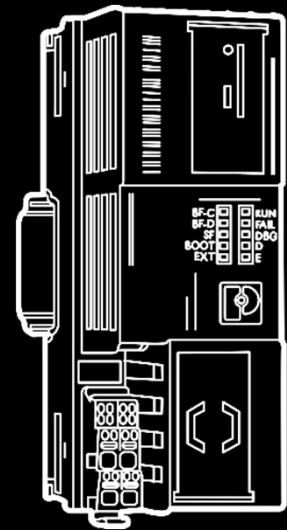
Designed by PHOENIX CONTACT

Open control platform for flexible automation



PLCnext Control

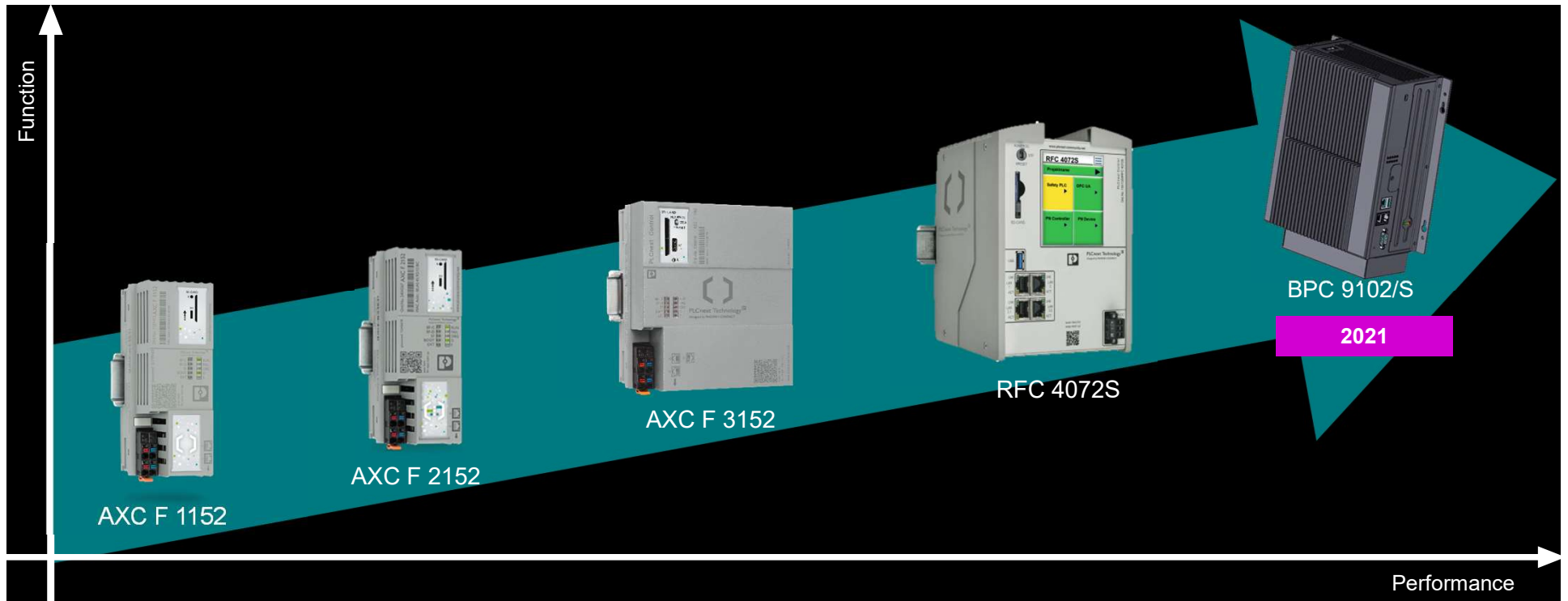
Discover flexible
automation



PLCnext Ecosystem – PLCnext Control

PLCnext Control Portfolio Overview

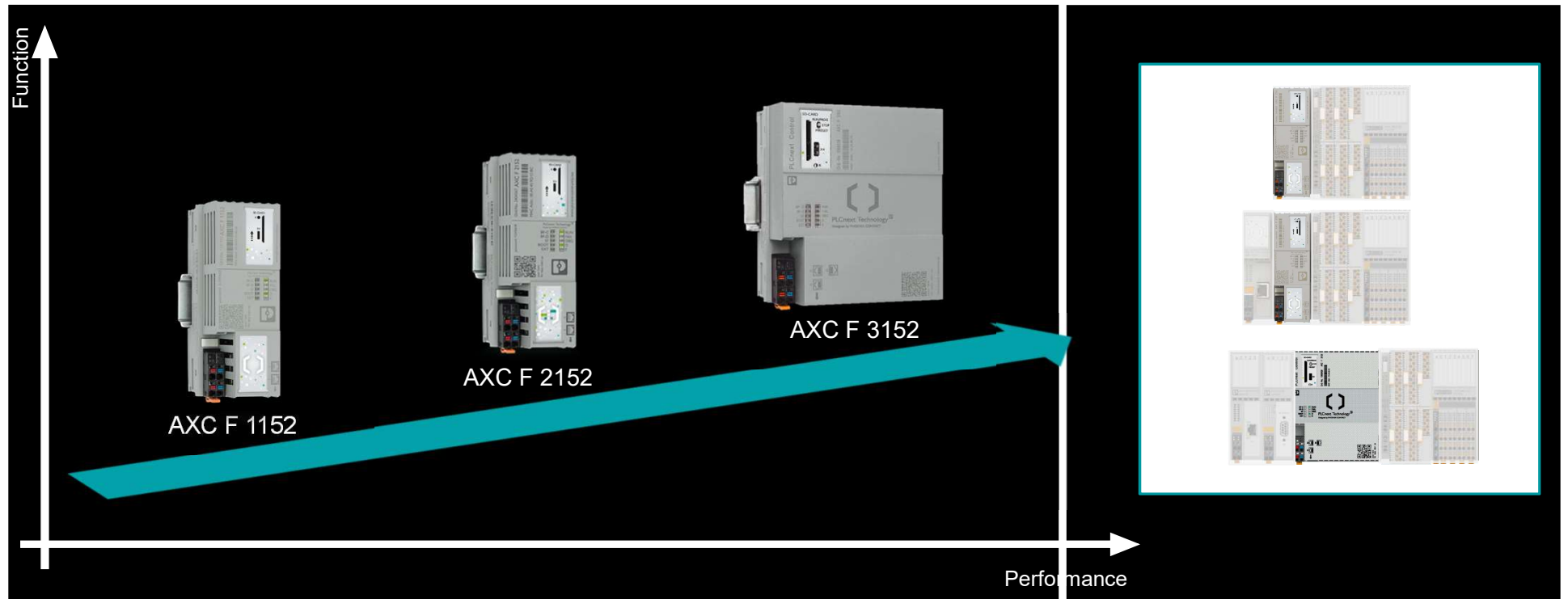
PLCnext Technology [®]
Designed by PHOENIX CONTACT



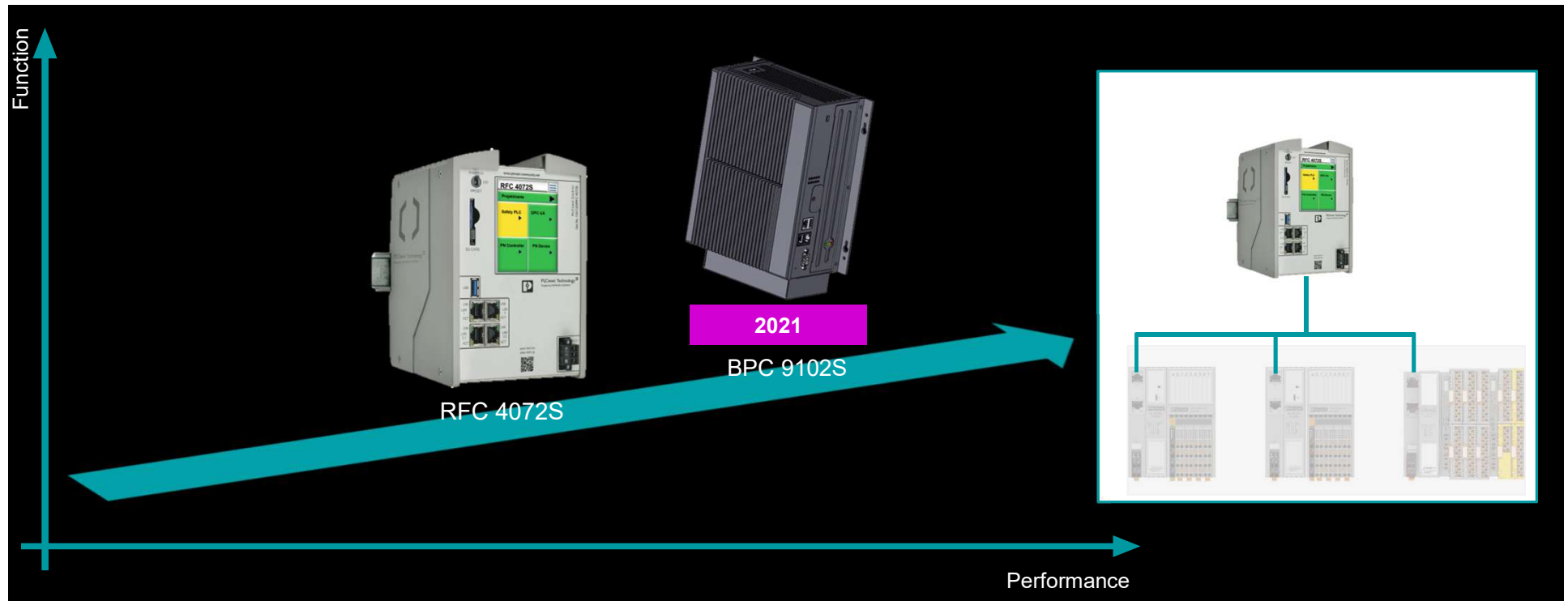
PLCnext Control

PLCnext Technology 
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PLCnext Control for flexible automation with modular hardware platform



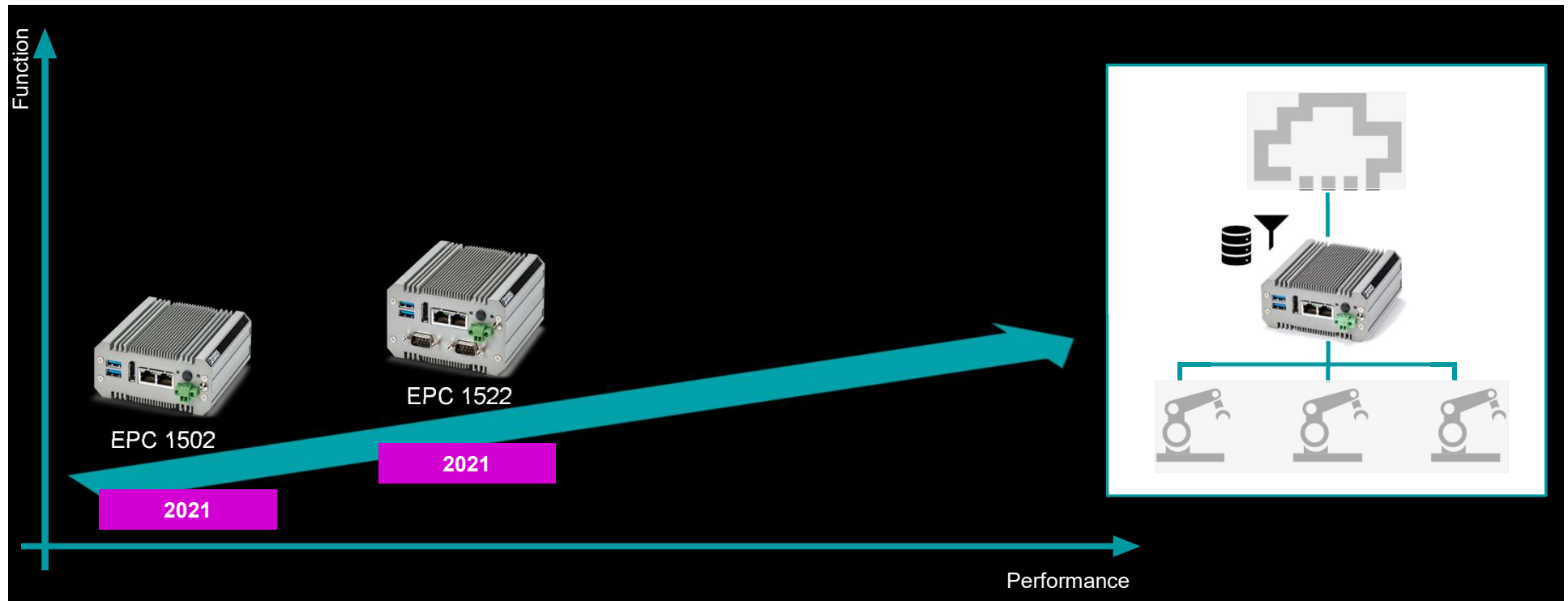
PLCnext Control for centralized applications with decentralized IOs



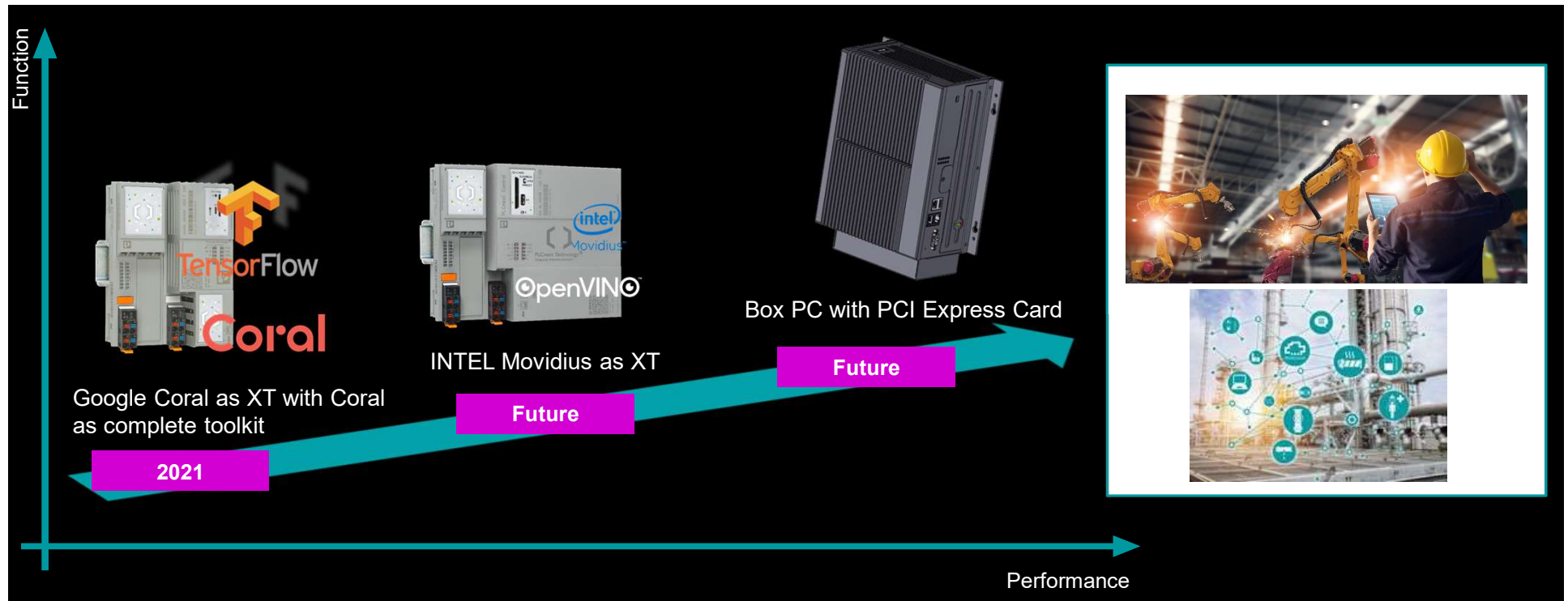
PLCnext Control

PLCnext Technology 
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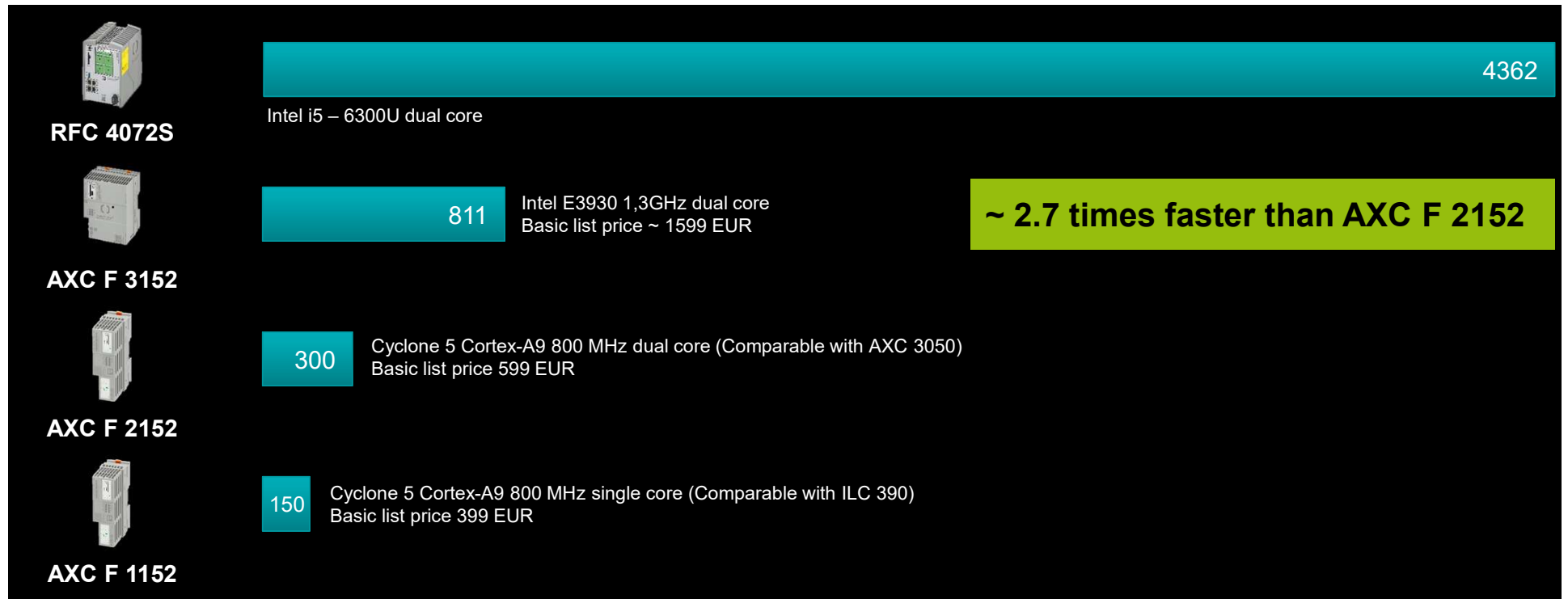
PLCnext Control for Edge Computing



PLCnext Control for intelligent applications with Artificial Intelligence



PLCnext Controls Performance Benchmark












PLCnext Lesson 12 - Interfacing FACTORY IO via OPCUA

PLCnext Control

PLCnext Control AXC F 1152



Core	Working memory	Temperature
 ARM Cortex-A9 (800 MHz)	 512 Mbytes RAM	 -25°C-60°C
# control tasks (IEC 61131)  8	Min. cycle time (IEC 61131)  5 ms	Security  TPM integrated

PLCnext Control

PLCnext Technology 
Designed by PHOENIX CONTACT

Entry Level – PLCnext Control AXC F 1152

- Cyclone 5 with ARM Cortex-A9 CPU 1 x 800 MHz
- Number Control-Tasks (IEC 61131): 8
- Min. cycle time (IEC 61131): 5 ms
- Profinet Controller & Device with 16 ARs
- 512 Mbytes RAM
- SD Flash card slot
- 1 x ETH-MAC interface (2 x 10/100 Mbit) switched
- Real-time clock
- Supports INLINE and AXIOLINE I/O modules
- Trusted platform module (TPM) for security
- Temperature range: -25°C up to +60°C




Feature Set Differences – AXC F 1152 vs. AXC F 2152







Feature	AXC F 1152	AXC F 2152
CPU	Cyclone 5 with ARM Cortex-A9 1 x 800 MHz	Cyclone 5 with ARM Cortex-A9 2 x 800 MHz
Approvals	UL, CE	UL, CE, Marine, ATEX
Max. number of control tasks	8 (1 x 8)	32 (2 x 16)
PLCnext extension support (left-hand side)	No	Yes
PROFINET Features	Controller & Device with max. 16 ARs	Controller & Device with max. 64 ARs
Min. task cycle time	5 ms	1 ms

PLCnext Control

PLCnext Control AXC F 2152



The image shows the PLCnext Control AXC F 2152 device, a compact industrial PLC. It features a grey metal casing with a front panel containing an SD-card slot, a QR code, and several status LEDs labeled RUN, FAIL, DBG, D, and E. The top of the device has a barcode and technical specifications including 'Ch#No. 2404267 AXC F 2152' and 'MAC Addr: 02:80:45:50:13:BC'. The website 'www.plcnext.com/community/print' is also visible.

Core	Working memory	Temperature
 ARM Cortex-A9 (2x 800 MHz)	 512 Mbytes RAM	 -25°C-60°C
 # control tasks (IEC 61131) 32	 Min. cycle time (IEC 61131) 1 ms	 Security TPM integrated

PLCnext Control

PLCnext Technology 
Designed by PHOENIX CONTACT


Proven Standard – PLCnext Control AXC F 2152

- Cyclone 5 with ARM Cortex-A9 CPU 2 x 800 MHz
- 512 Mbytes RAM
- SD Flash card slot
- 1 x ETH-MAC interface (2 x 10/100 Mbit) switched
- Micro-USB type C
- Real-time clock
- Supports INLINE and AXIOLINE I/O modules
- Left side extension capability
- Trusted platform module (TPM) for security
- Temperature range: -25°C up to +60°C









PLCnext Control

PLCnext Control AXC F 3152



The image shows a grey PLCnext Control AXC F 3152 unit. It features a control panel with buttons for RUN/STOP, MRESET, and X4. Below the panel are status LEDs for RUN, STOP, and EXT. The unit is labeled 'PLCnext Technology' and 'Designed by PHOENIX CONTACT'. A QR code is visible on the bottom right of the unit.

Core	Working memory	Temperature
 Intel ATOM x5-E3930 dual-core	 2 GB DDR4 dual-channel RAM	 -25°C-60°C
# control tasks (IEC 61131)  32	Min. cycle time (IEC 61131)  500 µs	Security  TPM integrated

More Performance – PLCnext Control AXC F 3152

- Intel ATOM x5-E3930 dual-core CPU (2 x 1,3 GHz)
- 2 GB DDR4 dual-channel RAM
- 3 independent ETH-MAC interfaces (3 x 1 Gbit)
- Supports 2 PLCnext Control extensions (internal PCIe bridge)
- Supports INLINE and AXIOLINE I/O modules
- Integrated uninterruptible power supply (UPS) for targeted application shutdown
- SD card slot
- Diagnostic LEDs
- Real-time clock
- Temperature range: -25°C up to 60°C
 - Optional fan to increase service life



PLCnext Control

PLCnext Technology 
Designed by PHOENIX CONTACT


More Performance – PLCnext Control AXC F 3152

- **Based on PLCnext Technology**
 - Linux operating system
 - Supports high-level programming languages
 - PROFICLOUD Connection
- PROFINET Controller (up to 128 devices) + Device
- OPC UA
 - Easy integration of other fieldbus protocols (Linux OS)
- Prepared for TSN
- Trusted platform module (TPM) for security
- Approvals
 - UL (Hazloc), CUL, IEC Ex, ATEX
 - DNV/GL, LR, BV, ABS, ...









PLCnext Control

PLCnext Control RFC 4072S



The image shows the rear panel of the PLCnext Control RFC 4072S. It features a central display with a green and yellow interface showing 'Safety PLC' and 'OPC UA'. Below the display are various ports including USB, LAN, and AC. The device is labeled 'PLCnext Technology' and 'RFC 4072S'.

Core	Working memory	Temperature
 Intel i5 6300U 2 x 2,4 GHz processor # control tasks (IEC 61131)  32	 4 GB DDR 4 dual channel RAM Min. cycle time (IEC 61131)  500 µs	 0°C up to 55°C with fan Security  TPM integrated

PLCnext Control

PLCnext Control RFC 4072S


- Intel i5 6300U 2 x 2,4 GHz processor
- 4 GB DDR 4 dual channel RAM
- Profisafe integrated (up to 300 F-Devices)
- Operation Mode Switch
- Touch display
- SD Flash card slot
- 3 ETH-MAC interfaces (2 x 1 Gbit, 1 x 100 Mbit switched)
- Real-time clock
- Trusted platform module (TPM) for security
- Temperature range: 0°C up to 55°C with fan






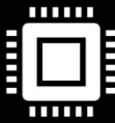
PLCnext Technology 
Designed by PHOENIX CONTACT



PLCnext Control

PLCnext Control BPC 9102S



<p>Core</p>  <p>Intel i7 CPU 8 cores</p>	<p>Random access memory</p>  <p>2GB RAM (min), int. UPS</p>	<p>Temperature</p>  <p>-20°C-60°C</p>
<p>Storage</p>  <p>Removable mass storage</p>	<p>Connections</p>  <p>2x RJ45, 1x TSN, 1x USB</p>	<p>PCIe</p>  <p>Safety board, AI acceleration</p>

PLCnext Control

PLCnext Control BPC 9102S

PLCnext Technology 
Designed by PHOENIX CONTACT


- CPU: i7-10700TE (10th Gen 8-Core)
- RAM: 16GB
- Interfaces:
- 3 separate and independent Ethernet interfaces with 1 RJ45 port each
 - LAN1: PN Controller (I225), 1GBit
 - LAN2: PN Device (I225), 1GBit
 - LAN3: RAW user ethernet communication (I225), 1GBit
- 1 Serial Interface RS232
- 1 USB for FW/SW Update
- Reset button and power switch
- SD Card
- Internal Super-cap UPS module
- Fan (only on between 50-60°C) to expand MTBF




PLCnext Technology – New Starterkit

PLCnext Technology 
Designed by PHOENIX CONTACT


Start now and become a part of PLCnext Technology



PLCnext Technology 
Designed by PHOENIX CONTACT
Ecosystem for limitless automation


GETTING STARTED
starterkit.plcnextcommunity.com

Getting started



Online

Hardware



PLCnext Control & Axioline Smart Element

starterkit.plcnextcommunity.com



What else is worth mentioning ...

New Starterkit, new sales channels



Hardware



**PLCnext Control AXC
F 2152 + Axioline
Smart Elements**

3rd Party Distribution/
Channel Partner



**RS Components,
RealPars**

Getting started



Online

Extension



**Additional space
on DIN rail**



Marketing Material

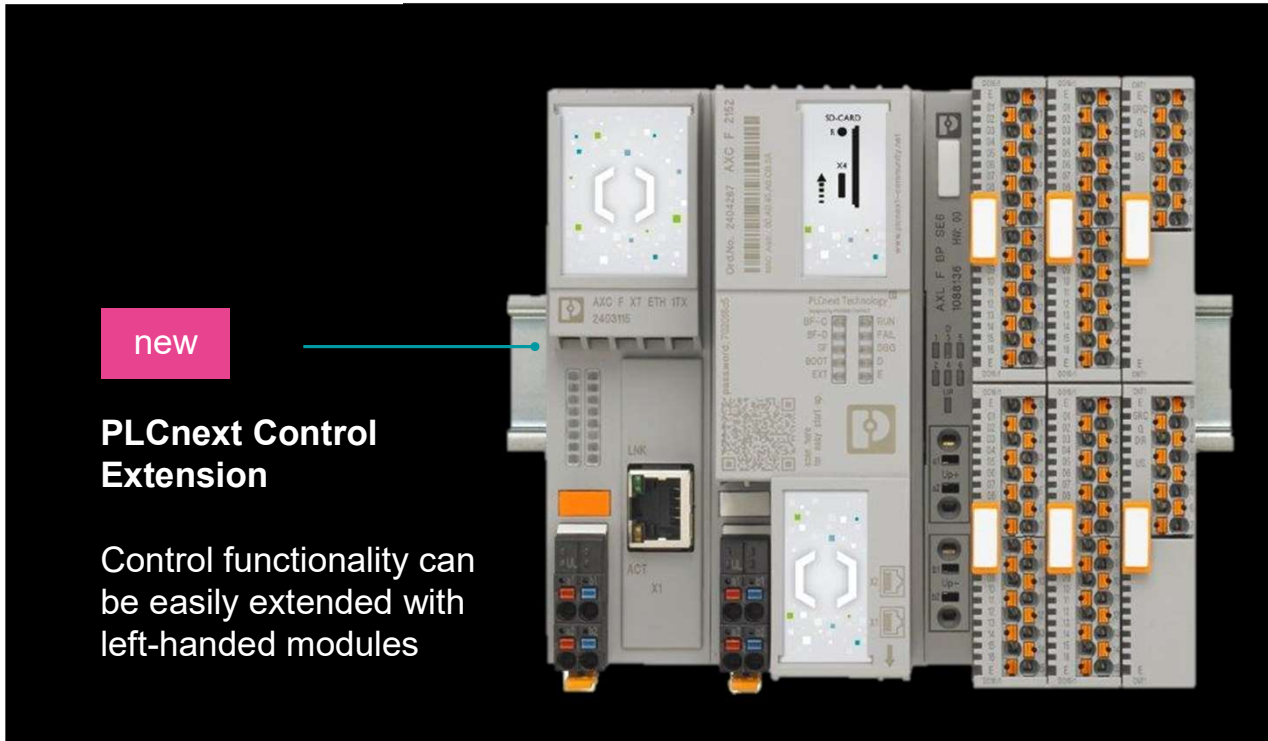
starterkit.plcnextcommunity.com



Countless possibilities in hardware variance

PLCnext Control

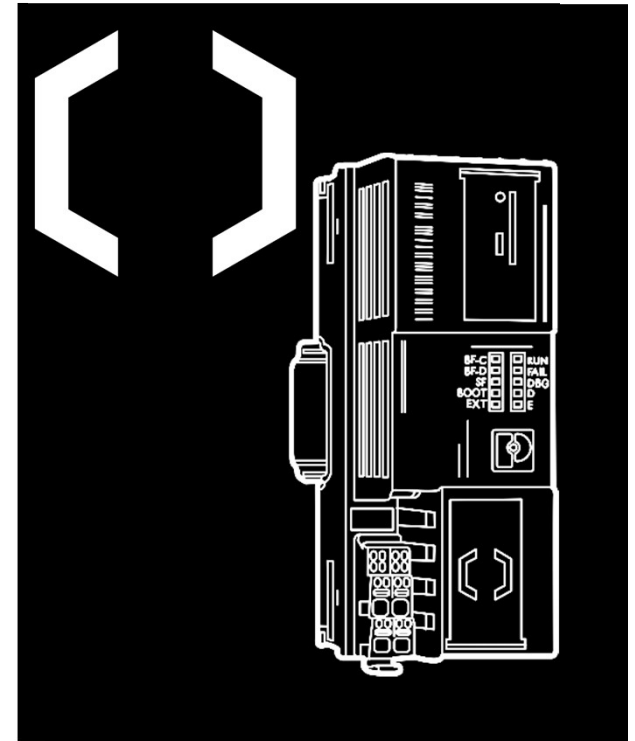
PLCnext Technology ¹²
Designed by PHOENIX CONTACT



new

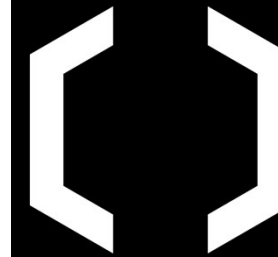
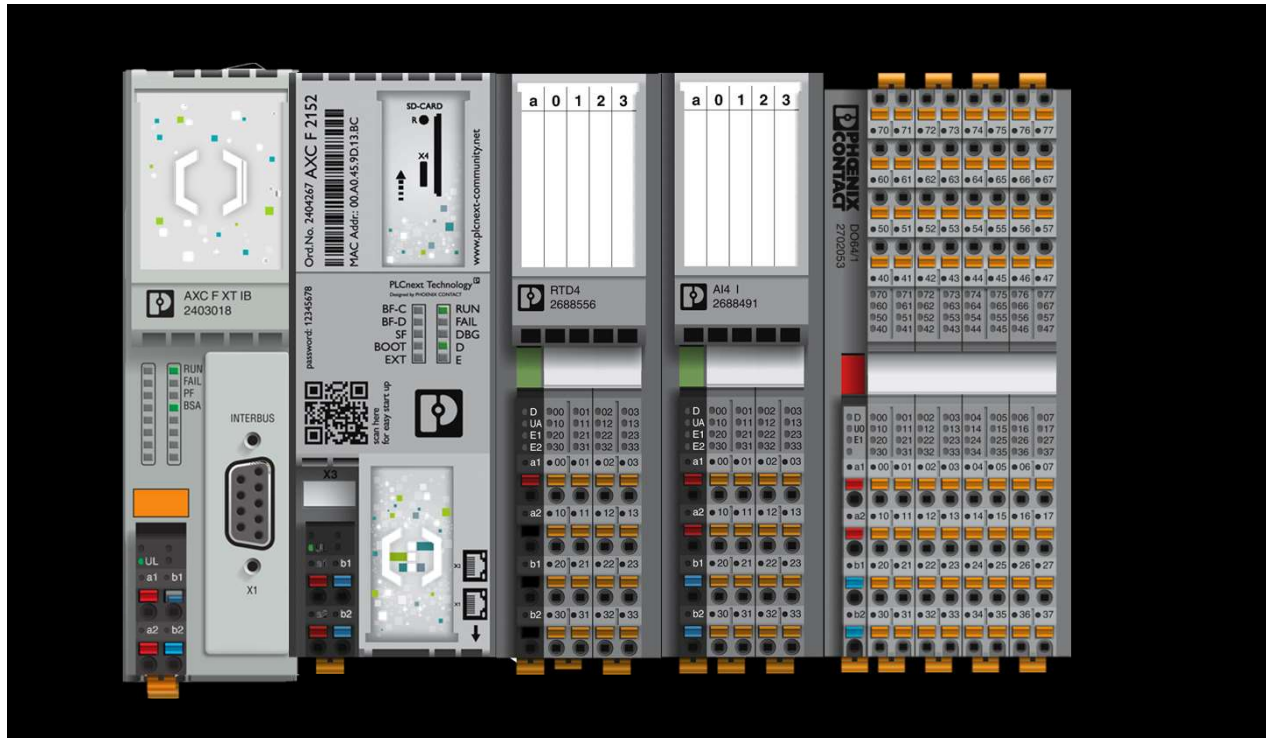
PLCnext Control Extension

Control functionality can be easily extended with left-handed modules



PLCnext Ecosystem – PLCnext Control

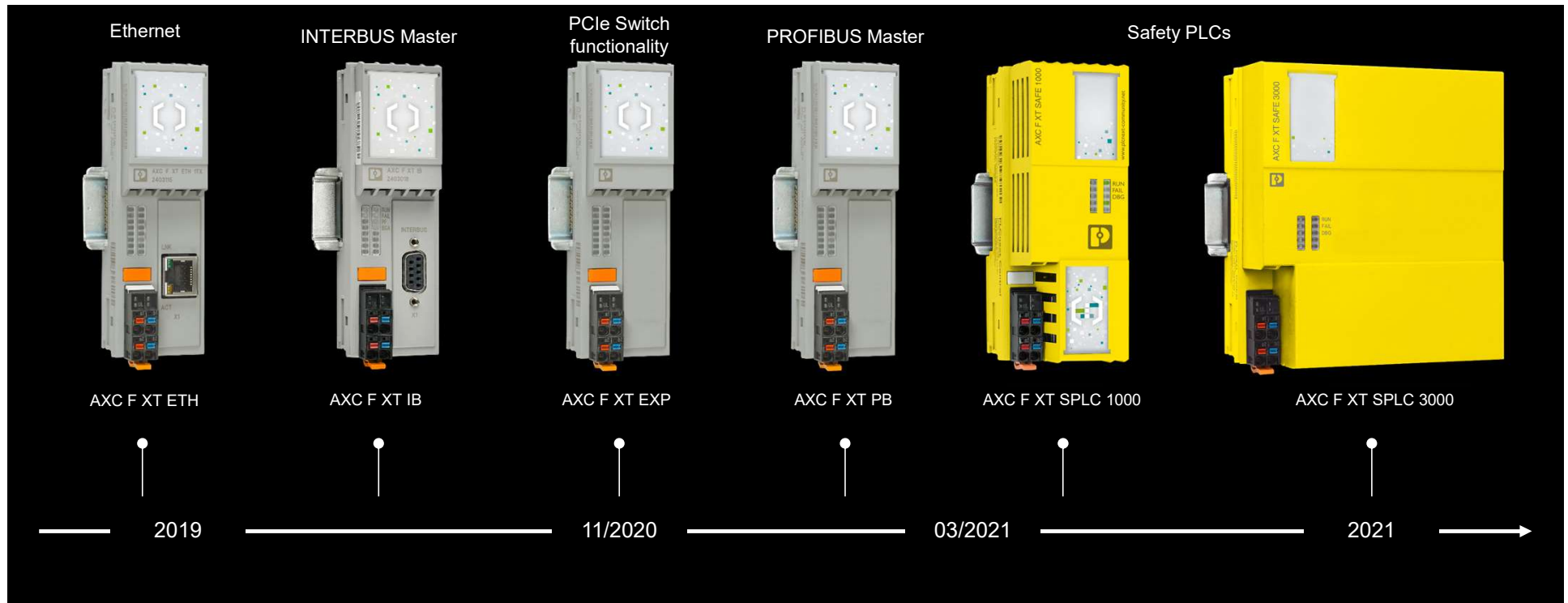
Left-hand side extension possibilities



- Modular expandability of the controller through left-sided expansion modules on the PCI express interface via a corresponding bus socket
- Unlimited expansion possibilities

PLCnext Ecosystem – PLCnext Control

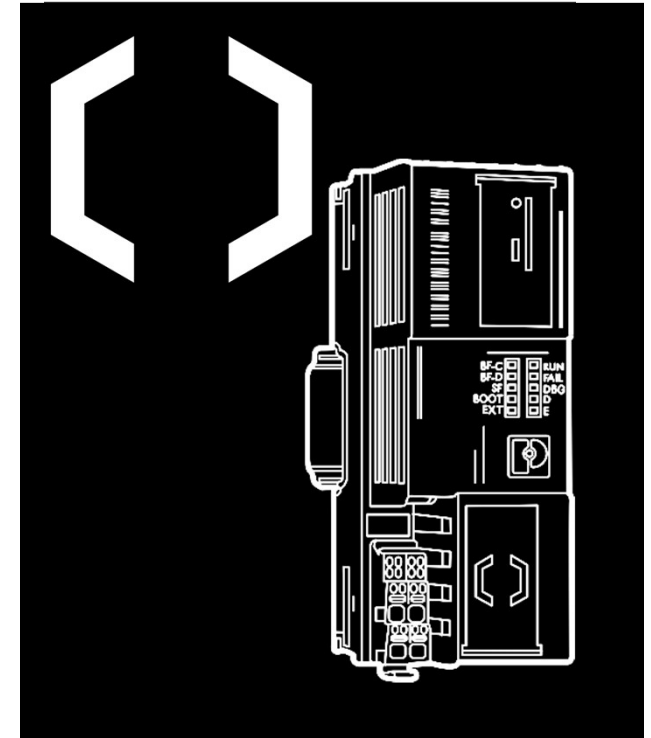
Portfolio PLCnext Control Extensions



PLCnext Extension AXC F XT ETH



- Additional 1Gbit MAC interface
- Temperature range: -25°C up to 60°C
- Profinet Control capability
- Security due to separated interfaces
- Modularity and Flexibility
- Approvals
- UL (Hazloc), CUL
- DNV/GL, LR, BV, ABS, ...
- IEC Ex, ATEX



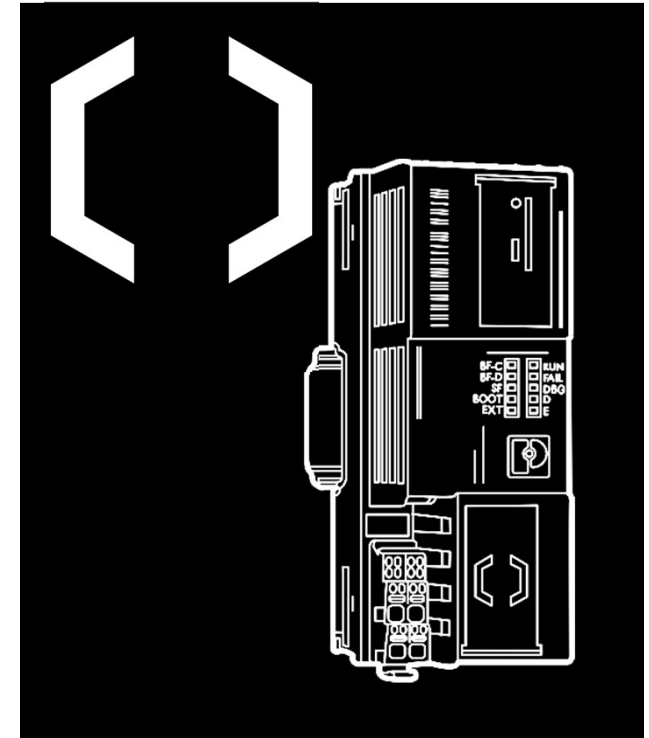
PLCnext Control

PLCnext Extension AXC F XT IB

PLCnext Technology 
Designed by PHOENIX CONTACT



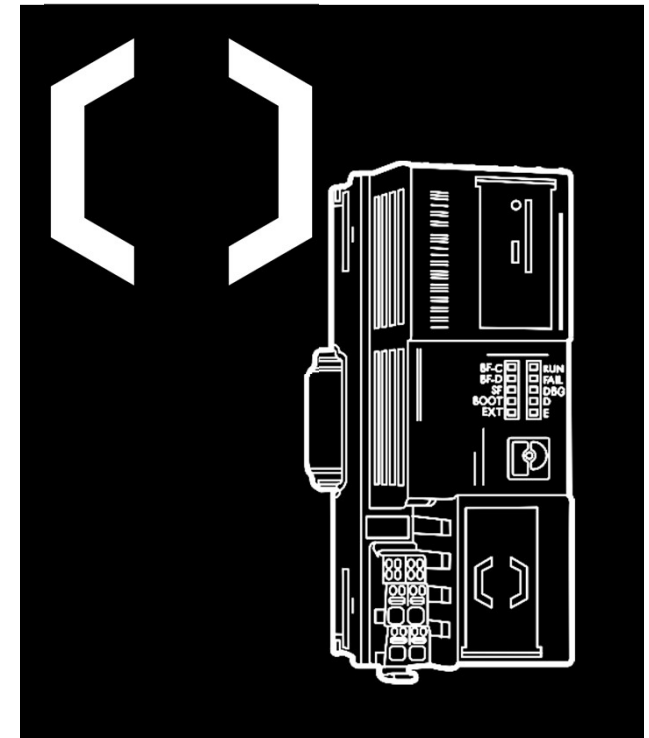
- Additional INTERBUS Master
- Up to 512 Devices, up to 255 Remote Devices
- Up to 126 PCP Devices
- Up to 16 Remote Bus Level
- 4096 Bit Process data
- 500kBit und 2 Mbit
- Ideal for Retrofit applications
- Approvals
 - UL (Hazloc), CUL, IEC Ex, ATEX
 - DNV/GL, LR, BV, ABS, ...
- Temperature range: -25°C up to 60°C



PLCnext Control

PLCnext Extension AXC F XT SPLC 3000

PLCnext Technology 
Designed by PHOENIX CONTACT



PLCnext Ecosystem – PLCnext Control - IO

Axioline Smart Elements

The diagram illustrates the Axioline Smart Elements ecosystem. On the left, a rack of PLCnext Control modules is shown, with three Axioline modules highlighted in orange. A hand holds a compact Axioline module above the rack. Three teal arrows point from the rack to the right, labeled 'COMPACT', 'FLEXIBLE', and 'MODULAR'. The 'COMPACT' arrow points to a single module with the text '16 channels on 15 mm width'. The 'FLEXIBLE' arrow points to a stack of three modules with the text 'Pluggable as needed'. The 'MODULAR' arrow points to a stack of three modules connected by a bus coupler. On the right, text states 'Combinable with all PLCs of the Axioline family, with PLCnext Control, Bus couplers and Axioline F I/O-modules'. The Phoenix Contact logo is at the bottom right.

COMPACT → 16 channels on 15 mm width

FLEXIBLE → Pluggable as needed

MODULAR → Combinable with all PLCs of the Axioline family, with PLCnext Control, Bus couplers and Axioline F I/O-modules

PHOENIX CONTACT
INSPIRING INNOVATIONS

Axioline Smart Elements

Automate smart and economically



Ready for automation

All necessary functionalities
incl. Safety and IO-Link

DI

SDI

AI

IO-Link

INC

DO

SDO

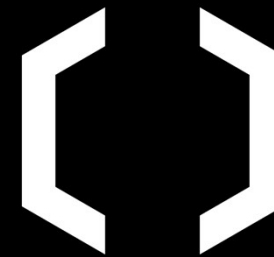
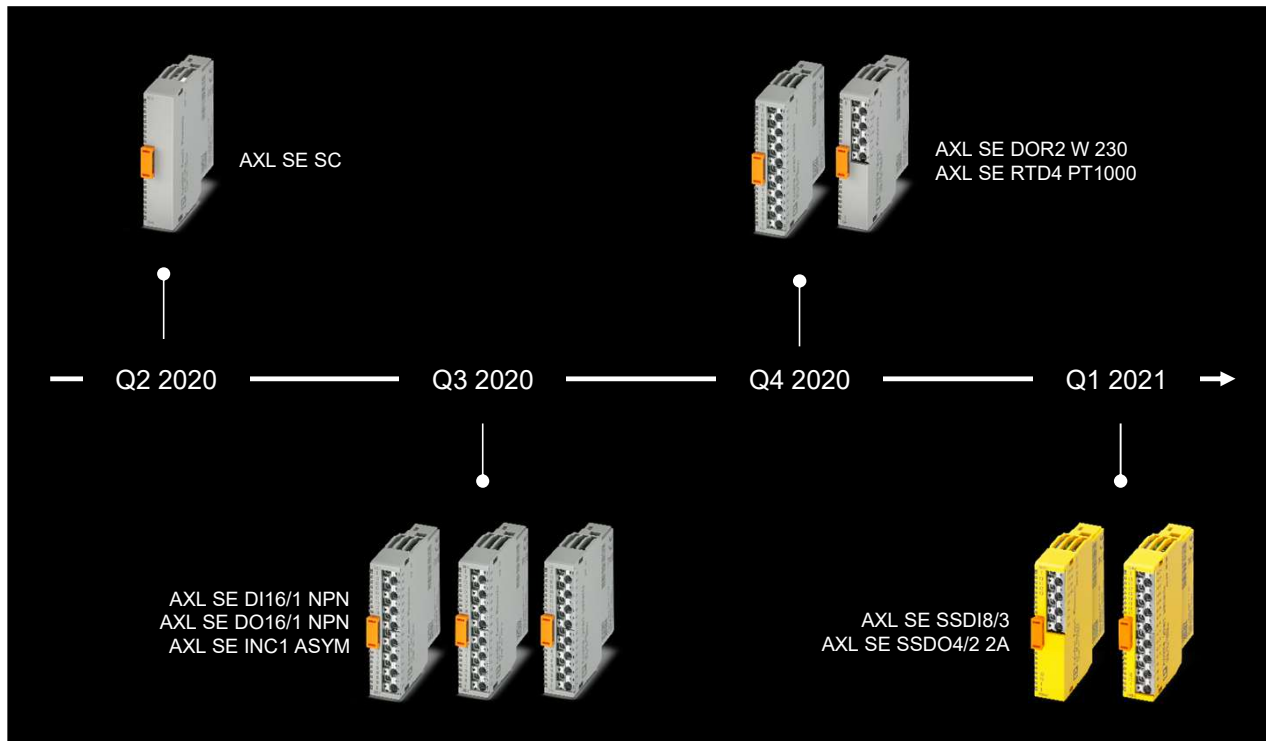
AO

RS485

CNT

AxioLine Smart Elements

More to come

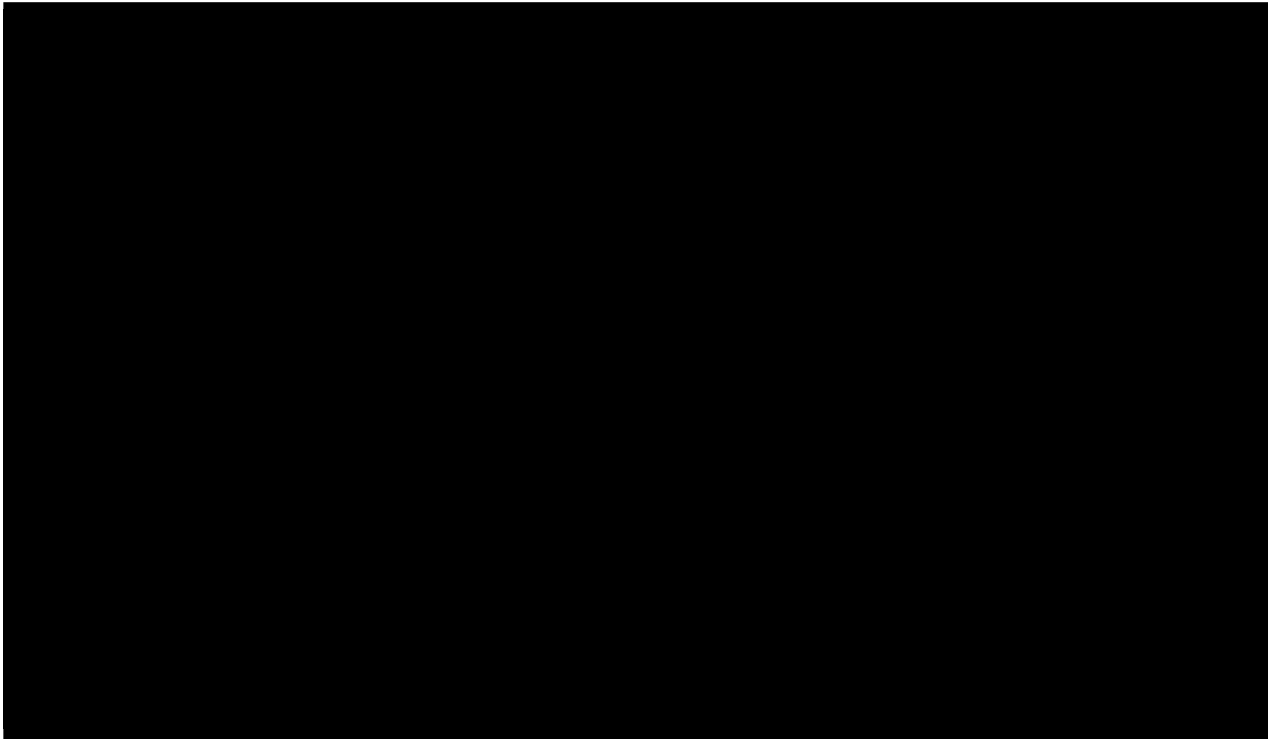


Be always up to date with the [I/O systems & light community](#) at the PC World.

Check regularly for latest information on new products, marketing tools and management updates.

PLCnext & Axioline Smart Elements

Modular automation system



- Scalable automation system for simple to complex assignments
- Large selection of modules according to the modular system principle
- Optimal complement to PLCnext Control
- All components are part of the COMPLETE line system


PLCnext Technology [®]
Designed by PHOENIX CONTACT

COMPLETE line

Overview – Axioline IP20 I/O systems




Axioline Smart Elements

- Flexible, modular and space saving I/O concept
- Machine building
- Field-level communication  IO-Link




Axioline F XC

- Wide temperature range, process-relevant approvals
- Hybrid applications, process applications
- Field-level communication  HART
COMMUNICATION PROTOCOL

General requirements
Factory automation

Specific requirements
Process industry

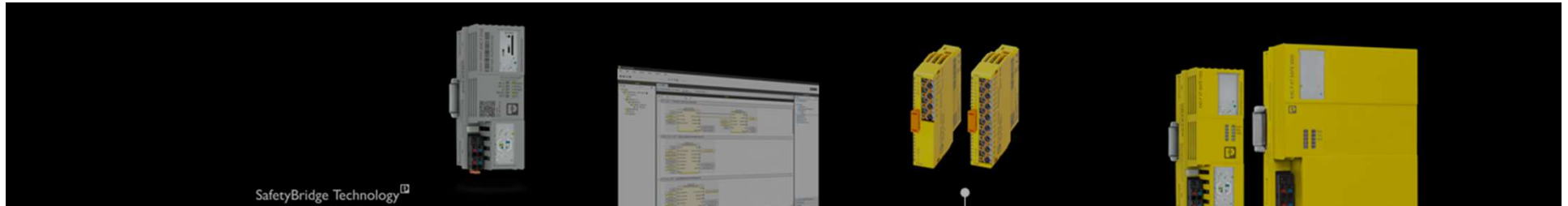
Axioline F

- Robust and fast I/O solution, wide I/O portfolio
 - Ship building, energy applications
- Field-level communication  IO-Link



PLCnext Technology

Functional Safety Portfolio with PLCnext Technology



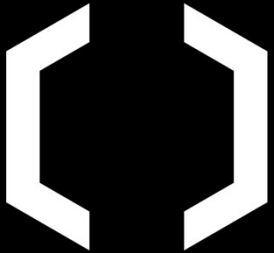
SafetyBridge TechnologyTM

Limitless possibilities for functional safety applications
with PLCnext Technology



PLCnext Technology

Functional Safety



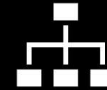
PLCnext Extension AXC F XT SPLC 3000

Core



ARM A8 & A9

of Profisafe devices



300

Temperature



-25°C - 60°C

Width



100mm

Approvals



UL, CUL, etc

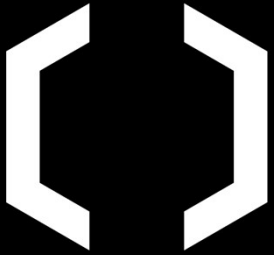
C Functions



Reloadable

PLCnext Technology

Functional Safety



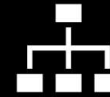
PLCnext Extension AXC F XT SPC 1000

Core



2 x Cortex M4

of Profisafe devices



32

Temperature



-25°C - 60°C

Width



45mm

Approvals



UL, CUL, etc


C Functions



Reloadable

PLCnext Technology

PLCnext Control Extension SPLC 1000









AXC F XT SAFE 1000

www.phoenixcontact.com


RUN
PAUSE
STOP

PLCnext Extension AXC F XT SPLC 1000

<p>Core</p>  <p>2 x Cortex M4</p>	<p># of Profisafe devices</p>  <p>32</p>	<p>Temperature</p>  <p>-25°C - 60°C</p>
<p>Width</p>  <p>45mm</p>	<p>Approvals</p>  <p>UL, CUL, etc</p>	<p>C Functions</p>  <p>Reloadable</p>

PLCnext Technology







PLCnext Control Extension SPLC 3000



AXC F XT SAFE 3000


RUN
FAL
DSD

PLCnext Extension AXC F XT SPLC 3000







 Core ARM A8 & A9	 # of Profisafe devices 300	 Temperature -25°C - 60°C
 Width 100mm	 Approvals UL, CUL, etc	 C Functions Reloadable

PLCnext Control

PLCnext Control RFC 4072S



The image shows a white PLCnext Control RFC 4072S device. It features a color touchscreen display with a green and yellow interface. The screen displays 'RFC 4072S' at the top, followed by 'Programmer', 'Safety PLC', 'DPC I/O', 'FW Controller', and 'FW Device'. Below the screen are several ports, including LAN ports labeled 'LAN 1', 'LAN 2', 'LAN 3', and 'LAN 4'. The device is branded with 'PLCnext Technology' and 'Phoenix Contact' logos.

Core	Working memory	Temperature
 Intel i5 6300U 2 x 2,4 GHz processor	 4 GB DDR 4 dual channel RAM	 0°C up to 55°C with fan
# control tasks (IEC 61131)  32	Min. cycle time (IEC 61131)  0,5 ms	Security  TPM integrated

PLCnext Controls

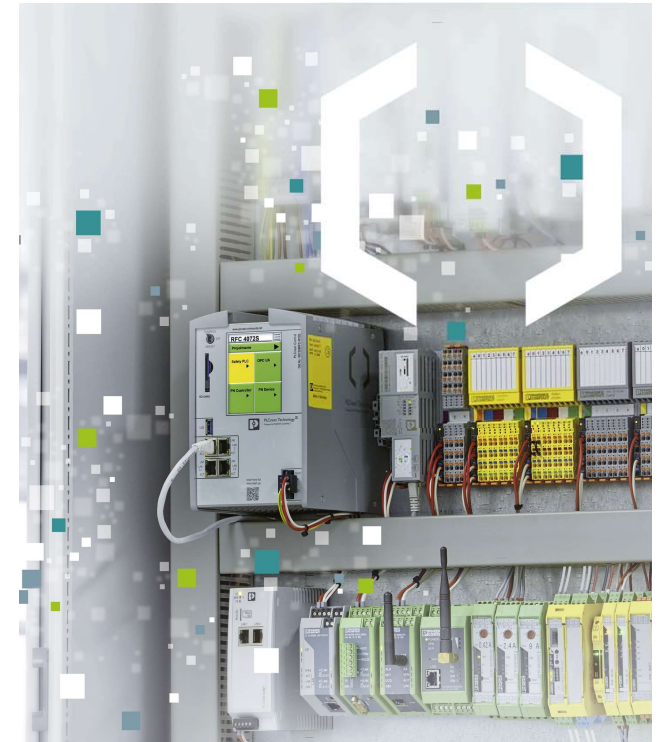
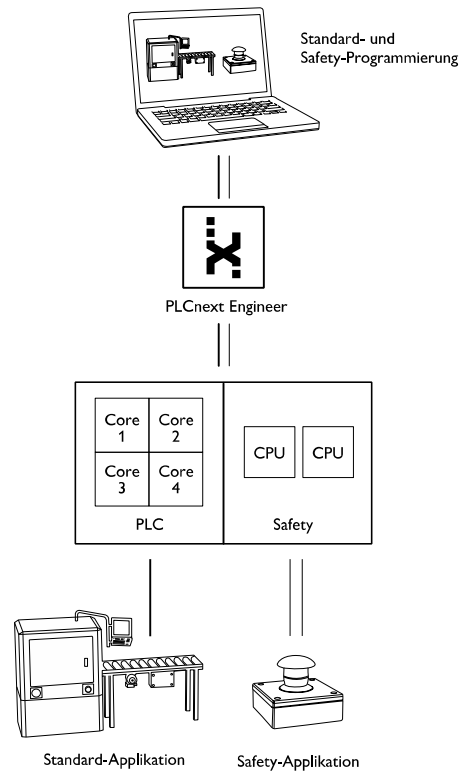
PCIe SPLC 3000

PLCnext Technology 
Designed by PHOENIX CONTACT

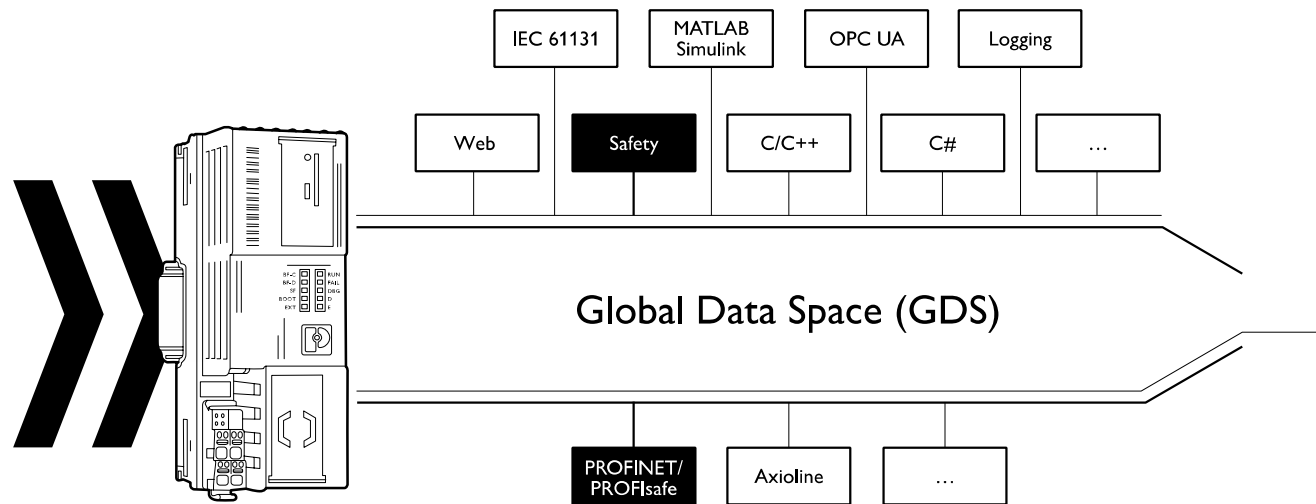


**Highest performance for
any automation application**

Functional Safety Integration



Safety integrated

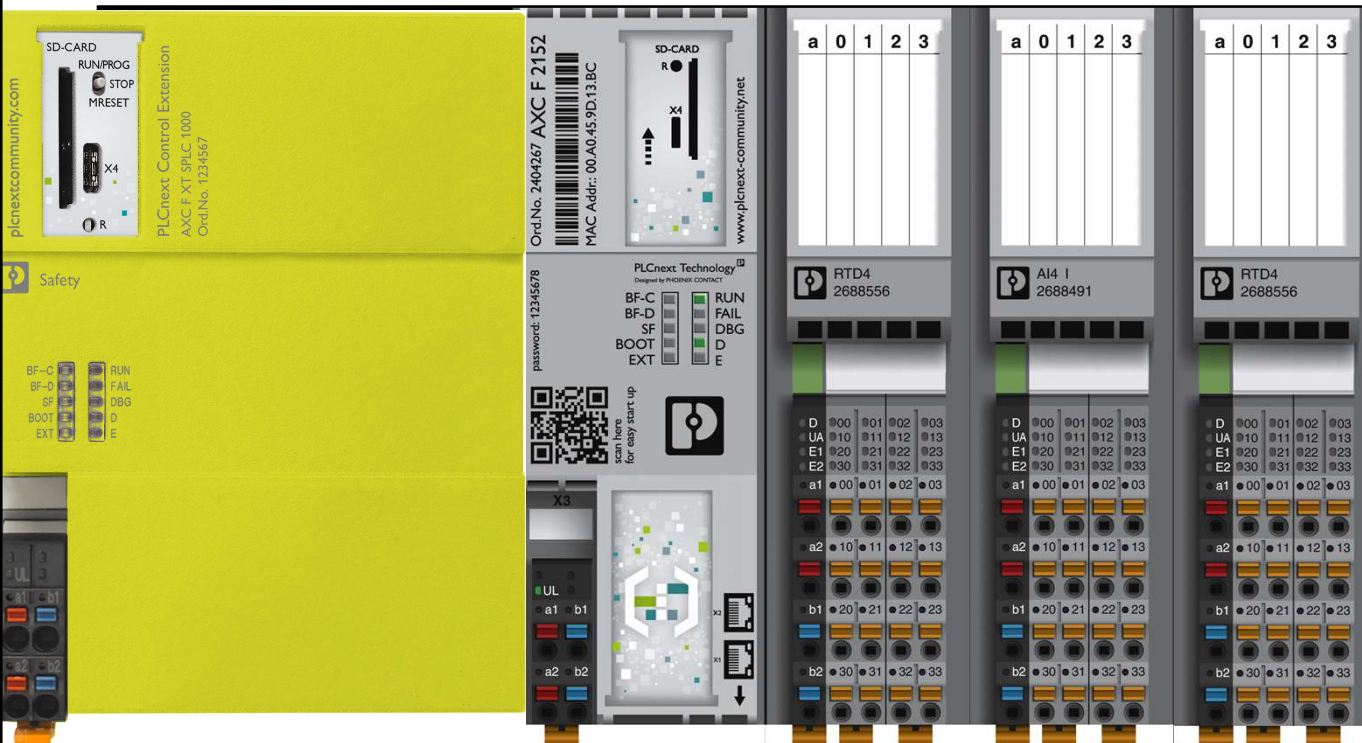


Scalable Safe PLCs

PLCnext Technology 
Designed by PHOENIX CONTACT

AXC F XT SPLC 3000 – High-Scale Modular Safe PLC

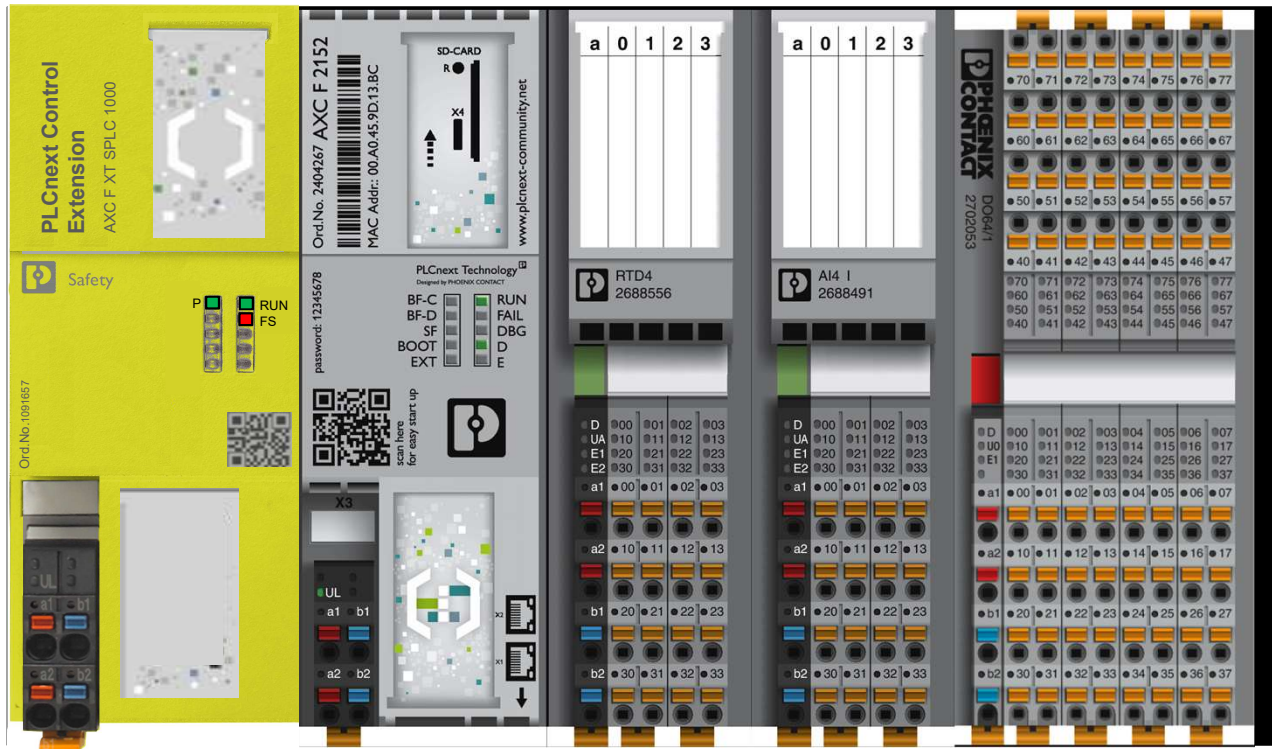
Outlook:
Mid 2021



- Centralized Safe PLC
- Left-hand side connectable to PLCnext Controls
- Supported Safety Protocols:
 - PROFIsafe V2.61 (300 instances)
 - FSoE (future)
- Connectable to higher-layer SPLC
 - as PROFIsafe Slave
 - via new OPC UA Safety Protocol

Scalable Safe PLCs

AXC F XT SPLC 1000 – Low-Scale Modular Safe PLC



- Decentralized Small Safe PLC
- Left-hand side connectable to PLCnext Controls
- Supported Safety Protocols:
 - PROFIsafe V2.61 (32 instances)
 - FSoE (future)
- Connectable to higher-layer SPLC
 - as PROFIsafe Slave
 - via new OPC UA Safety Protocol

Scalable Safe PLCs

AXC F XT SPLC 1000 Categorization

Centralized Safe PLC

- e.g. SPLC 3000 @ AXC F 3152, alternatively RFC 480S / RFC 4072S
- Higher-layer plant control

Higher-layer network

- Step 1: PROFIsafe via PROFINET
- Step 2: Safety via OPC UA

Decentralized small-scale Safe PLC

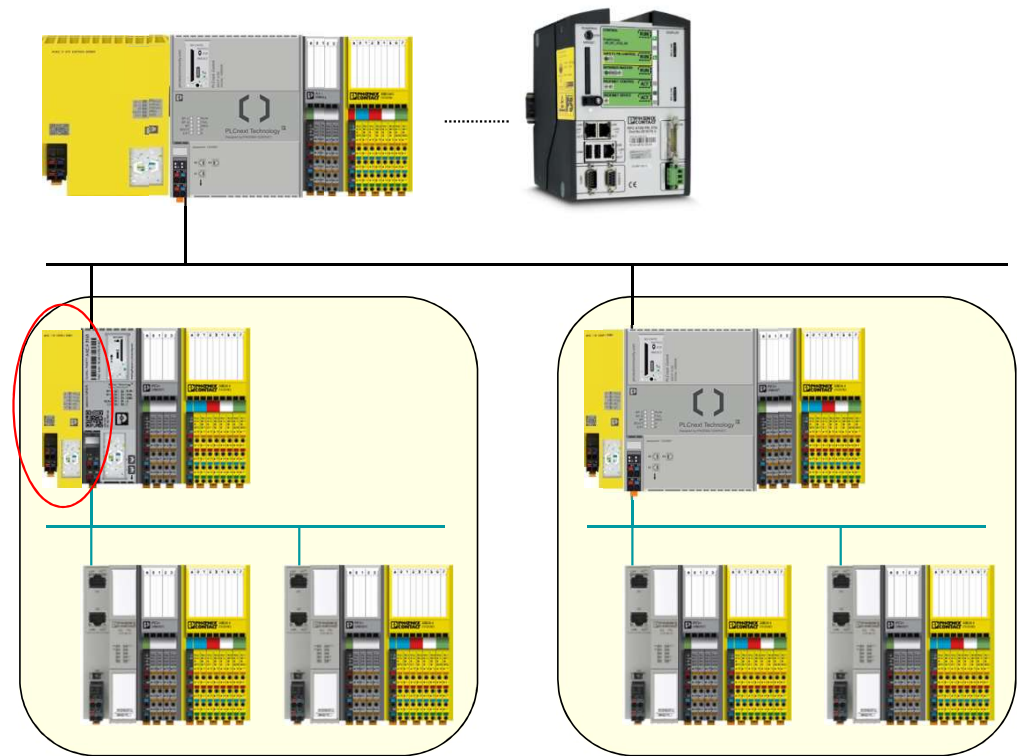
- **AXC F XT SPLC 1000 @ AXC F 2152 (or 3152)**
- decentralized machine control incl. Safety

Machine network

- Step 1: PROFIsafe via PROFINET
- Step 2: FSoE via Ethercat

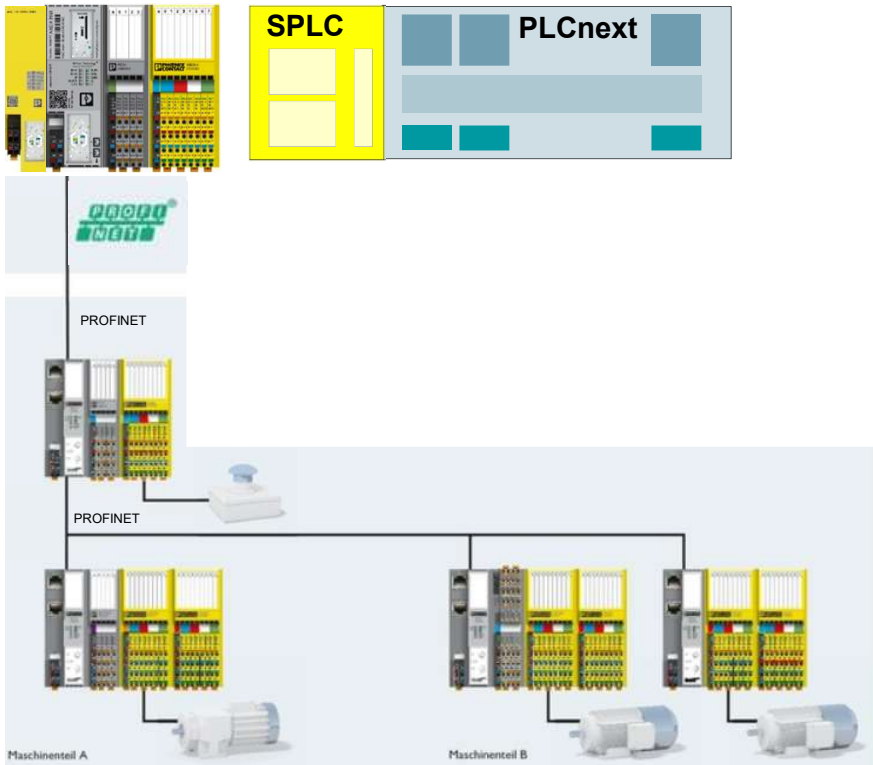
Field layer

- Step 1: PROFIsafe IO + intelligent field devices
- Step 2. FSoE IO + intelligent field devices



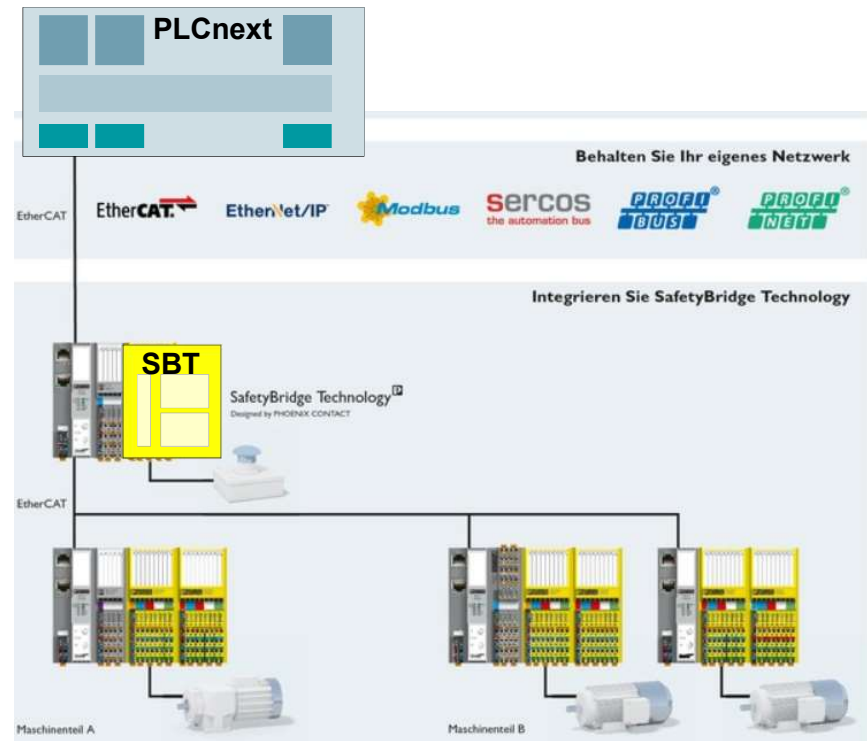
PLCnext Safety / SafetyBridge Categorization

PLCnext Safety



PLCnext Technology 
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SafetyBridge Technology

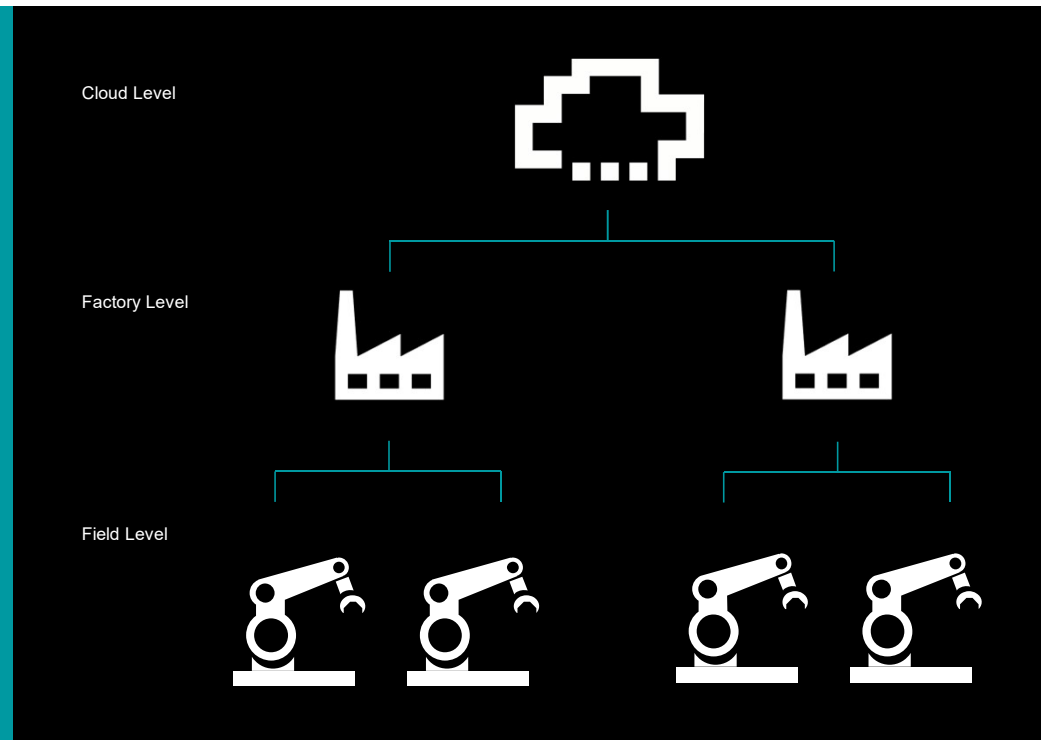


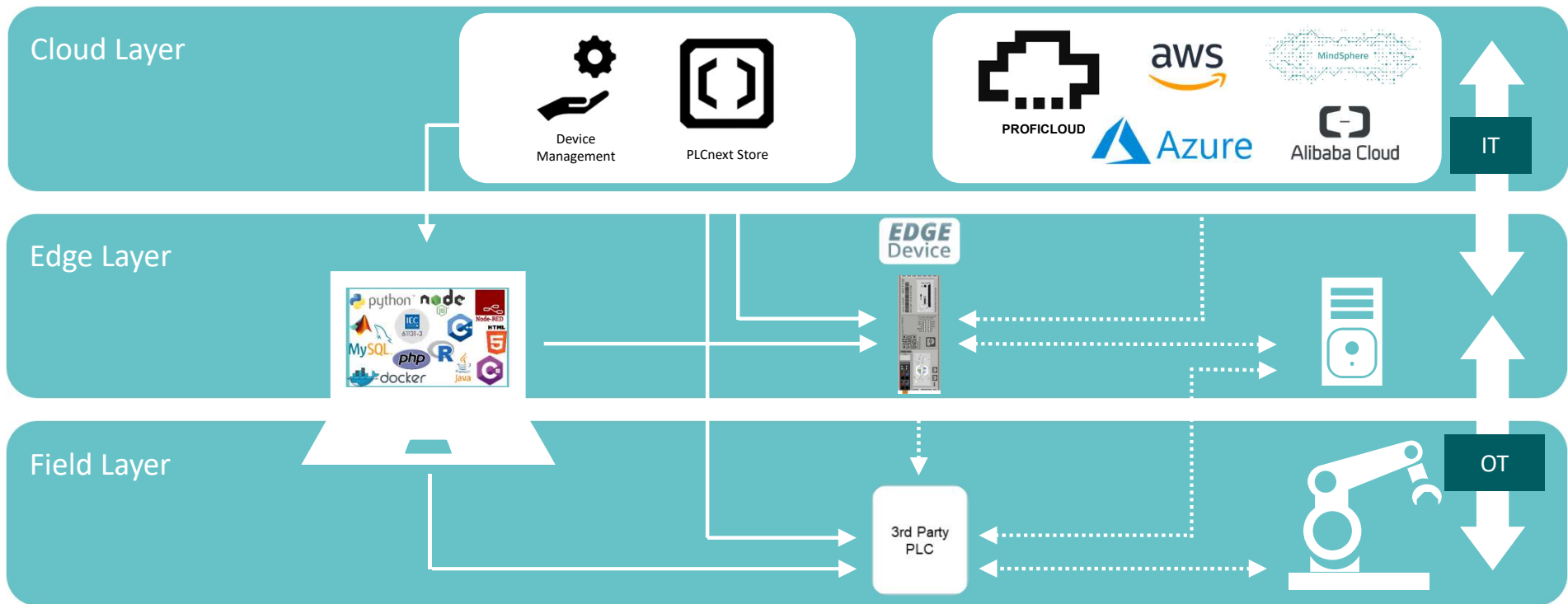
PLCnext Technology 
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PLCnext Control for Edge Computing

Edge Computing

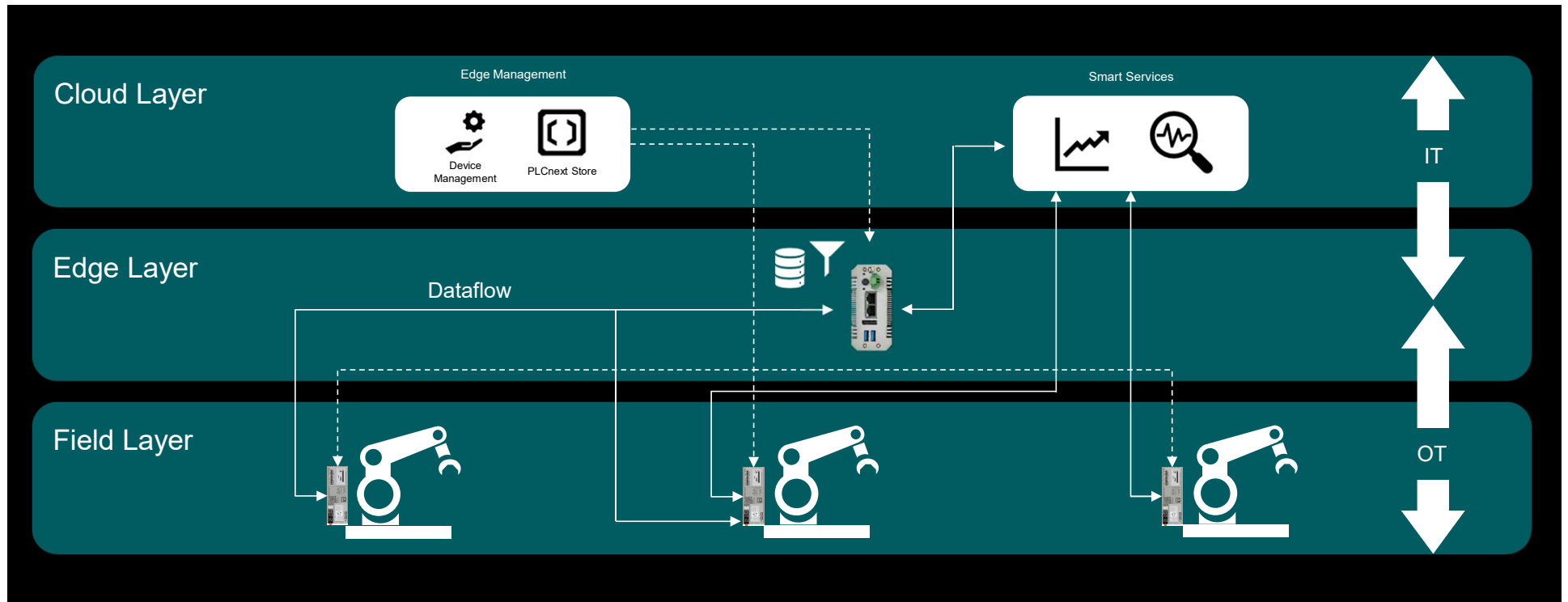
- Cloud computing has revolutionized how people store and use their data, but...
- Latency, bandwidth, security or a lack of offline access can be problematic
- To solve this problem, users need robust, secure and intelligent on-premise infrastructure for edge computing
- When data is physically located closer to the user who connect to it, information can be shared quickly, securely and without latency



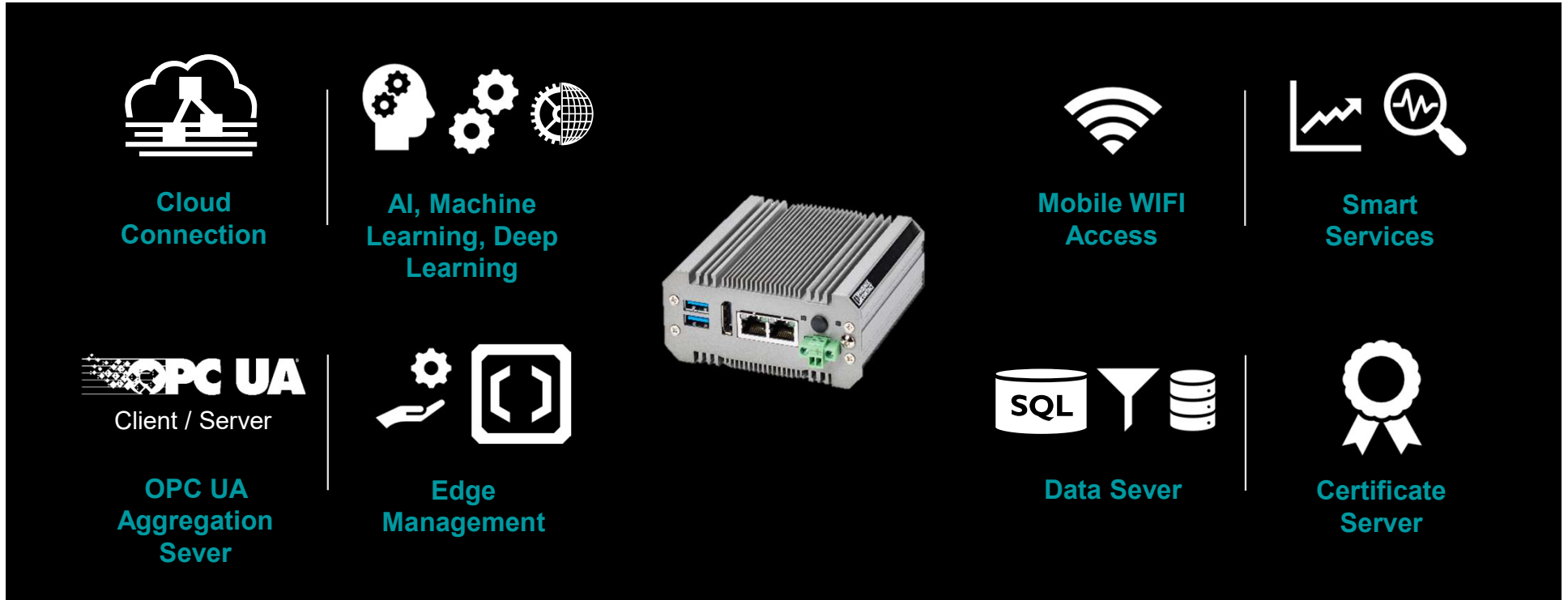


PLCnext Control

Definition



Edge functions within PLCnext Control



PLCnext Control

PLCnext Control for Edge Computing EPC 1502



Core



Intel Celeron
N3350 (Dual Core)

Random access memory



2 GB RAM

Temperature



0°C-50°C

Storage



32 GB eMMC

Approvals



UL, CE

Wifi



Integrated

PLCnext Control

PLCnext Control for Edge Computing EPC 1522



Core



Intel Celeron
N3350 (Dual Core)

Random access memory



4 GB RAM

Temperature



0°C-50°C

Storage



32 GB eMMC +
128 GB m.2 SSD

Approvals



UL, CE

Wifi



Integrated

Edge Computing

Artificial intelligence

Google Coral as XT with
Coral as complete toolkit



INTEL Movidius as XT

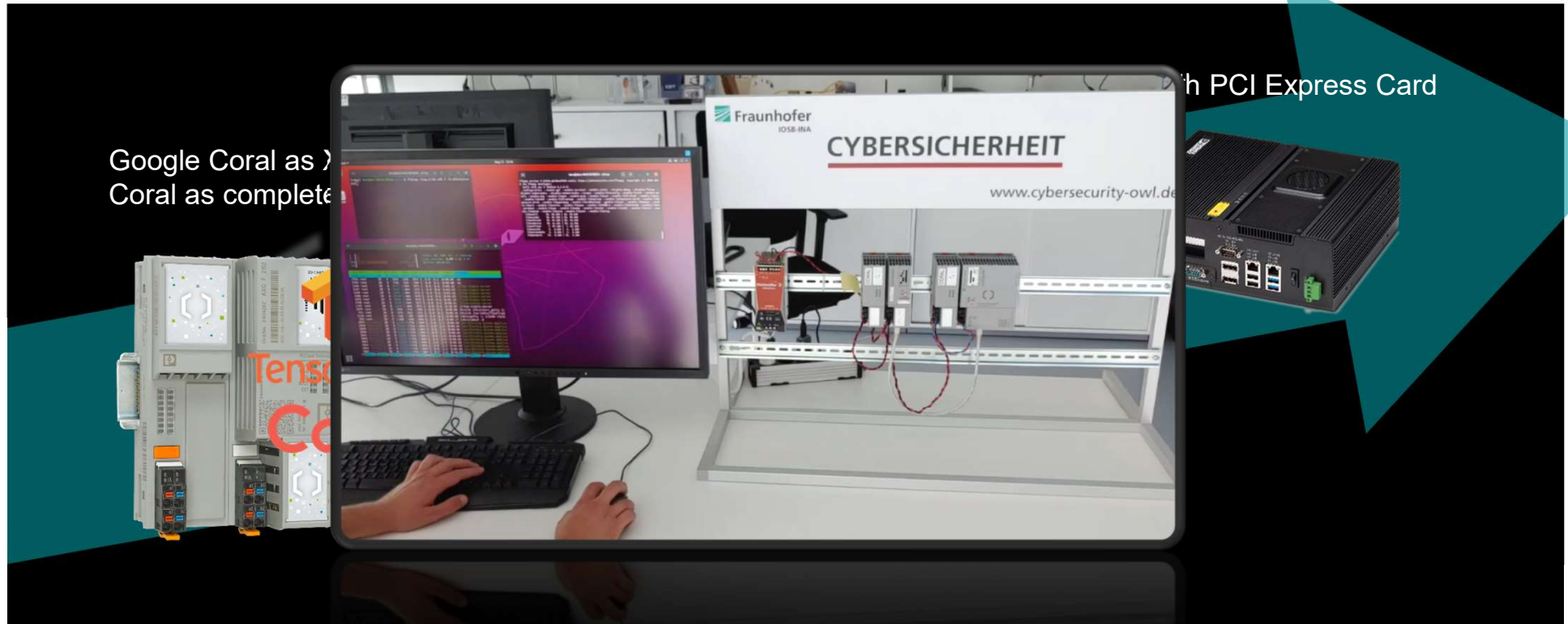


Box PC with PCI Express Card



Edge Computing

Artificial intelligence - AXC F XT ML 1000



Join and get involved

PLCnext Community

PLCnext Technology 
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More about PLCnext Technology



plcnextcommunity.com

Upload or download apps



plcnextstore.com

Ask a question in the forum



phoe.co/PLCnextForum

Use or share open source code



github.com/plcnext

Get in touch on LinkedIn



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#PLCnext
#IamPLCnext



PLCnext Community

Join and get involved
#IamPLCnext

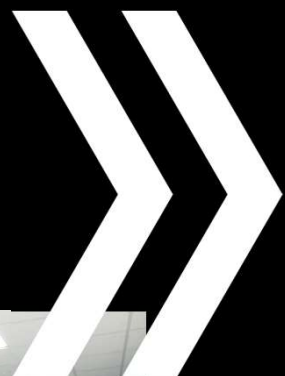
What else is worth mentioning ...

Visitors can experience PLCnext: We live and think digitalization

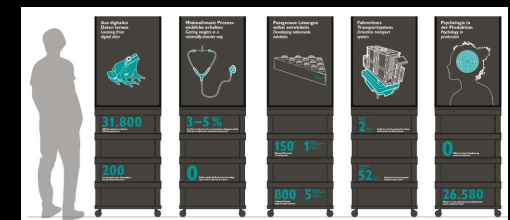
PLCnext Factory –
 PLCnext Technology becomes a tangible experience

VISION:

In a rapidly changing world, we have to rethink our production processes every day. Digitalization is the key to this. Every day, we move borders, are flexible and open to new ways of working together. So are our products.



Tour for visitors with 5 stations on digitization topics

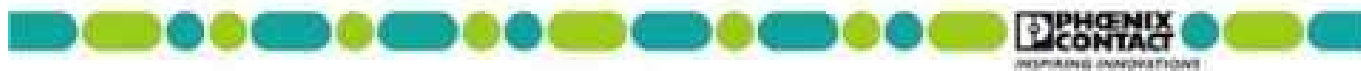


**EtherNet/IP™ |
How to
connect your
PLCnext
Control to
controllers
from other
manufacturers
using EIP**



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Connect an **AXC F 2152** to
a **Rockwell** controller
with **EtherNet/IP**




PLCnext Technology

Webinars

Enero 11 10:00

Webinar: MQTT examples

Date: 11 January 2021 

Time: 05:00 PM (CET), Germany 05:00 PM (LT)

Language: English

Speaker: Christiane Kownatzki

The webinar will give you an overview of communication via MQTT. Additionally, you will learn by means of different examples how you can use PLCnext Control as MQTT Client and MQTT Broker.


[CHECK IN FOR WEBINAR](#)

[Read more ...](#)

[MQTT](#) [mosquitto](#) [Node-RED](#) [Python](#)
[Paho](#)

Enero 25 10:00

Webinar: C++ Components for non-realtime applications

Date: 25 January 2021 

Time: 05:00 PM (CET), Germany 05:00 PM (LT)

Language: English

Speaker: Christiane Kownatzki

This webinar will give you an overview of using C++ Components for non-realtime applications. You will learn how to access the Global Data Space and how to run code cyclically by working with threads. Additionally, you will get an overview of Remote Service Calls (RSC). All necessary steps will be explained in a small demo example.


[CHECK IN FOR WEBINAR](#)

[Read more ...](#)

[C++](#) [Function Extension](#) [RSC](#)
[Components](#) [Remote Service Calls](#)
[Non realtime application](#)

Marzo 8 10:00

Webinar: Python examples

Date: 08 March 2021 

Time: 05:00 PM (CET), Germany 05:00 PM (LT)

Language: English

Speaker: Christiane Kownatzki

During this webinar you will learn how to use Python on PLCnext Control and how to extend the functionalities by installing further libraries. This will be explained by means of two examples: One example will show you how to make your PLC a Modbus TCP client via Python, another one how to subscribe and publish data via MQTT.

[CHECK IN FOR WEBINAR](#)

[Read more ...](#)

[Python](#)

Webinar IMA 2020

Mayor información



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Actividades 2020

Folletos

Presentaciones

Webinars