Welcome

Webinars 2020

Introducción al ecosistema de plataforma abierta y flexible

PLCnext Technology

Antonio Gordillo IMA Septiembre - Diciembre 2020

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INSPIRING INNOVATIONS

Introducción al ecosistema de plataforma abierta y flexible PLCnext Technology

Agenda

- What is PLCnext Technology:
- Enhanced Connectivity
- Enhanced Freedom
- Enhanced Convinience
- Enhanced Development
- Enhanced Performance
- PLCnext Runtime Arquitecture
- Sites of Information

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PLCnext Technology

enhance your automation thinking

PLCnext Technology

Brief
Overview

PLCnext Technology
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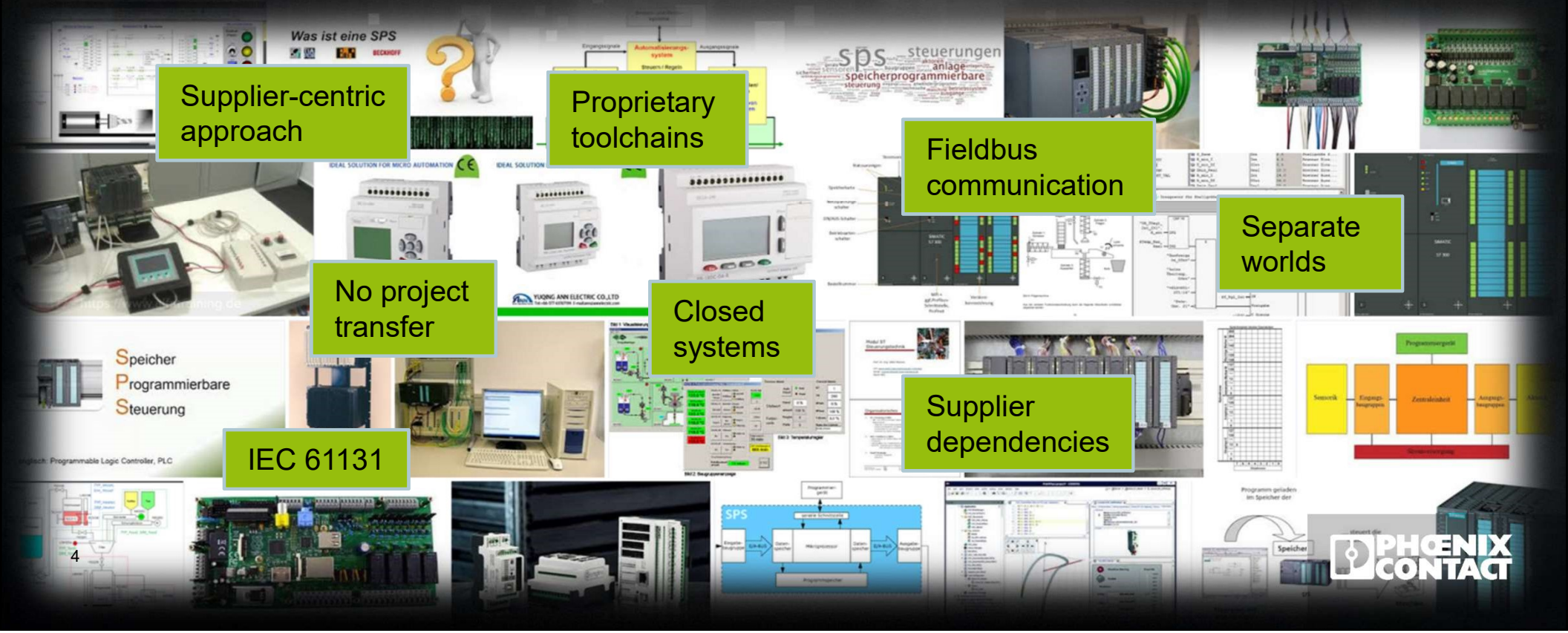
Where we come from – Control Technology yesterday



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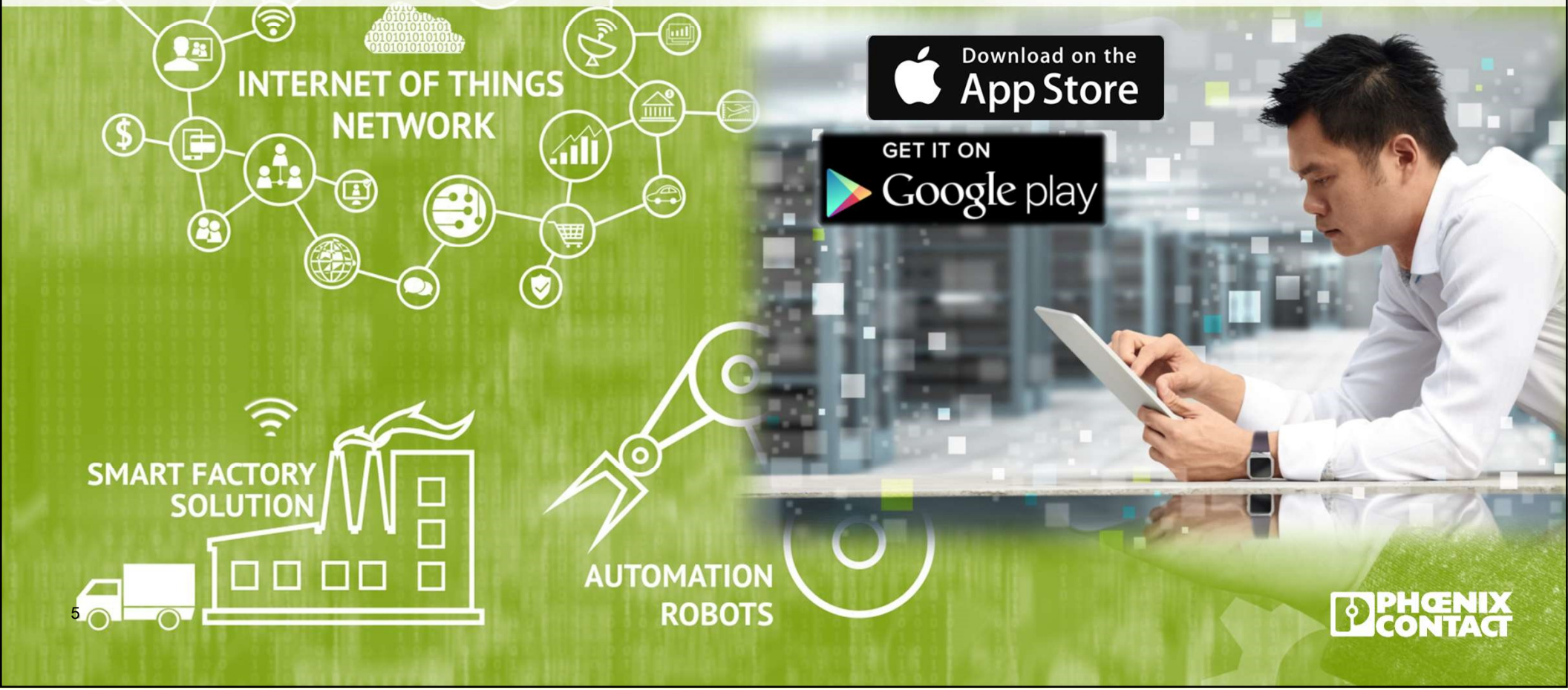
Digitalization – Changing Market & Customer Requirements



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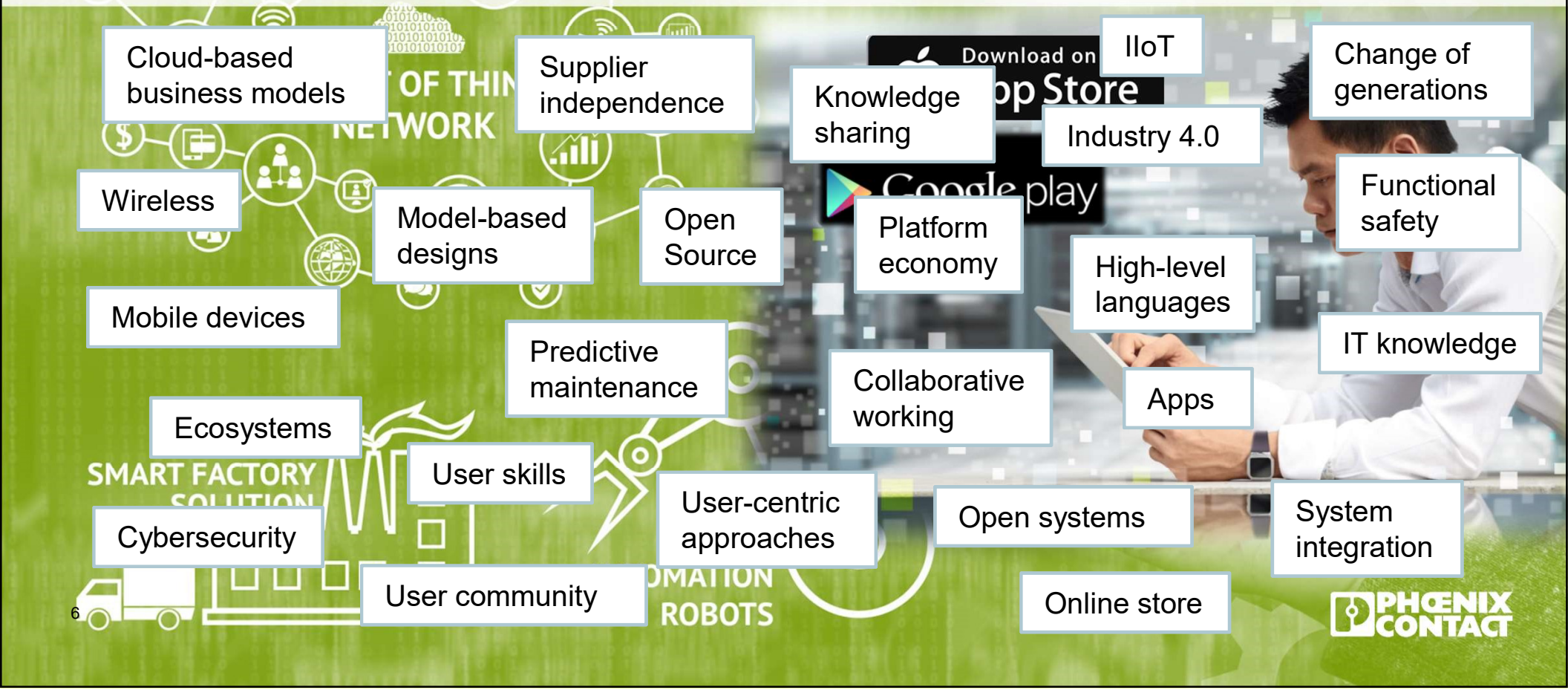
Digitalization – Changing Market & Customer Requirements



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What Is PLCnext Technology?

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Our Answer: An Open Ecosystem for Limitless Automation

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Our Answer: An Open Ecosystem for Limitless Automation

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PLCnext Technology in a nutshell

Open Control Platform

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PLCnext Contr

Open Control Platform

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

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PLCnext Technology in a nutshell

Engineering Software

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PLCnext Te
enhance your

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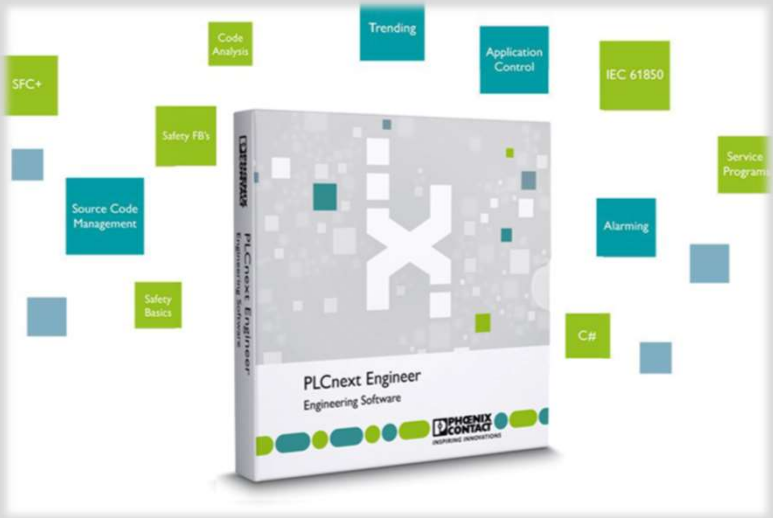
Open Control Platform

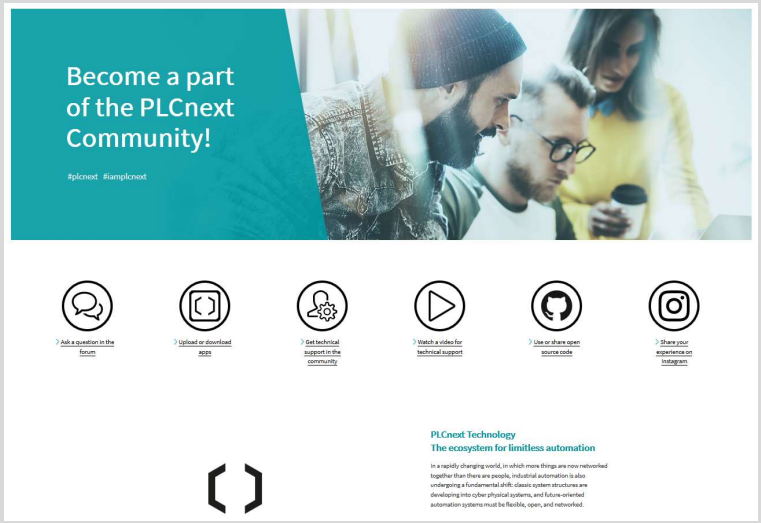
PLCs in various performance classes including PLCnext Runtime System and accessories for PLCnext Technology



Engineering Software

Engineering tool for commissioning, configuring, and programming PLCnext Controls

User Collaboration & Resources



User Collaboration & Resources

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

PLCnext Technology in a nutshell

Software Store & Digital Marketplace for Automation

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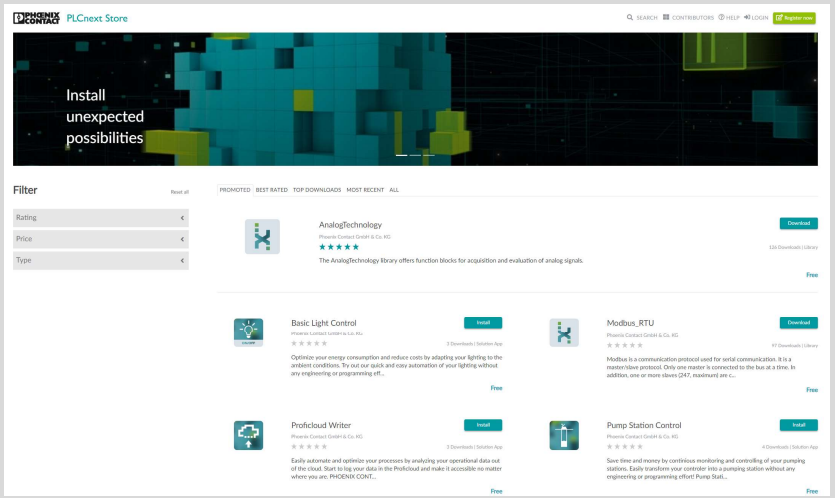

Software Store for Automation

Apps for functional extension of
PLCnext Control and PLCnext Engineer

chnology
ation thinking

Cnext Store

PLCnext Community

User Collaboration & Resources

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

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PLCnext Technology in a nutshell

The Open Ecosystem for Limitless Automation

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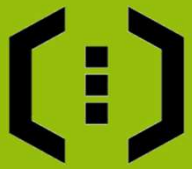
PLCnext Technology
enhance your automation thinking

PLCnext Control



Open Control Platform

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

PLCnext Engineer

Engineering Software

Engineering tool for commissioning, configuring, and programming PLCnext Controls

PLCnext Store

Software Store for Automation

Apps for functional extension of PLCnext Control and PLCnext Engineer

PLCnext Community

User Collaboration & Resources

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

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PLCnext Technology

The reliability and robustness
of the classical PLC world

enhances

with the openness and flexibility
of Smart Devices.

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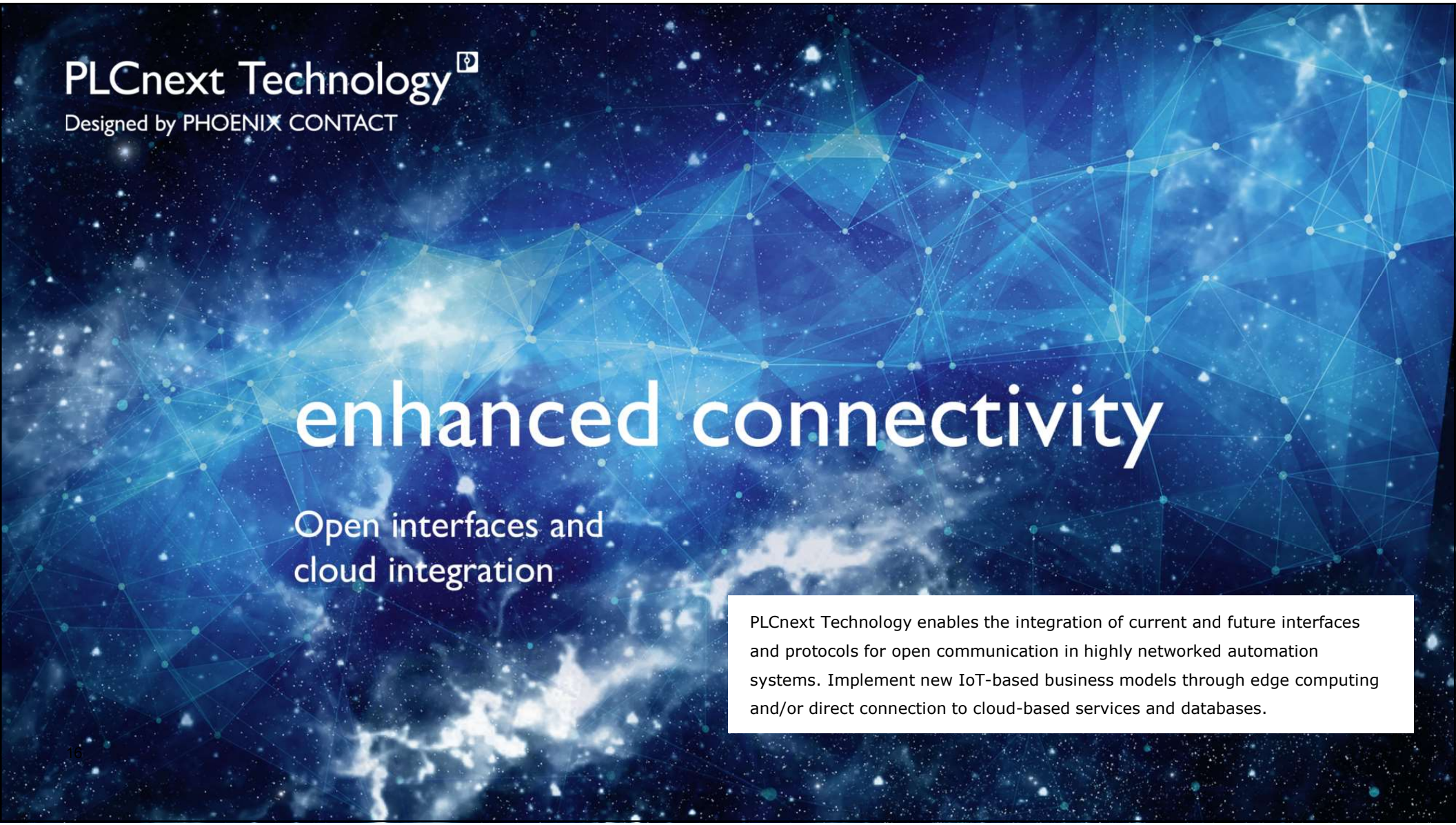
your automation thinking
PLCnext Technology makes it possible to implement automation projects without the limits of proprietary systems. You work freely with your favorite programming languages and development tools, open-source software and apps. You can also integrate cloud services and future technologies individually.


PLCnext Technology
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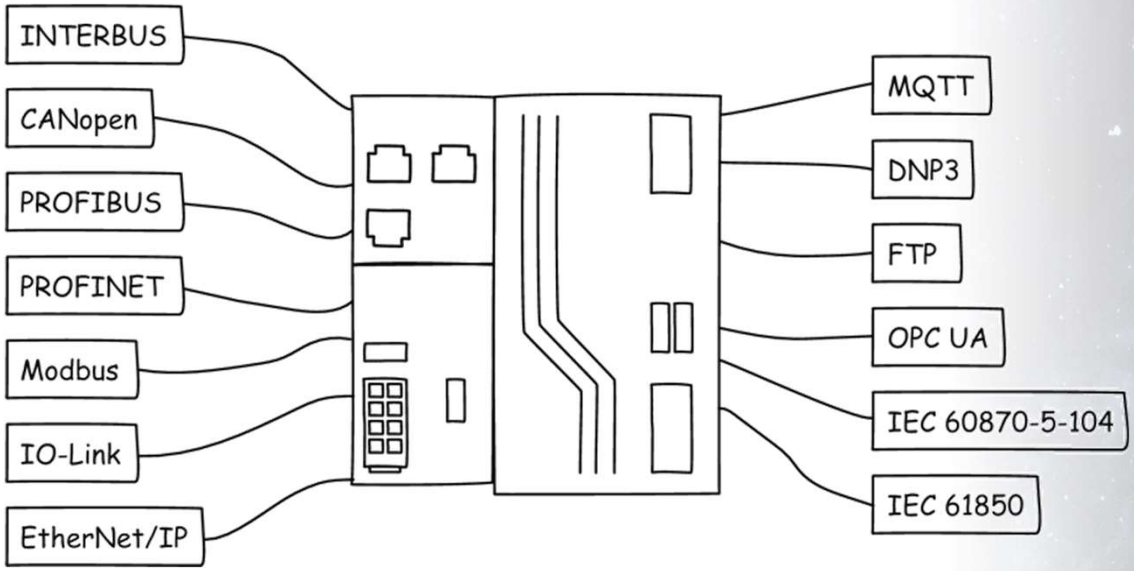
enhanced connectivity
Open interfaces and
cloud integration
PLCnext Technology enables the integration of current and future interfaces and protocols for open communication in highly networked automation systems. Implement new IoT-based business models through edge computing and/or direct connection to cloud-based services and databases.

enhanced connectivity – Intelligent Networking

Future-proof Connectivity



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

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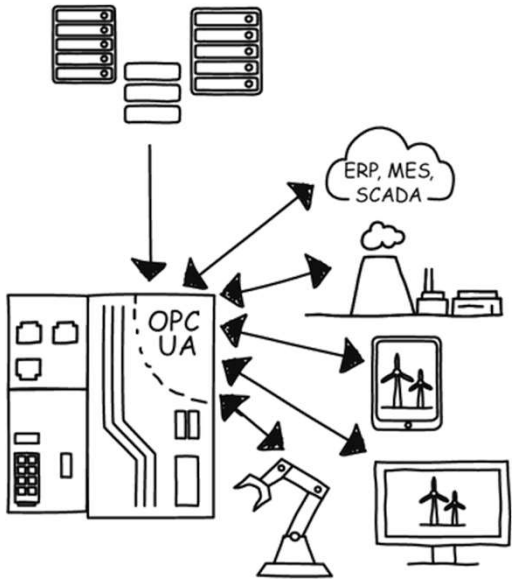
enhanced connectivity – Intelligent Networking

Integrated OPC UA Server



OPC UA

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

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enhanced connectivity – Intelligent Networking

PROFICLOUD, Public Cloud, Private Cloud – any Cloud!

PROFICLOUD

Alibaba Cloud

Google Cloud

aws

MindSphere

MQTT based on paho

Azure

IBM Cloud

Implement new IoT-based business models through direct connection to cloud-based services and databases.
Benefit from the seamless integration of Phoenix Contact´s PROFICLOUD and a cloud-agnostic strategy where the PLCnext Store delivers cloud connectors for every cloud. PLCnext Technology supports any customer cloud implementation – public, private, hybrid - including AWS, IBM, Azure, Alibaba, and MindSphere.

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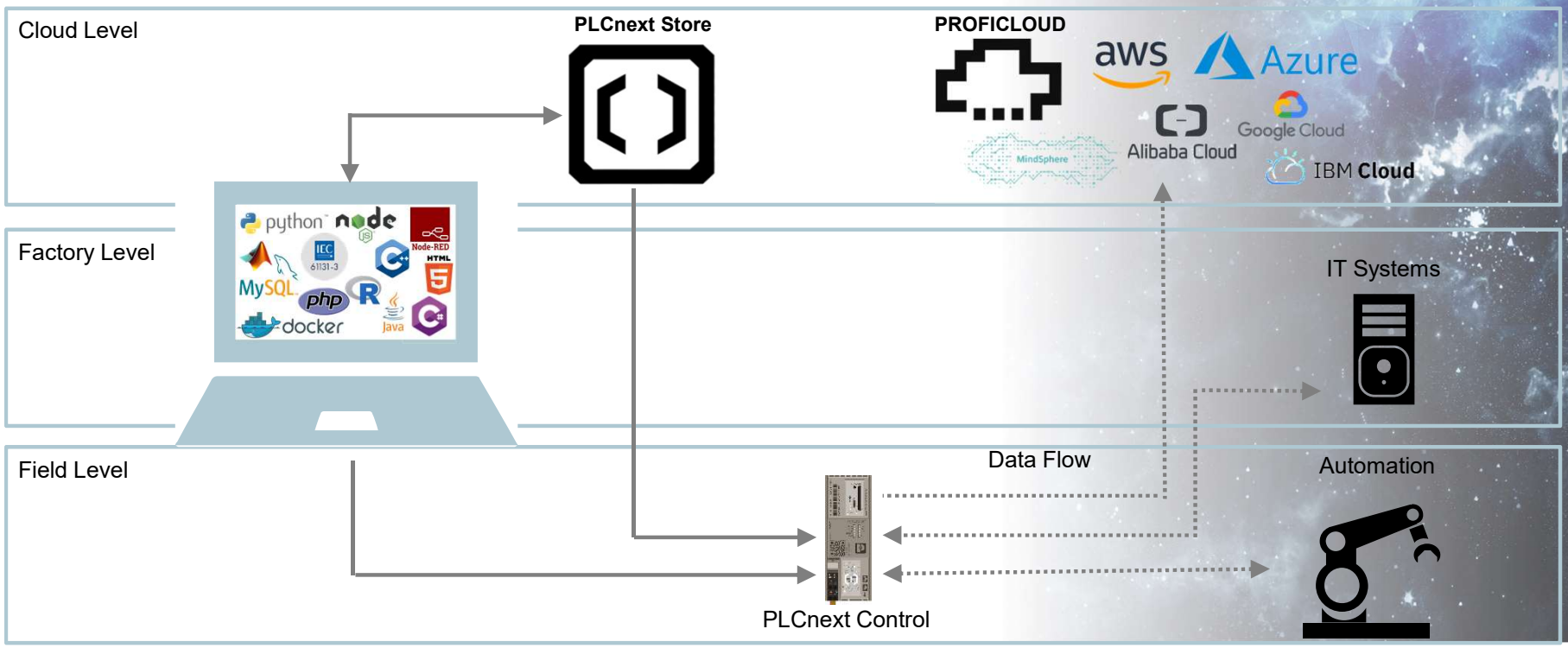
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as PLC



PLCnext Technology
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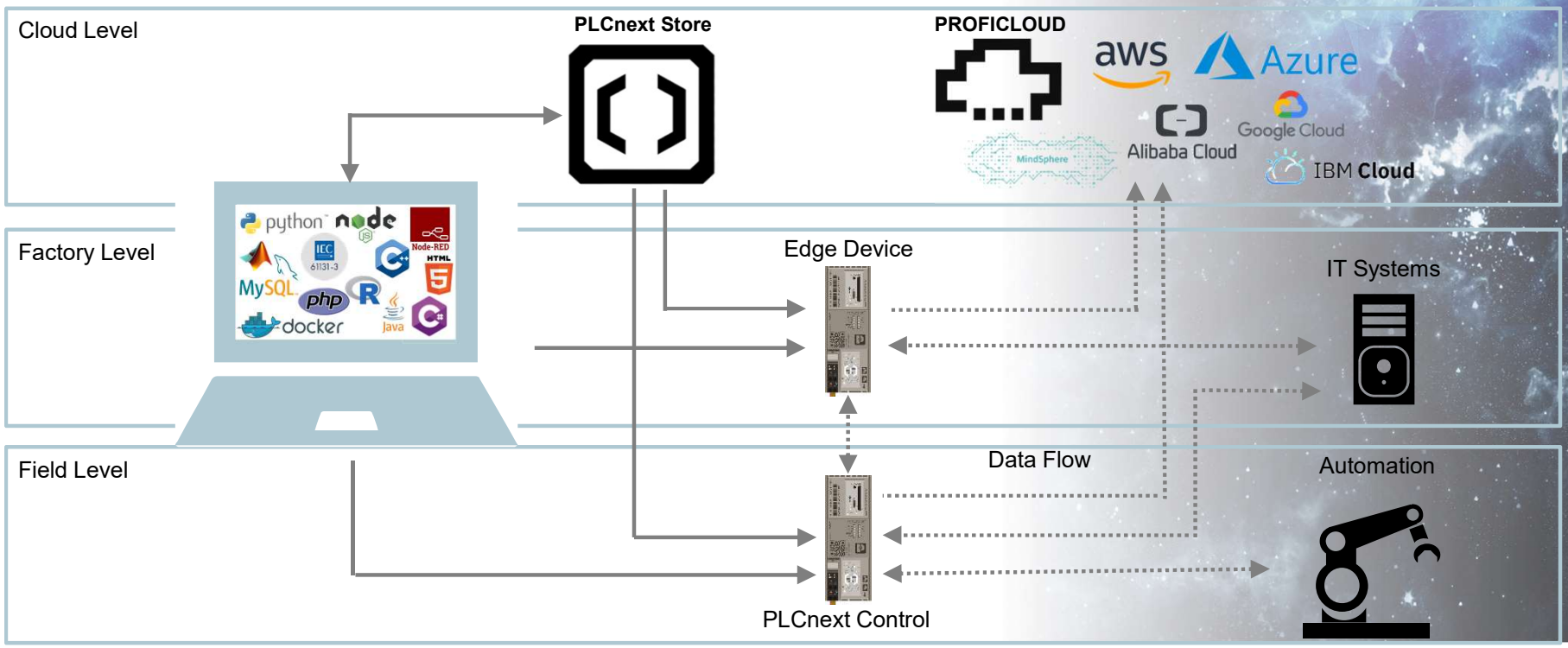
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as PLC and Edge Device



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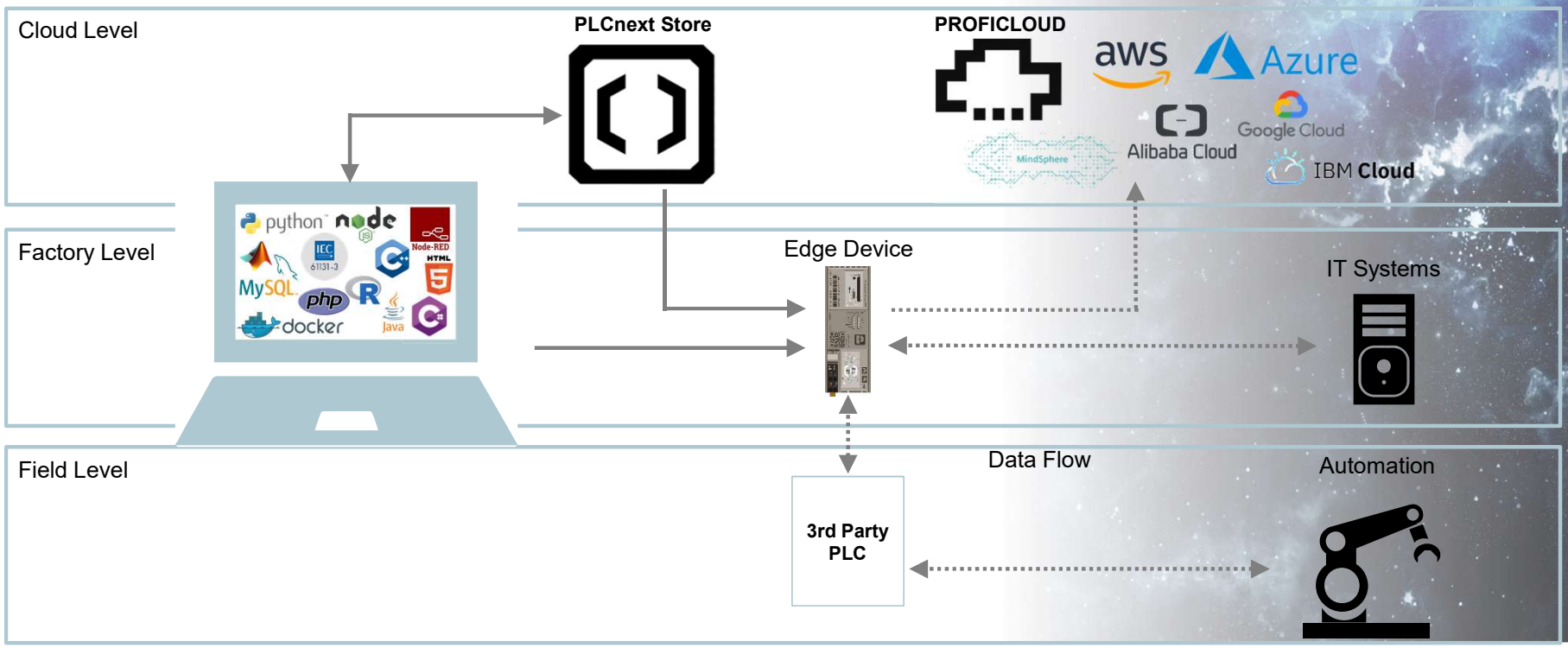
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as Edge Device




enhanced
freedom
Flexible integration of
open source software and apps
PLCnext Technology
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PLCnext Technology enables any desired combination of independently created program parts and complete applications. The use of open-source software and apps, e.g. from our PLCnext Store, improves the efficiency of your development processes. They sky is the limit when it comes to future expansions.

enhanced freedom

Limitless Adaption Capability

PLCnext Technology enables any desired combination of independently created program parts and complete applications. The use of open-source software and apps improves the efficiency of your development processes.

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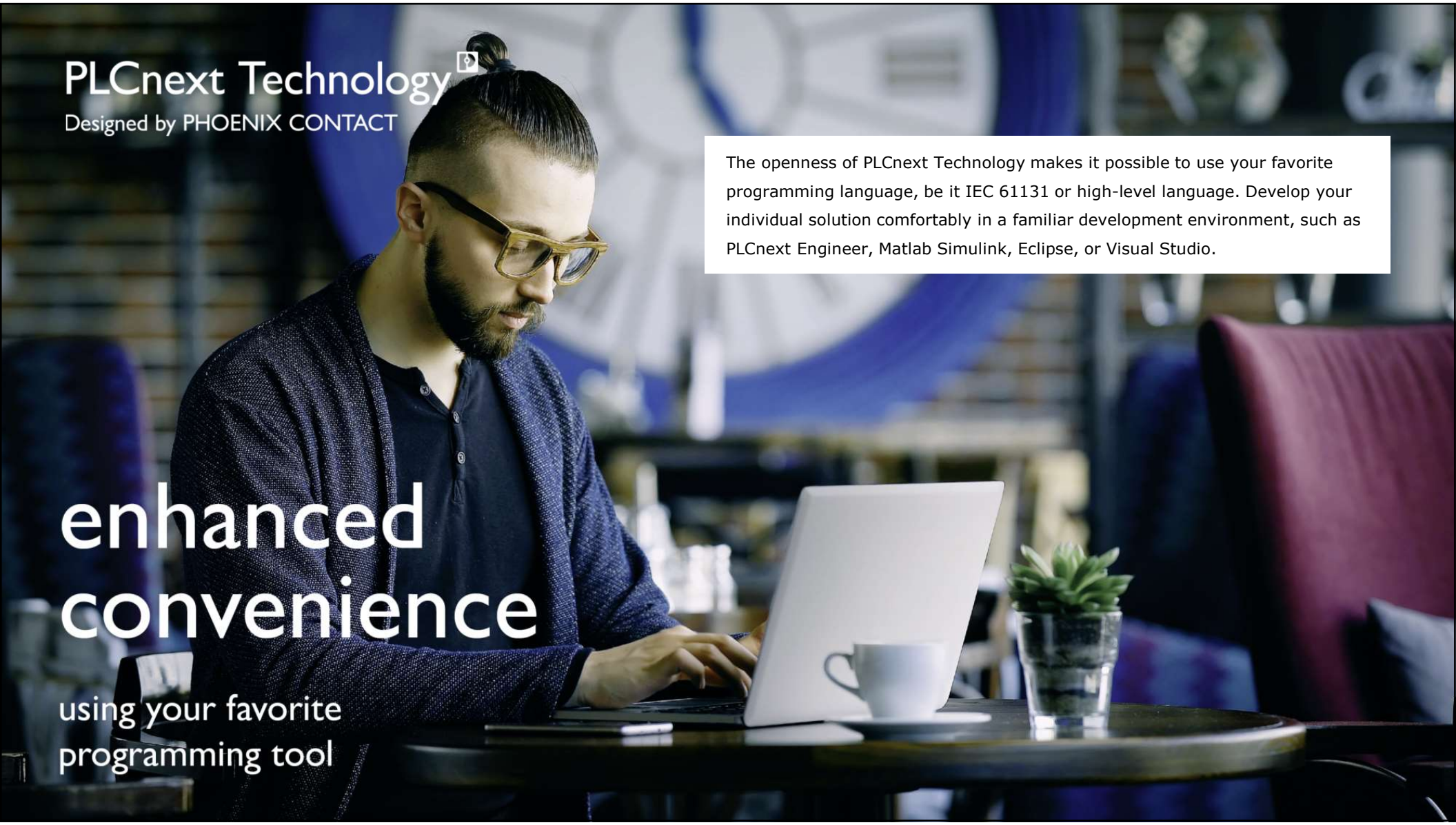
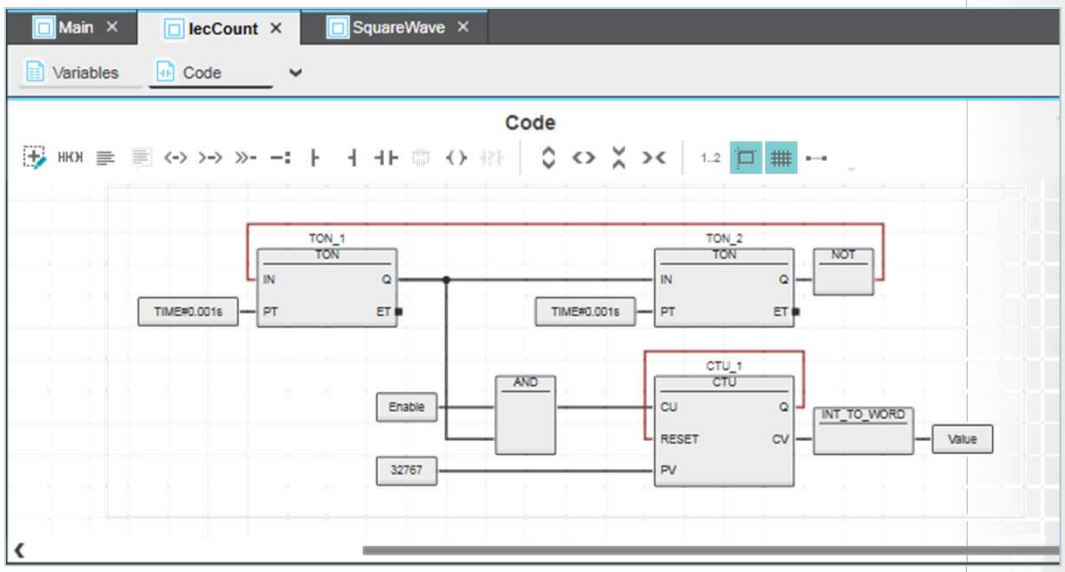
INSPIRING INNOVATIONS



The openness of PLCnext Technology makes it possible to use your favorite programming language, be it IEC 61131 or high-level language. Develop your individual solution comfortably in a familiar development environment, such as PLCnext Engineer, Matlab Simulink, Eclipse, or Visual Studio.

enhanced convenience

IEC 61131-3 Programming with PLCnext Engineer



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

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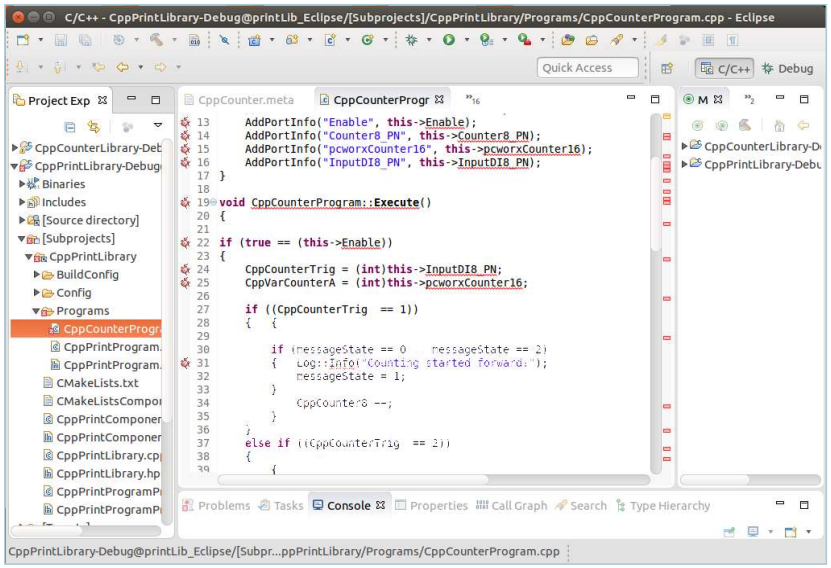
Programming – C/C++



C/C++ acc. to standard, easy interface to the PLCnext Technology platform, support of remote debugging – use the tool you are familiar with.

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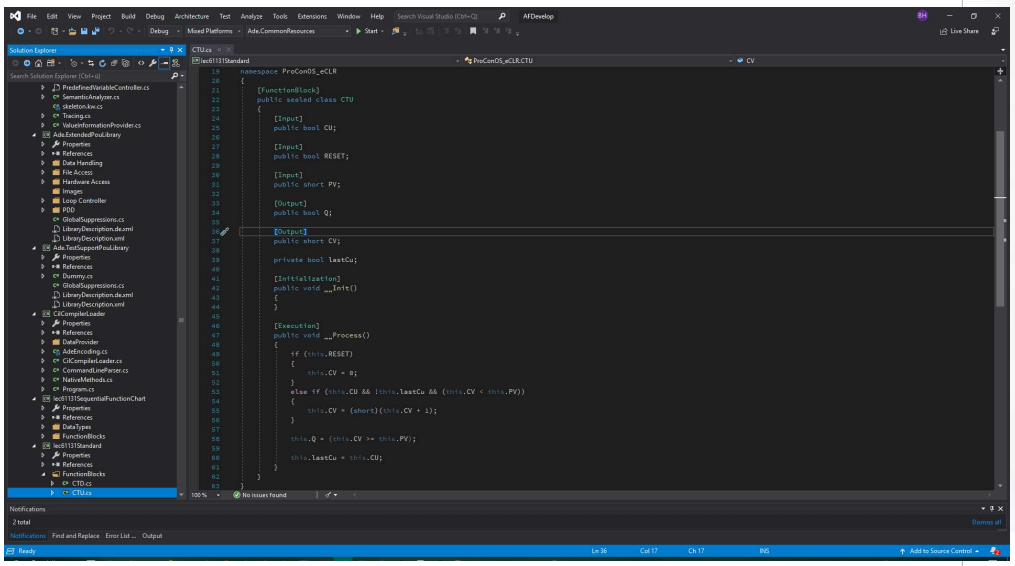
C# Function Blocks



Development and integration of function blocks with C# with a dedicated plug-in for Visual Studio.
Create IEC 61131 function blocks with C# and execute them in real-time with the eCLR runtime system.

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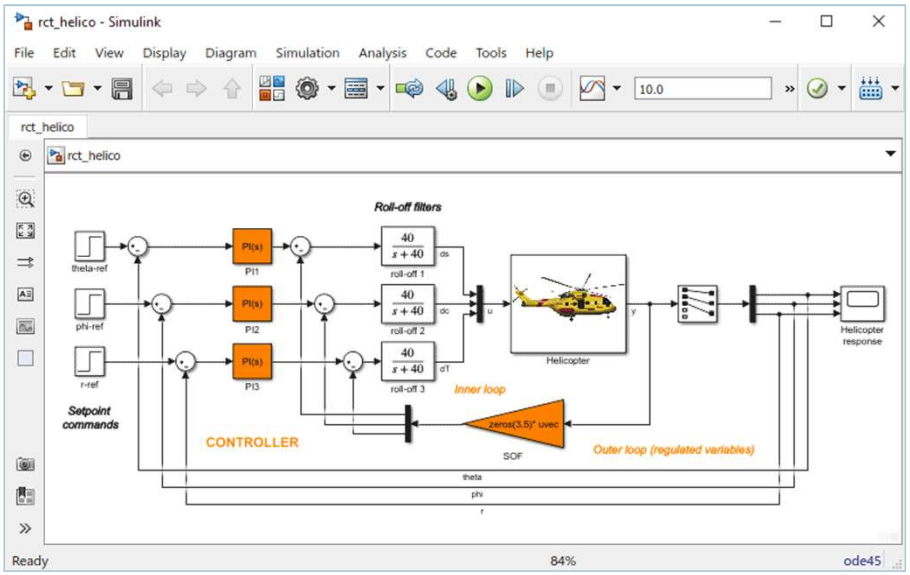
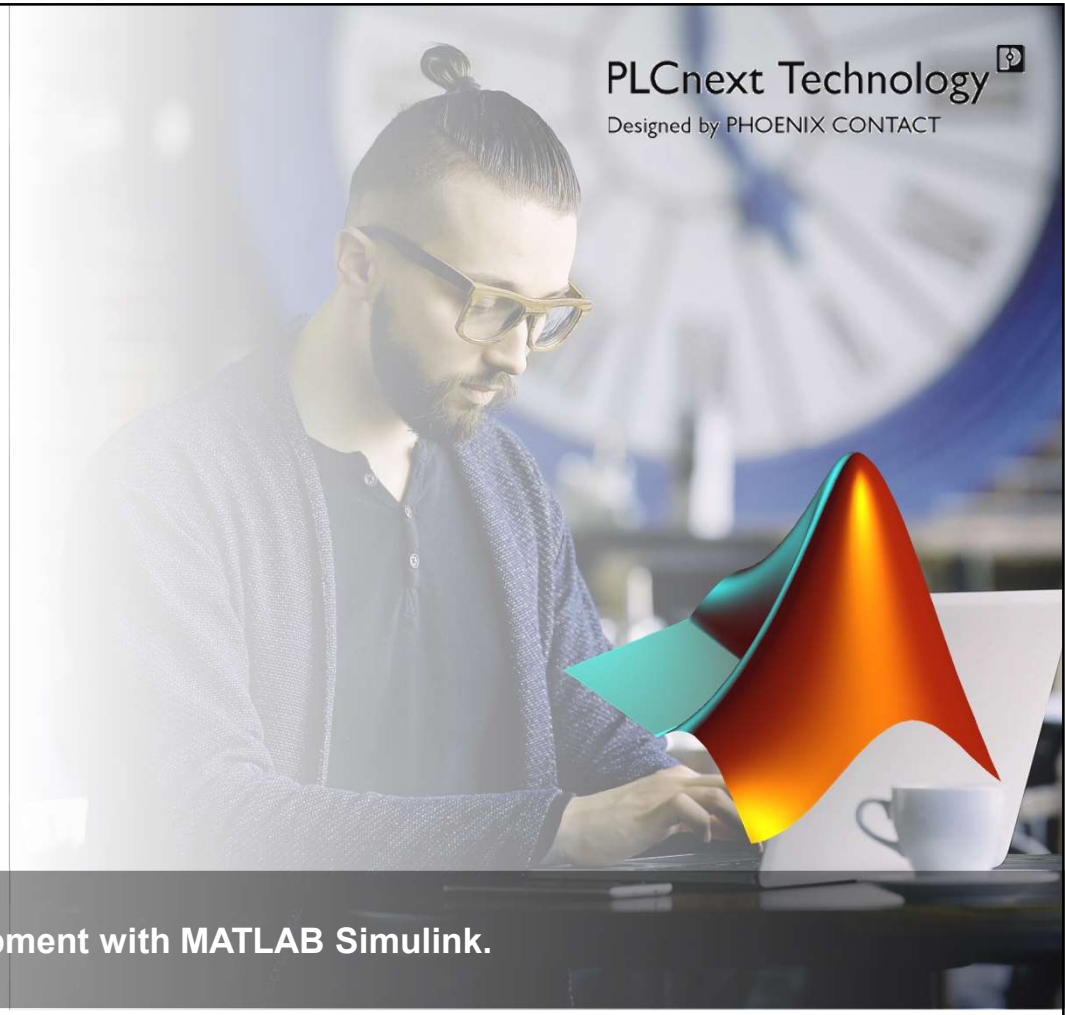
MATLAB Simulink





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

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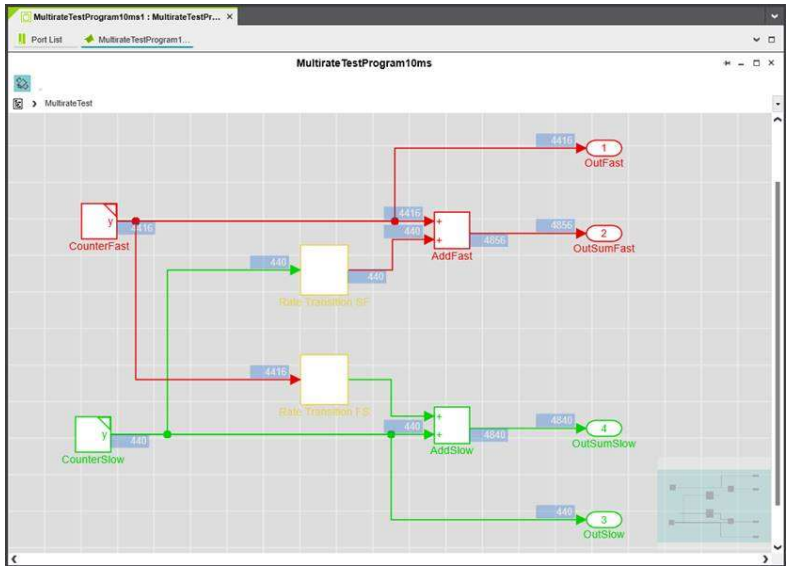
enhanced convenience

MATLAB Simulink & PLCnext Engineer



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

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enhanced development
Connected coworking
C/C++
Microsoft Visual Studio
Matlab Simulink
Matlab Simulink
eclipse
IEC 61131
PC-Worx Engineer
C++
With PLCnext Technology, several developers from different generations can work on one controller program independently of each other using different programming languages. Thus, you can develop complex applications quickly using the advantages of the classic PLC world and the openness and flexibility of PLCnext Technology.
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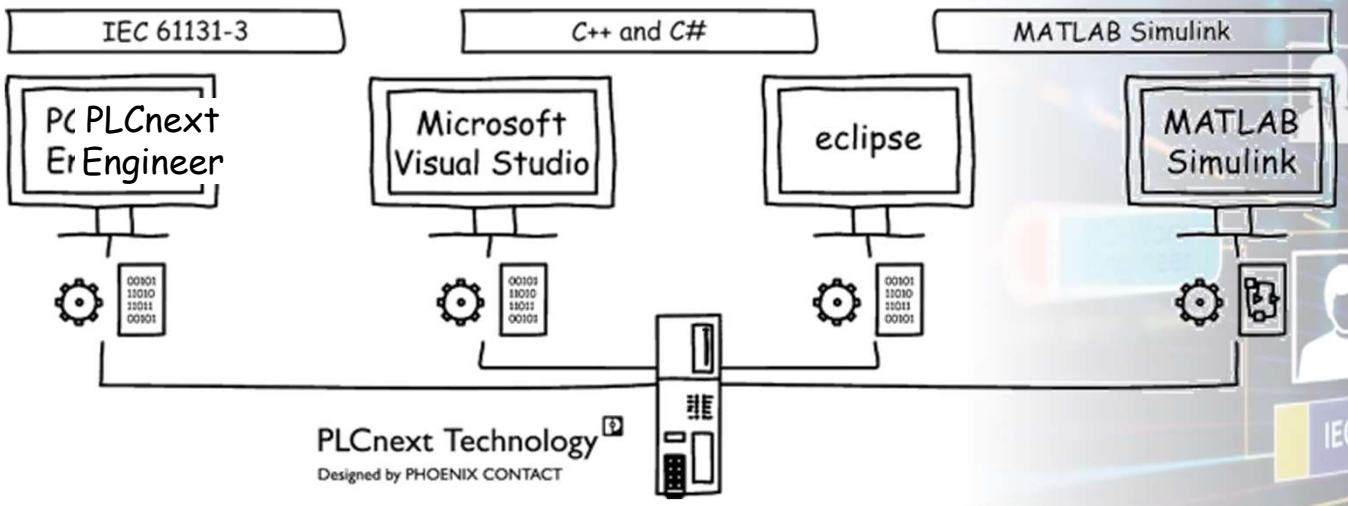
enhanced development

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.

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Combine program sequences in different languages into tasks as desired. The task-handling of the PLCnext Technology (patent applied for) lets program routines of different origin run like a classical IEC-61131-PLC-code – Your high-level language programs become automatically deterministic. The platform ensures consistent data exchange and synchronous execution of the program code.
enhanced performance
Real-time execution across different programming languages

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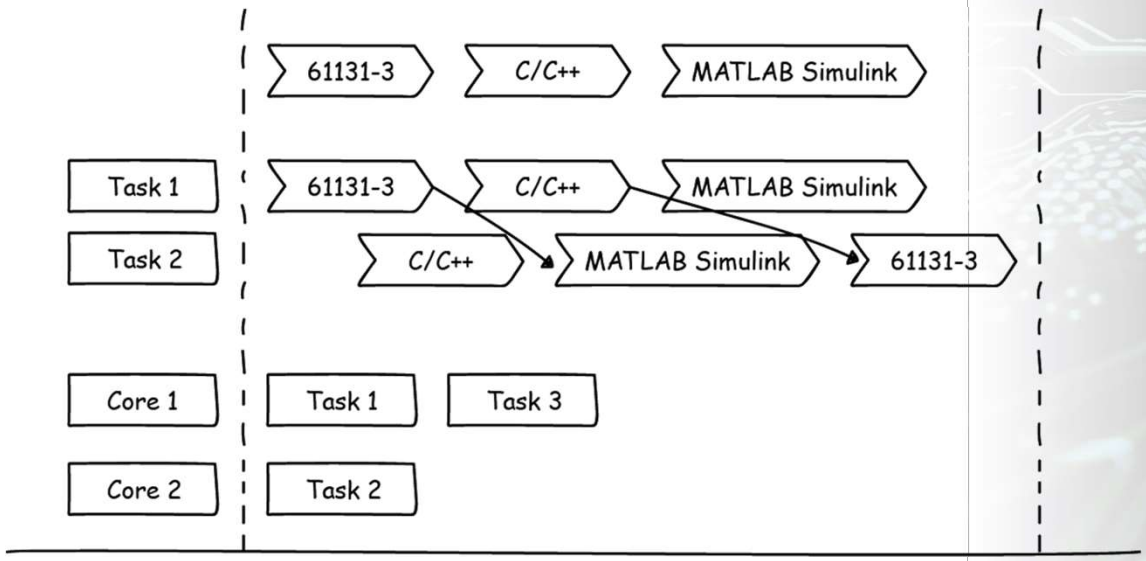
enhanced performance – PLC-typical Real-time Performance

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.

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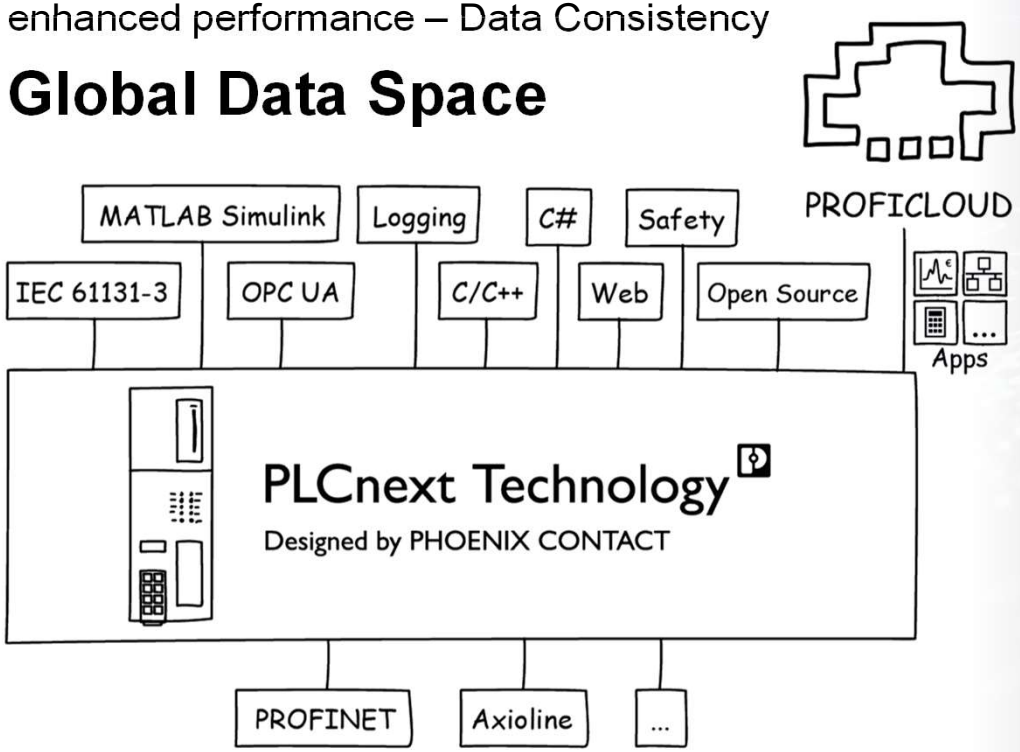
enhanced performance – Data Consistency

Global Data Space



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.

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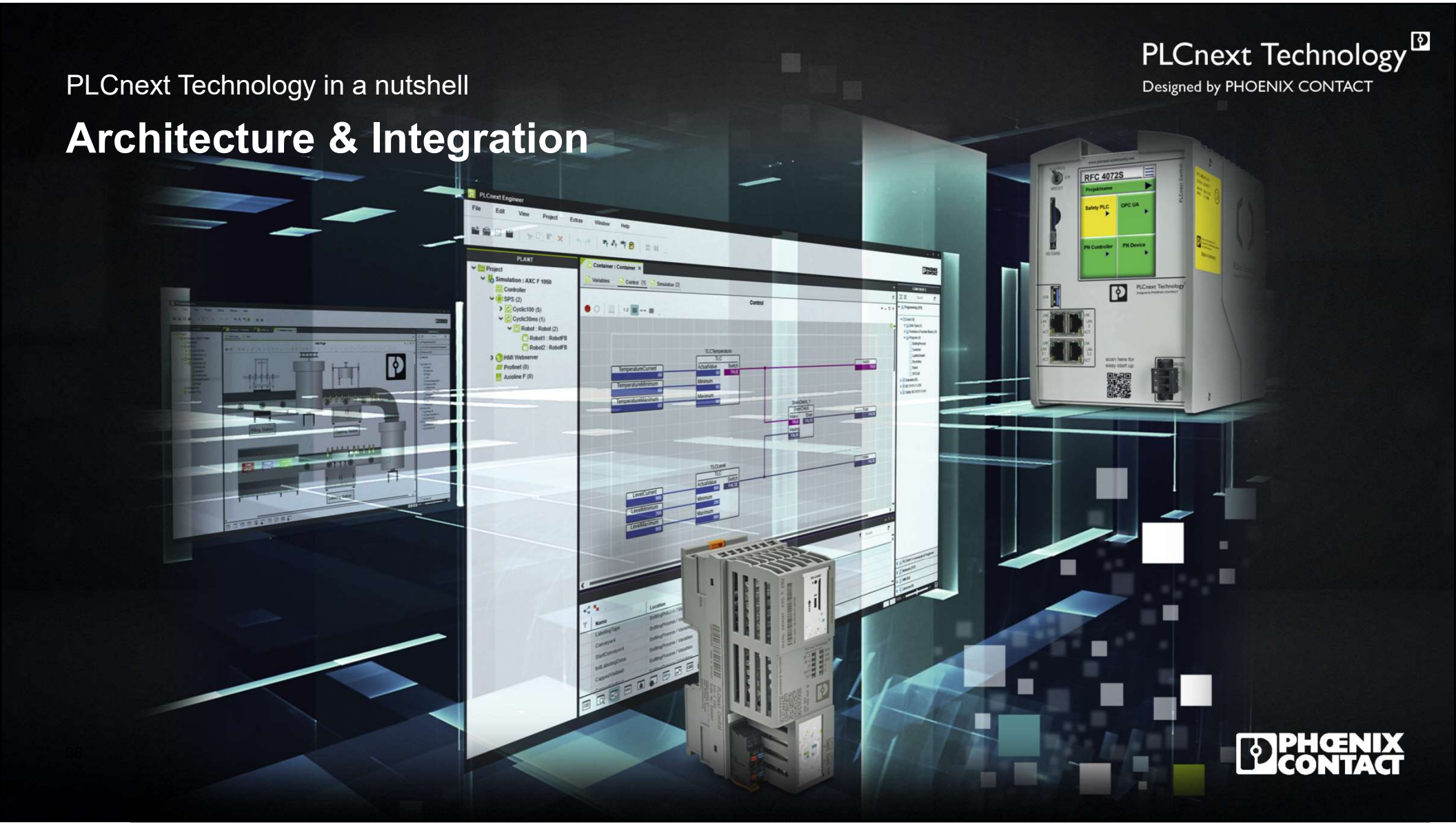
PLCnext Technology in a nutshell

Architecture & Integration



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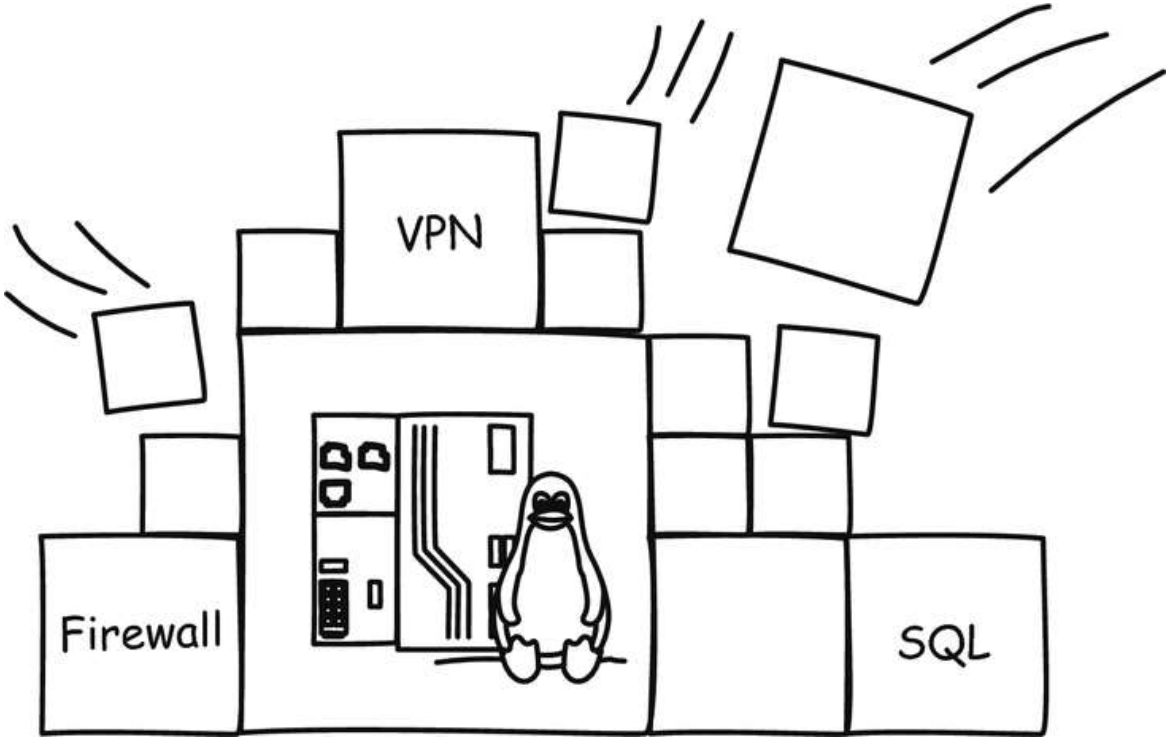
Flexibility of Linux plus the Reliability of a PLC



- **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

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PLCnext Runtime System Architecture

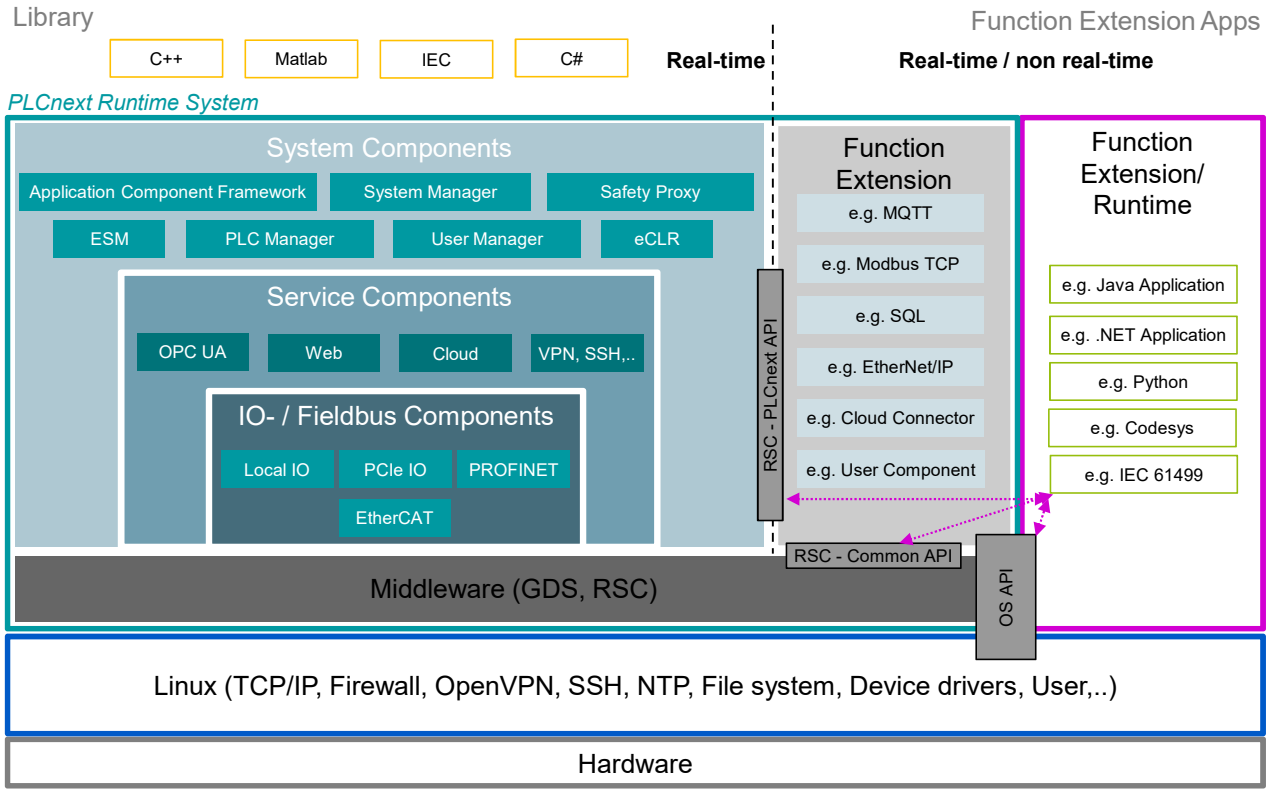
PLCnext Runtime System Core Components

System Components	Service Components

• Execution and Synchronization Manager (ESM)
• System Manager
• PLC Manager
• Device Interface
• User Manager
• Diagnostic Logger
• eCLR
• Application Component Framework
• Safety Proxy
• Event Manager
• …
	• OPC UA Server
	• PROFICLOUD Gateway
	• Web-based Management
	• PLCnext Engineer HMI
	• Data logger
	• Device HMI
	• Accessible via OS
	  • DHCP, DCP
	  • SFTP,VPN
	  • SSH, NTP
	  • Trace Controller

IO Components	**Middleware**

• Fieldbus Manager
  • PROFINET Controller
  • PROFINET Device
  • Axioline
  • …
	• Global Data Space (GDS)
	• Remote Service Calls (RSC)
	• Commons Layer (Common Classes)



Video PLCnext Runtime System

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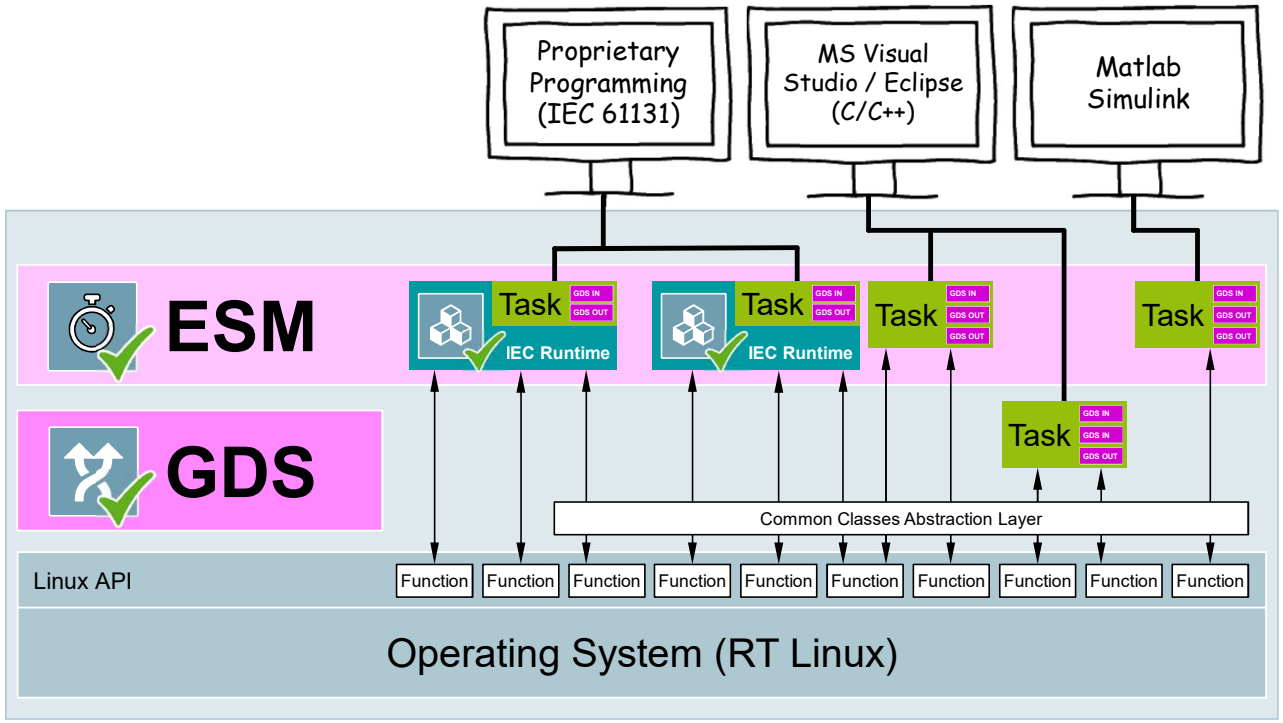
PLCnext Technology Architecture Advantages – Summary



- No vendor dependency
- Combined use of IEC 61131, HLL, and model-based programs
- Built-in real-time and data consistency for IEC 61131, HLL, and Matlab
- Unlimited OS API access

EVALUATION

- ✓ Open programming tools
- ✓ Open application & network interfaces
- ✓ Open source & apps integration
- ✓ Real-time HLL programs can use OS API
- ✓ Future-proof through modular extensibility
- ✓ Integrated real-time capability
- ✓ Cloud connectivity integrated
- ✓ Security integrated

Video ESM and GDS explained

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PLCnext Technology

Sites of Information

More about PLCnext Technology

PLCnext Technology on Instagram

PLCnext Technology on LinkedIn

PLCnext Technology on GitHub

PLCnext Store

Technical Tutorials

PLCnext Technology

Enhace your automation thinking

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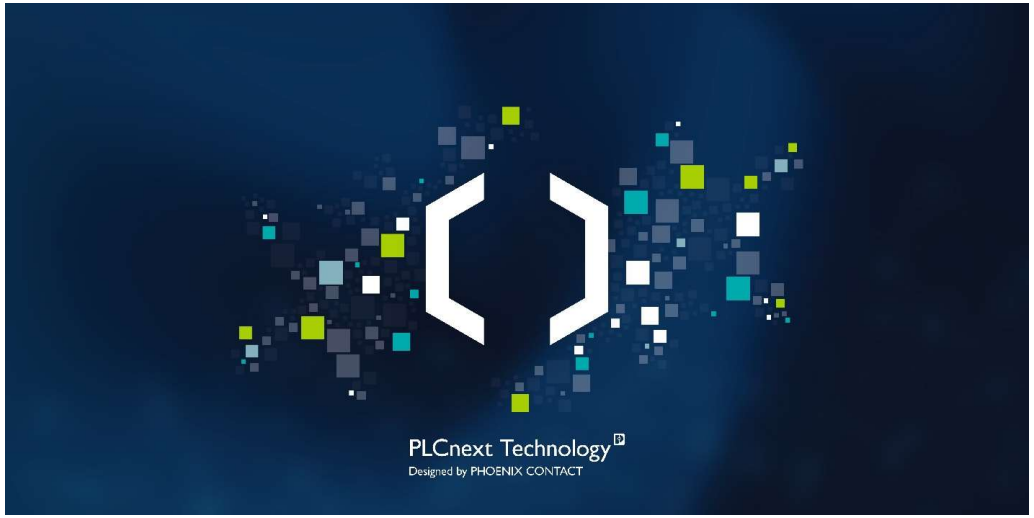
Webinar IMA Septiembre 2020

Introducción al ecosistema de plataforma abierta y flexible PLCnext Technology



Fecha	**23 Septiembre 2020**
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Conozca la nueva plataforma para desarrolladores de sistemas de automatización flexibles, abiertos, ilimitados con la esencia de sus componentes principales y las posibilidades ya existentes e innovaciones constantes para una nueva forma de realizar sistemas a futuro.

Descripción general del Sistema PLCnext Technology diseñado por Phoenix Contact. Descubra sus componentes esenciales, las mejoras en conectividad, conveniencias de programación, en desempeño, en desarrollo de aplicaciones, ventajas en su arquitectura. PLCnext representa el siguiente paso a sistemas de automatización inteligentes, flexibles y abiertos con conectividad sin precedentes.

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Webinar IMA Septiembre 2020

PLCnext Control nueva tecnología de plataformas de control probadas hacia el futuro

Fecha	**24 Septiembre 2020**
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Aprenda a seleccionar el controlador correcto PLCnext para su próxima aplicación nueva o actualización de su plataforma existente para lograr mayores eficiencias en la forma de ejecutar sistemas de automatización y control probados en conectividad e inteligencia a futuro

Descubra las características que diferencian a cada uno de los nuevos controladores PLCnext control para su utilización. Aprenda los primeros pasos y herramientas disponibles para poner en marcha un PLCnext Control así como las posibilidades de conectividad a PROFICLOUD y OPC UA de manera sencilla. Identifique los Starterkit disponibles, sistemas de I/O´s posibles, elementos de conectividad a buses de campo y redes industriales asi como un panorama de los sitios de ayuda para su próxima aplicación en Sistemas de control flexible y abiertos.

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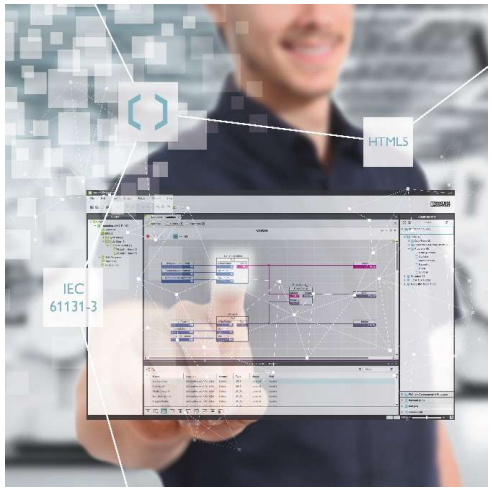
PLCnext Engineer nueva herramienta de programación, integración y desarrollo eficiente



Fecha	**29 Septiembre 2020**
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Lograr identificar los elementos primordiales de la plataforma PLCnext Engineer así como las posibilidades de integración y desarrollo de una manera más eficiente en la integración de otros lenguajes de programación y apps especificas para la plataforma PLCnext Technology

Con PLCnext Engineering usted aprenderá las áreas básicas de esta herramienta de programación, sus posibilidades de programación en control, visualización, integración de programaciones desarrolladas en lenguajes de alto nivel. Una búsqueda intuitiva y fácil de desarrollar, diagnostico para aplicaciones de control probados a futuro y con mucho mejor posibilidad de integración de ideas y desarrollos a futuros por medio de apps.

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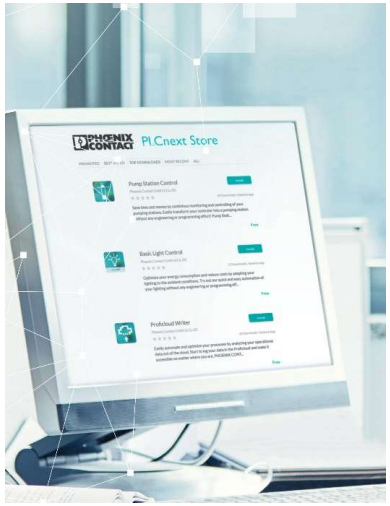
Webinar IMA Septiembre 2020

PLCnext Store nuevo mercado digital para desarrollar y utilizar Apps en PLCnext Control



Fecha	**30 Septiembre 2020**
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Conozca una nueva posibilidad para desarrolladores de Apps para controladore PLCnext. Lograr identificar las apps disponibles y la oportunidad para mejorar la conectividad y eficiencia digital a través de desarrollos de apps y su forma de comercialización en el mercado.

Durante este Webinar exploraremos las apps disponibles, ya sea por extensión de función, runtime, librería y las de selección de aplicación. Un mundo de posibilidades en la conectividad a otros controladores, nubes, softwares, digitalización, almacenamiento de información y mejoras en eficiencia para usted.

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Webinar IMA Septiembre 2020

PLCnext Community y ejemplos de aplicaciones PLCnext Technology

Fecha	**1 Octubre 2020**
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Conozca, descubra y utilize esta nueva comunidad que permite a los desarrolladores nuevos de Sistemas de Automatización probados a futuro el utilizar todos los componentes de la tecnología PLCnext.

Presentaremos durante la sesión el sitio de la comunidad PLCnext Community, donde podrá obtener novedades, blogs de ambiente de negocios en tecnología, fórums para ideas y soluciones, conocimientos básicos que incluyen: webinars específicos, guías de inicio, tutoriales, manuales, e-learning, preguntas frecuentes, roadmap, Información central sobre PLCnext y PLCnext Store, preguntas frecuentes, videos, etc.,…

También durante la sesión se presentarán ejemplos representativos de aplicaciones con PLCnext Technology.

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Webinar IMA 2020

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