



# Welcome

## PLCnext Store

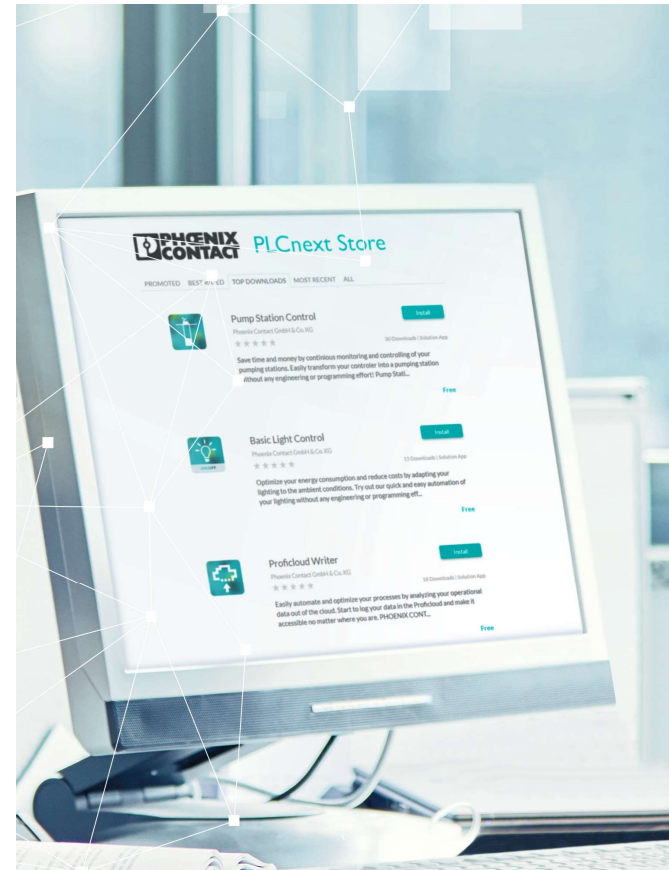
**nuevo mercado digital para  
desarrollar y utilizar apps  
en el PLCnext Control**

# PLCnext Technology

## PLCnext Store



<https://www.plcnextstore.com/#/>



# PLCnext Technology

The reliability and robustness  
of the classical PLC world



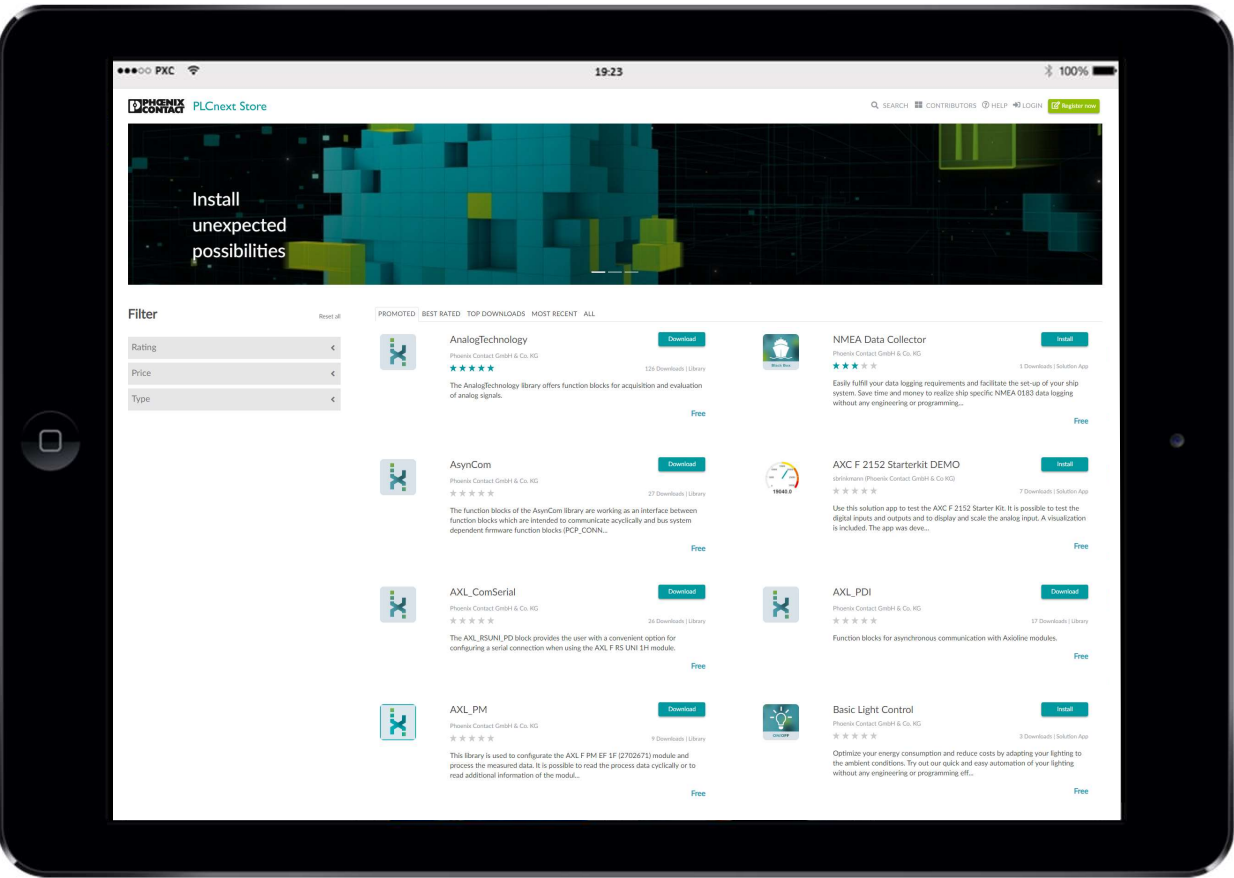
**enhances**

with the openness and flexibility  
of Smart Devices.



PLCnext Technology

# PLCnext Store



1. Register



2. Assign



3. Buy

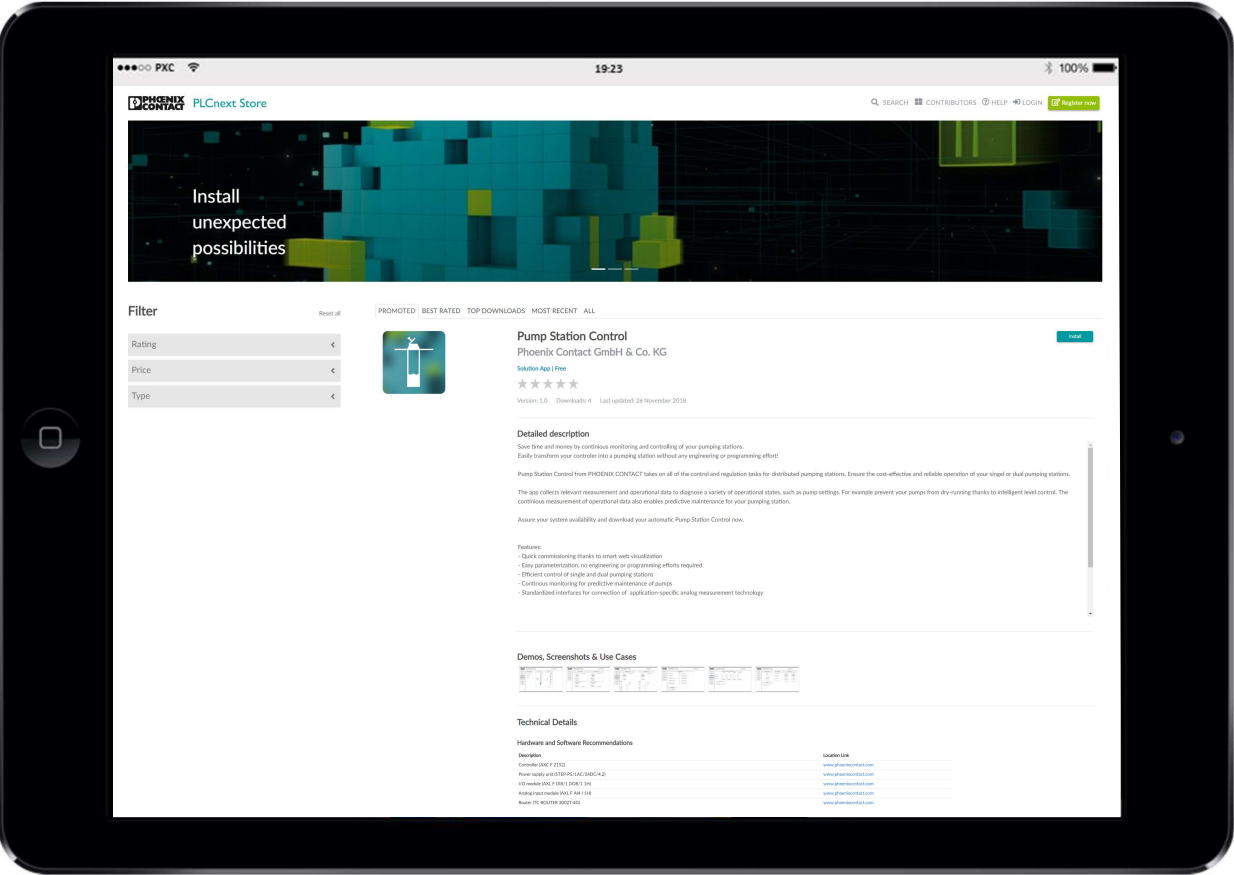


4. Install



PLCnext Technology

# PLCnext Store



1. Register



2. Assign



3. Buy

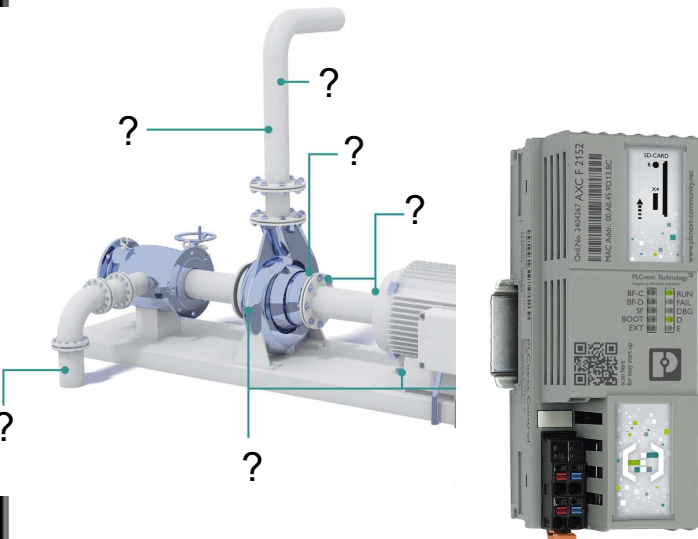
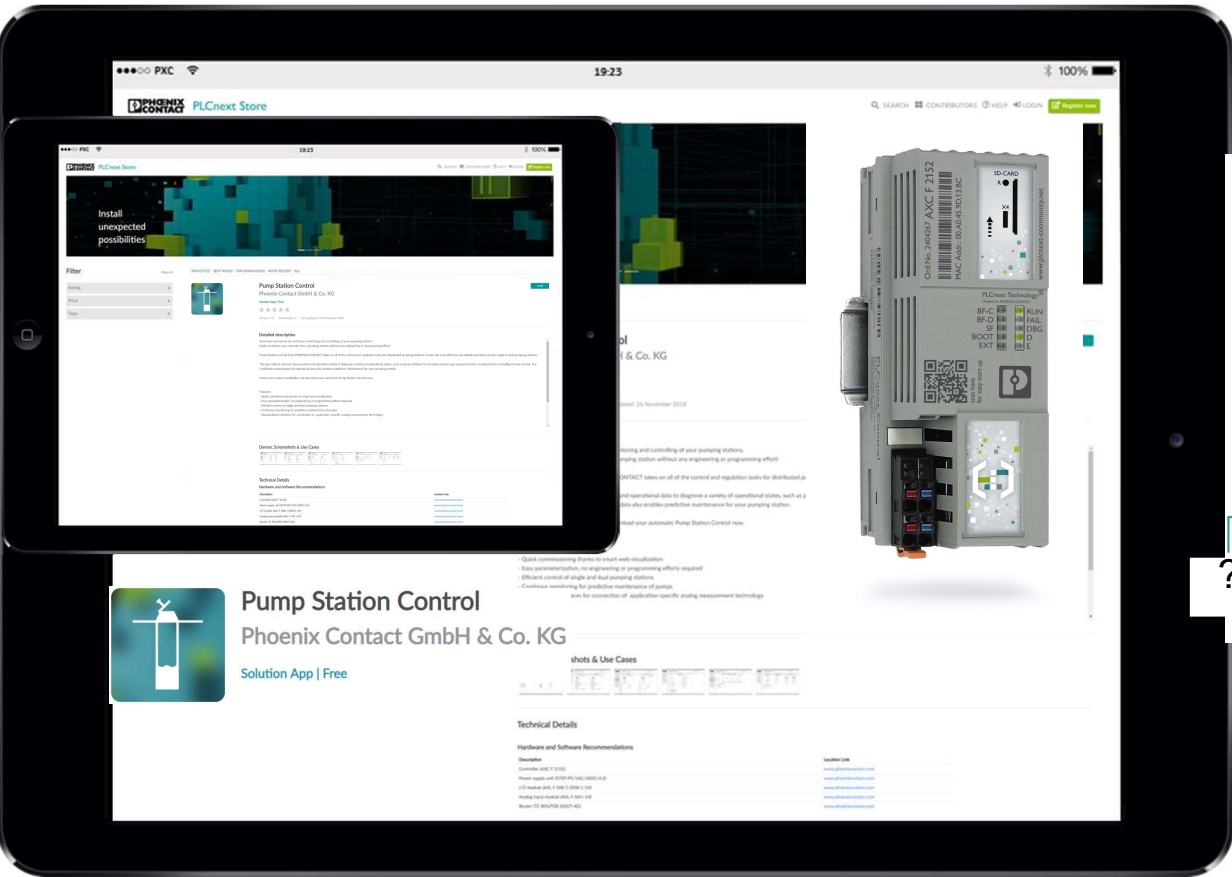


4. Install



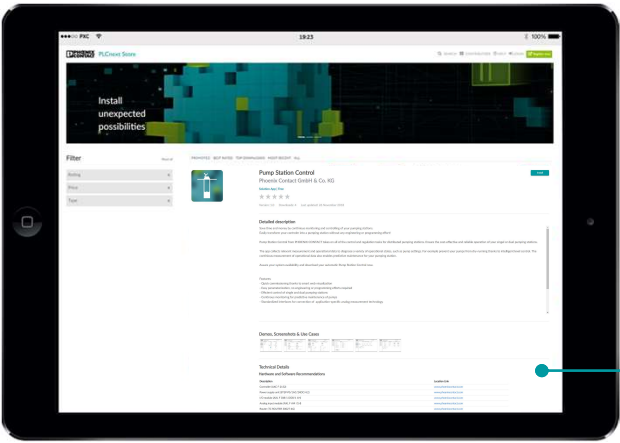
PLCnext Technology

# PLCnext Store



PLCnext Technology


# PLCnext Store



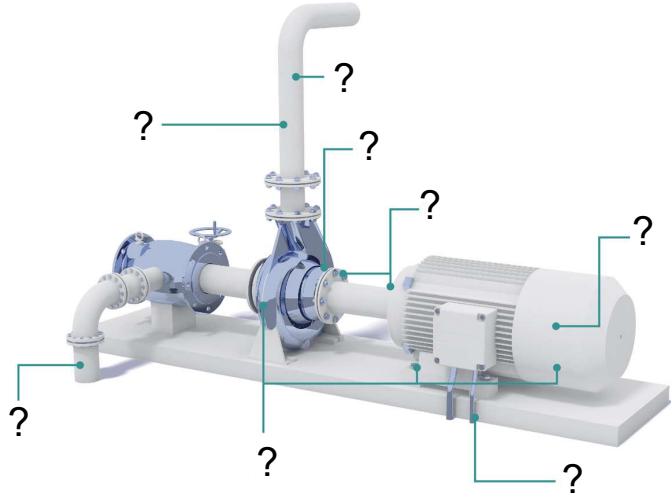
**Pump Station Control**  
Phoenix Contact GmbH & Co. KG  
Solution App | Free

Install



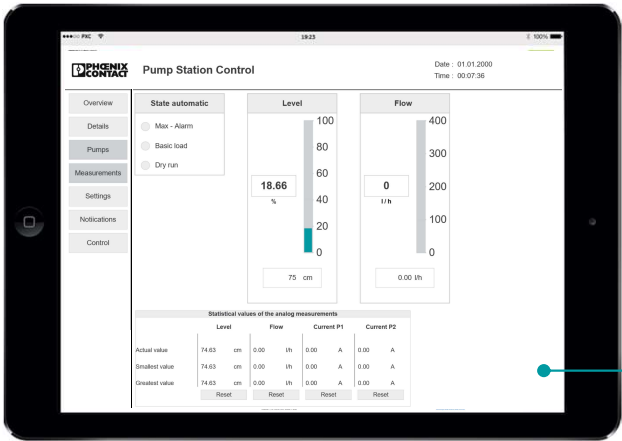



**Pump Station Control**  
Phoenix Contact GmbH & Co. KG  
Solution App | Free



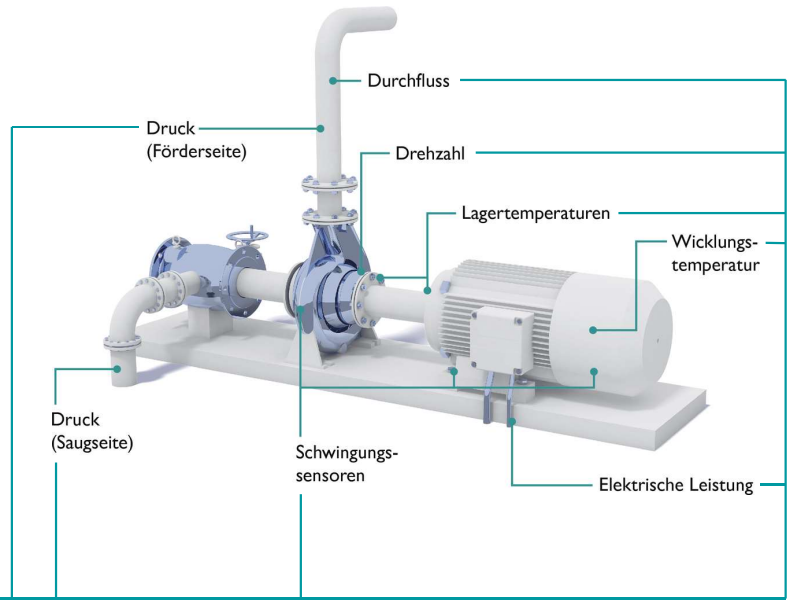
PLCnext Technology

# PLCnext Store





**Pump Station Control**  
Phoenix Contact GmbH & Co. KG  
Solution App | Free



# PLCnext Store

install unexpected possibilities

PLCnext Technology   
Designed by PHOENIX CONTACT

[www.plcnextstore.com](http://www.plcnextstore.com)

 **PHOENIX  
CONTACT**

# enhanced freedom

Flexible integration of  
open source software and apps

PLCnext Technology<sup>®</sup>  
enhance your automation thinking



*This is just the beginning  
of the PLCnext Store and a new  
world of open automation ...*



**PHOENIX  
CONTACT**

# Long Term Goal

“Establish an open, self-scaling ecosystem,  
which offers optimum usability  
and enables new business  
and profitability models.”

“Ownership and network effects increase  
Phoenix Contact’s perception  
and positions us as an  
innovative app and automation supplier  
in the digital world.”



## Automation ecosystem

- Open ecosystem for the distribution of Apps for PLCnext Control
- Flexible integration of Open Source software and Apps

## World of Applications

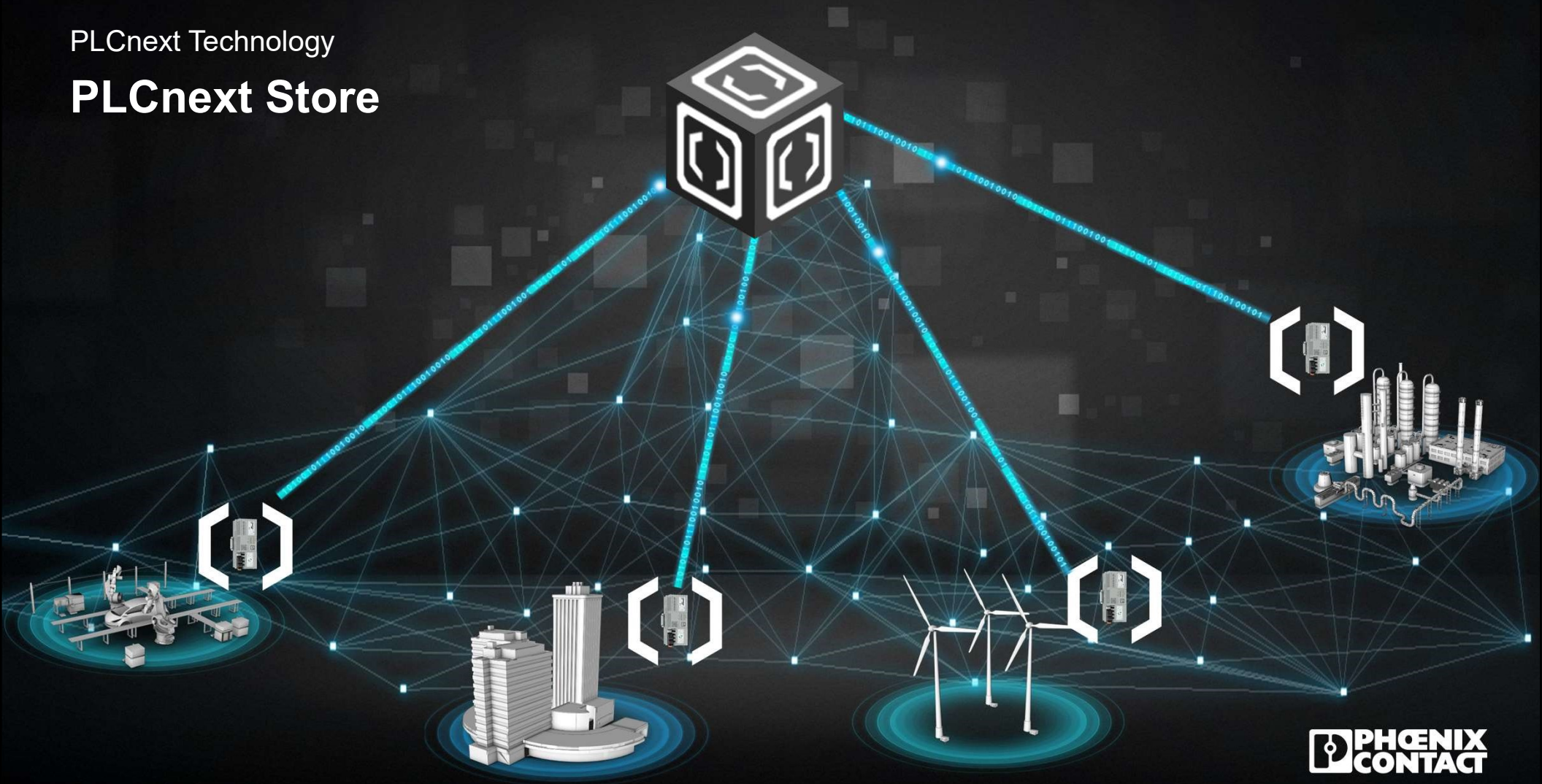
- Extends the PLC and the Engineering with further functions
- App variety from different Vendors
- Apps suitable for your needs

## Faster solution building

- Apps as ready to use solutions or functions
- Less programming, more parameterizing
- Plug&Work: customize your PLCnext Controller in minutes

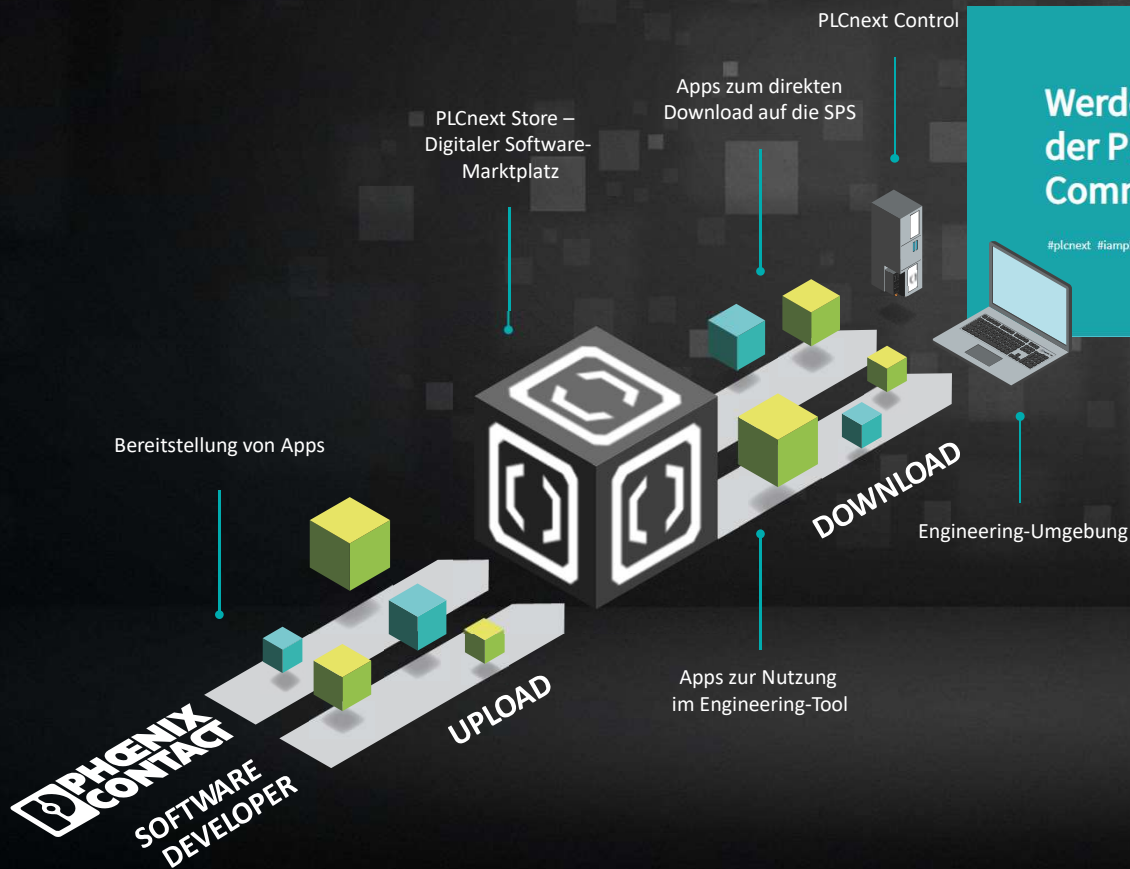
PLCnext Technology

# PLCnext Store



PLCnext Technology

# PLCnext Store







Werde Teil  
der PLCnext  
Community

#plcnest #iamplcnest



## Comparison of different App-Content

# 4 App Types with different Apps available

	Solution App	PLCnext Engineer 61131 Libraries	Runtime	Function Extension
Description	Automation solution consisting of different components with Webpages for parametrization	Function as a Part of an PLC Program	Runtime or Framework for further Programming tools/ Languages	Combinable Apps to create a solution.
Users Skill Level				
Example	Tank an Well Control, Pump Station Control, Proficloud Writer	AnalogTechnology, CANbus, ComSerial, Modbus TCP, IOL_Basic	Codesys, Python, Java or IEC 61499, etc.	MQTT, Protocol 1, 2, 3 Linux Package, Cloud Connector
Description	Ready to use, without programming	PLCnext Engineer needed	Ready to use for programming	Engineering needed

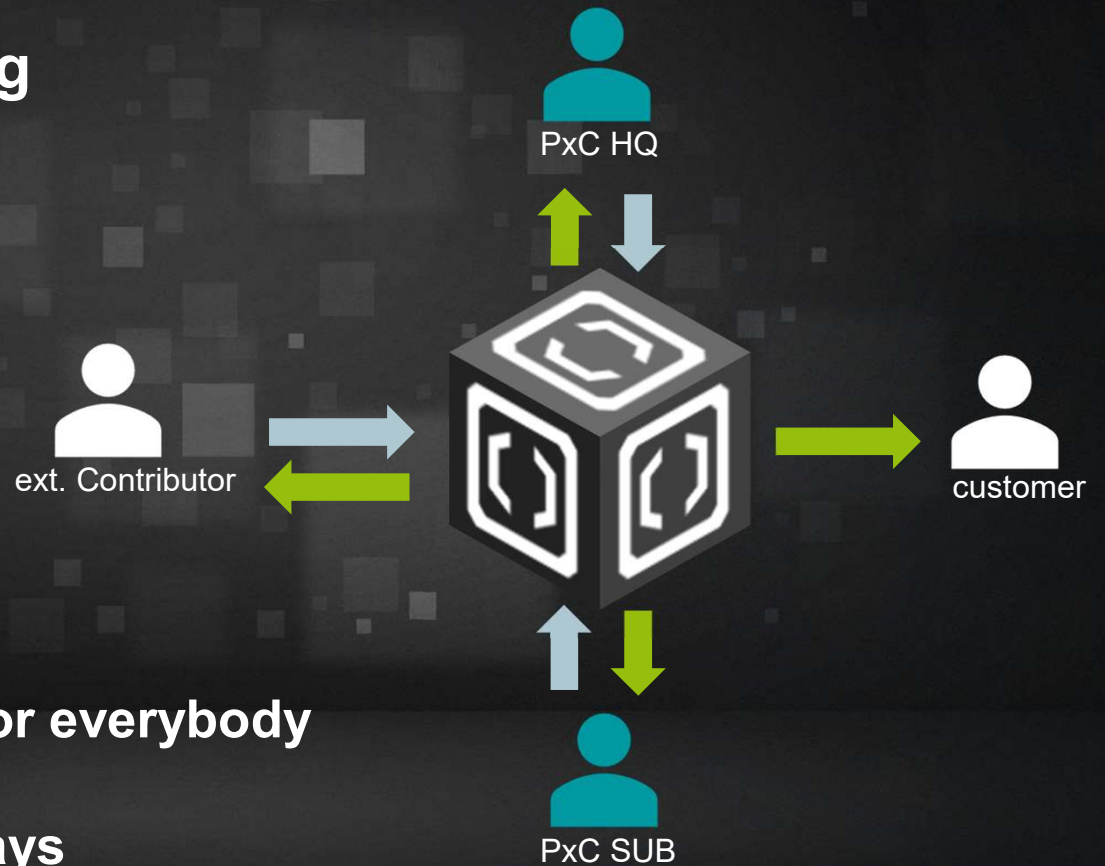
PLCnext Store

## First Contributors in PLCnext Store



PLCnext Store

## Contribution and Purchasing



**free apps = free for everybody**

**chargeable apps = chargeable for everybody**

**app creator gets the sales - always**

## PLCnext Engineering (Library)

### Option 1: IEC 61131 FU/FBs

Functions and Function Blocks purely written in IEC 61131 language

1

2

### Option 2: C++ PROGRAM

PROGRAMS with GDS-Ports which can be instantiated and assigned to tasks.

3

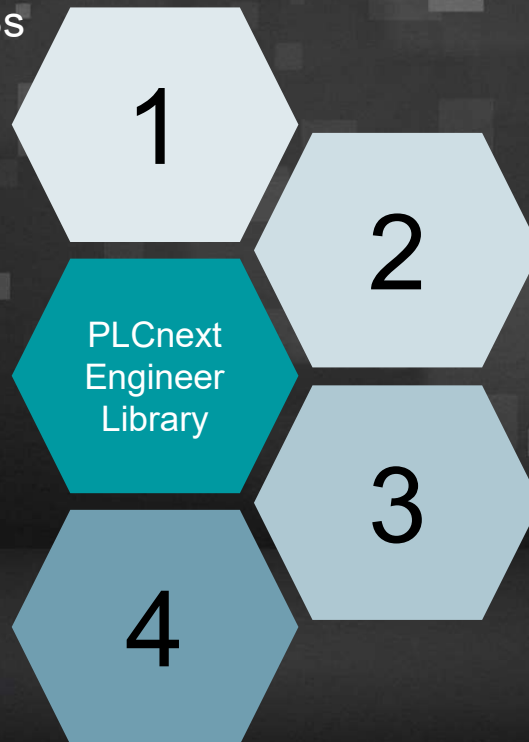
### Option 3: Simulink PROGRAM

Simulink Model programmed with PC WORX Target for Simulink

4

### Option 4: C# FU/FBs

Functions and Function Blocks written in PLCnext Technology C#-Programming.



## PLCnext Function Extension/ Runtime

### Option 6: Command Line Tool

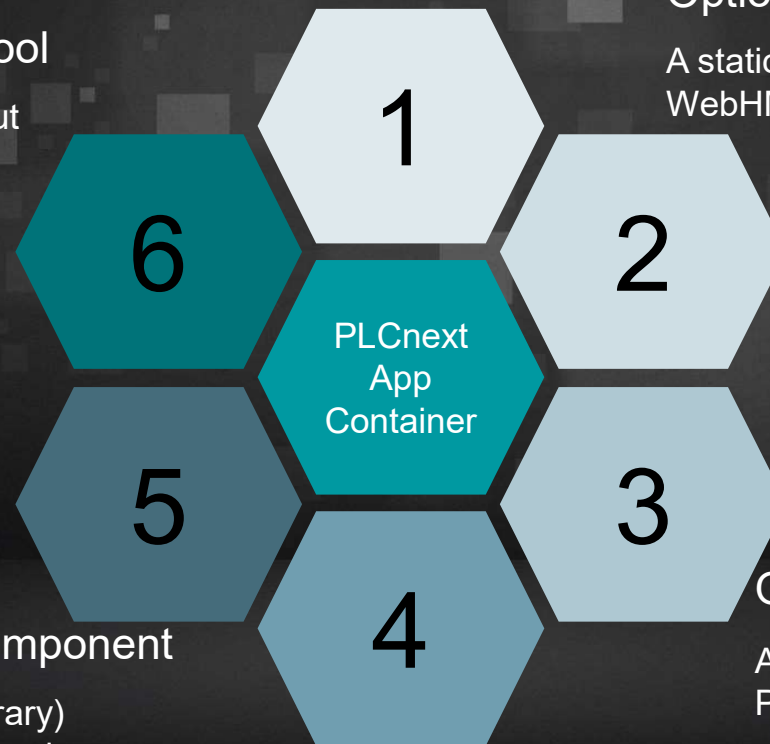
A command line tool with or without usage of PLCnext services.

### Option 5: Shared Library

A shared library as a dependent part of another extension, not using any PLCnext services.

### Option 4: PLCnext User Component

A PLCnext component (shared library) executed in the PLCnext process and extending it.



### Option 1: PLCnext Engineer Project

A static PLCnext Engineer Project with e.g. an WebHMI-Configuration option.

### Option 2: PLCnext Process/Runtime

A discrete process (exe) using PLCnext services e.g. to access Fieldbus I/O. (Codesys)

### Option 3: Linux Daemon/Runtime

A discrete process (exe) not using any PLCnext services. (Python)

## Solution App on PLCnext Control

### 1: PLCnext Engineer Project

e.g. Logic, I/O-access and visualization of Pump Application

1

PLCnext  
App  
Container

### 5: PLCnext Function Extension

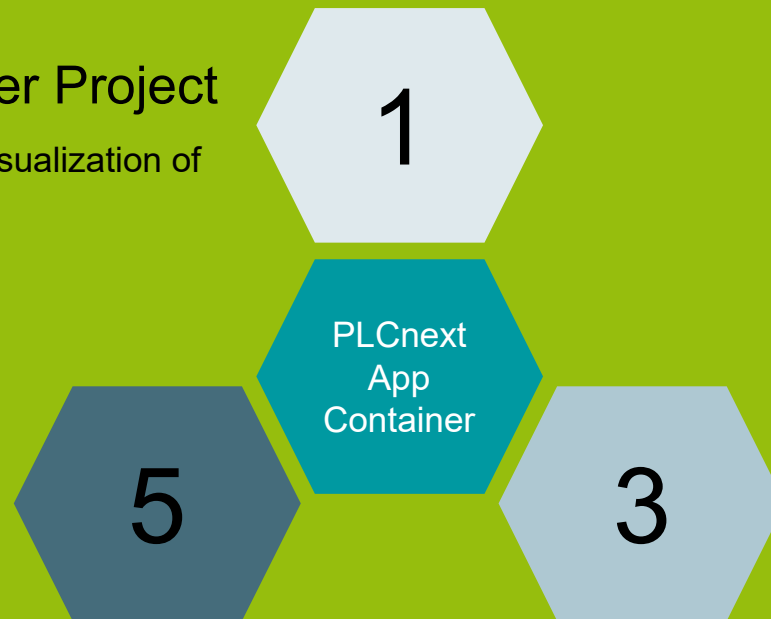
e.g. MQTT Agent pushing values  
to a cloud system for predictive  
maintenance.

5

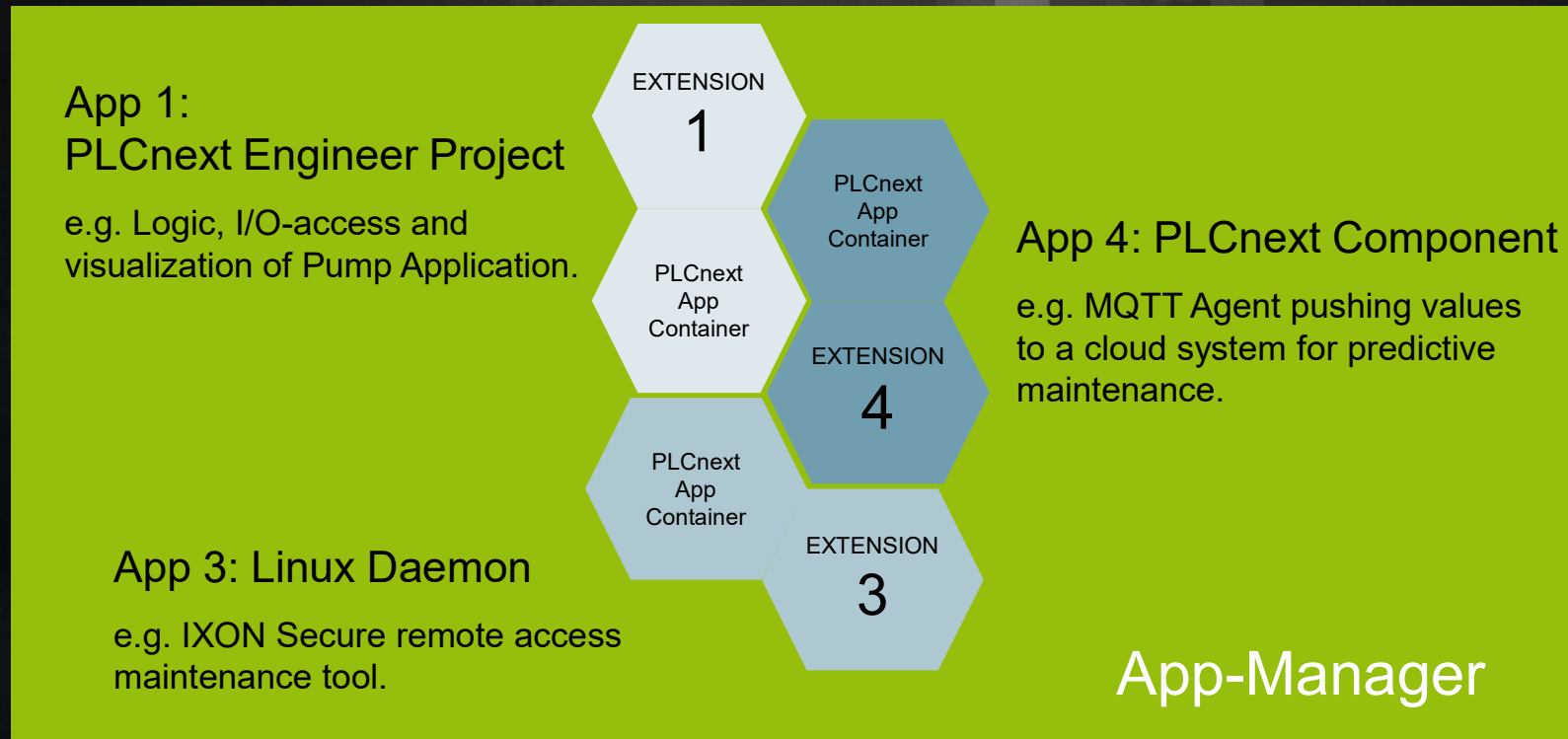
3

### 3: Linux Daemon

e.g. IXON Secure remote access  
maintenance tool.



## Combination of Apps on PLCnext Control



The PLCnext Store for providers

## **New sales channel – new revenue model**

- Software vendors, system integrators or hardware vendors can make their solutions available to a new customer group via the store and sell their know-how as an app.
- New distribution channel for software providers
- Industrial hardware for software vendors
- System compatibility for hardware vendors
- Easy access to a global audience from different industries

# Target customer PLCnext Store

## Target customer (Solution App)

- User who wants to parametrize instead of programming
- Interested in a fast solution building
- Pre defined application
- Application that can be multiplied

## Target customer (Engineering App)

- Looking for ready to use programming or firmware function
- Interested in a fast solution building
- Advantage of a modular system

## Potential app contributor

- Start-Ups with innovative solution
- Partner as certified app developer
- Technology vendor who wants to port their software to PLCnext Technology
- Phoenix Contact with industry specific solutions
- Phoenix Contact with PLCnext Technology adapted components (like Java, Python, etc.)
- Other companies as contributor with their own solution or technologies as an app

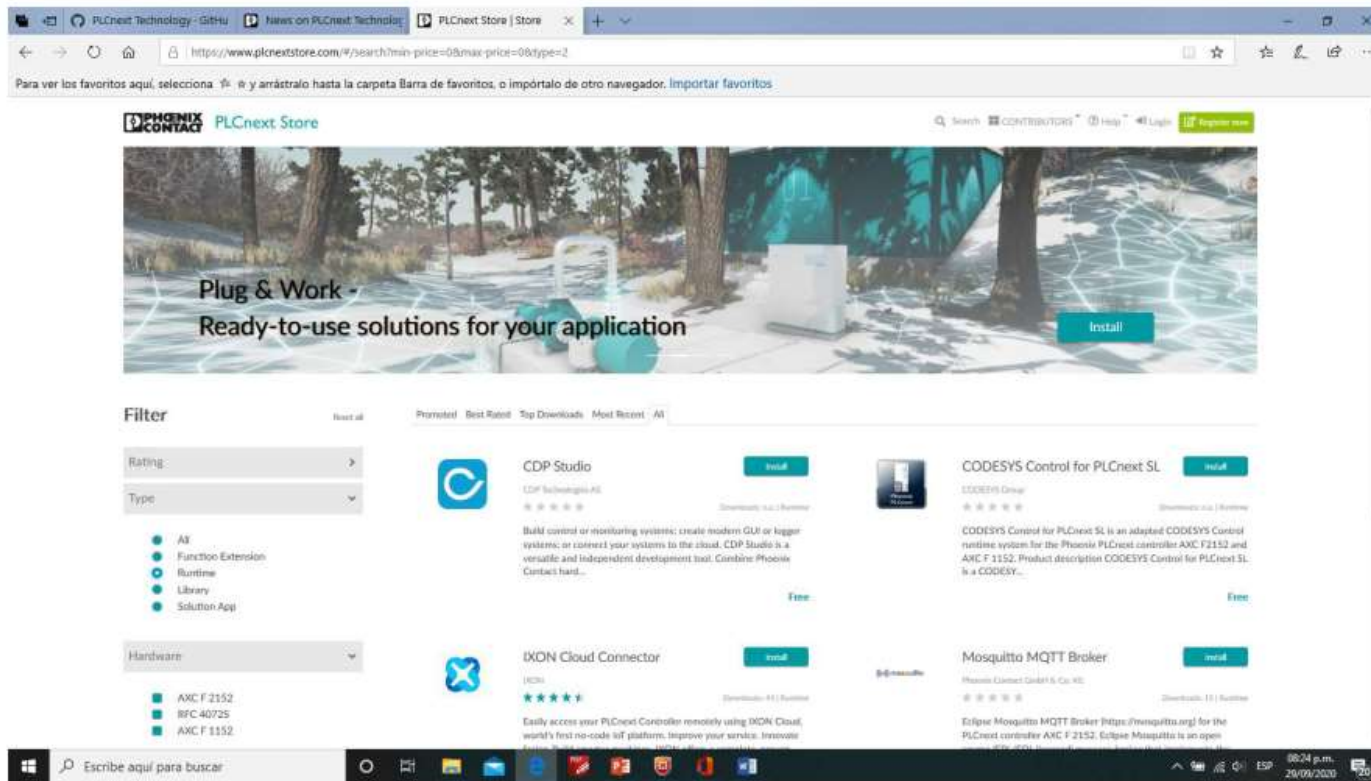
Der PLCnext Store as Plattform

## Goals and expectations

- The Store serves as a central point of contact for software related to PLCnext Technology (shop window of possibilities).
- Customers use the store as a source for software related to PLCnext Technology
- PxC and 3rd party contributors use the store as a new distribution channel to sell apps.
- The store serves as a presentation area for contributors, a demo app is only a means to an end to present software for PLCnext Technology (Enabler for project business!).
- The Apps represent the solution competencies of the VMM's (Solution Apps), these Apps can be fee required, but are only a means to an end to enable project business.

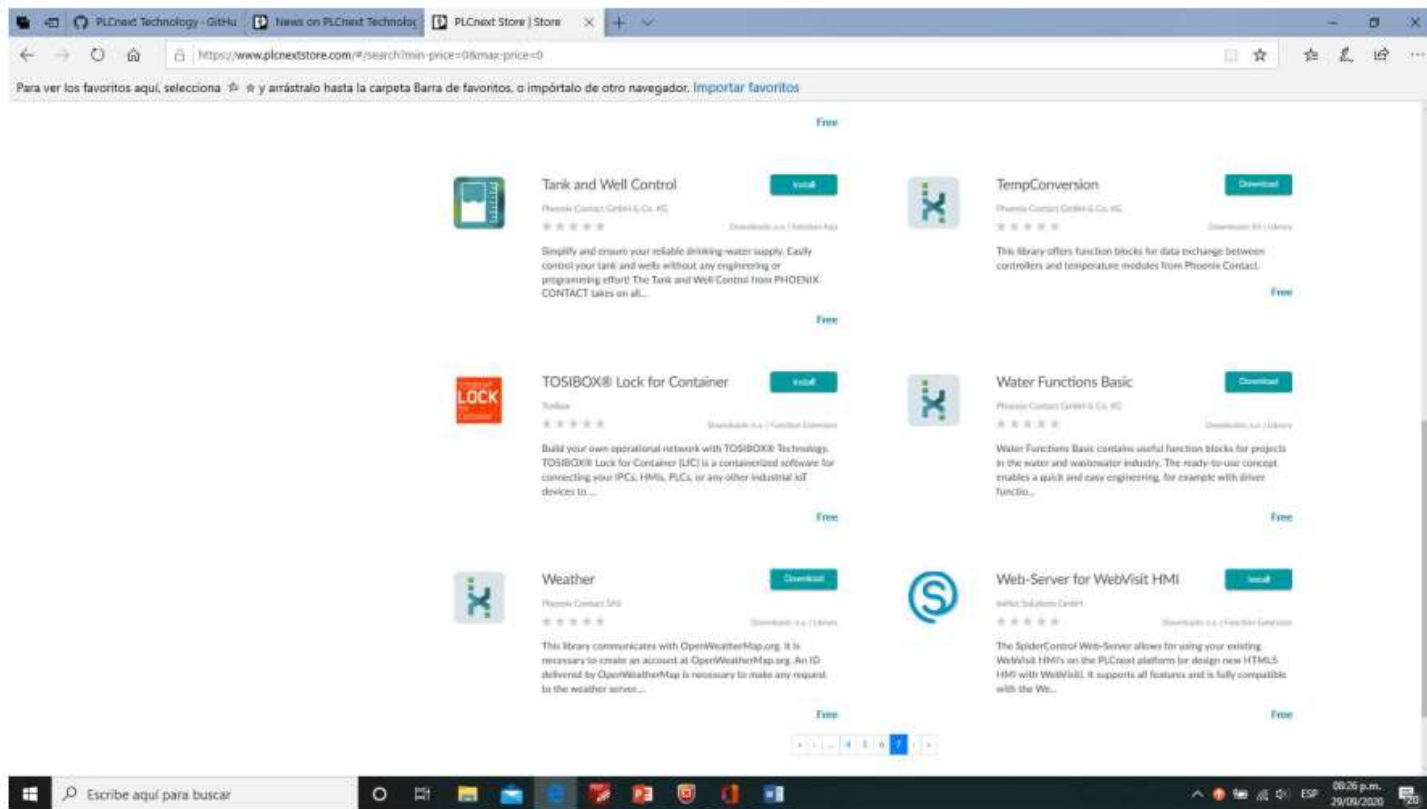
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[www.plcnextstore.com](http://www.plcnextstore.com)



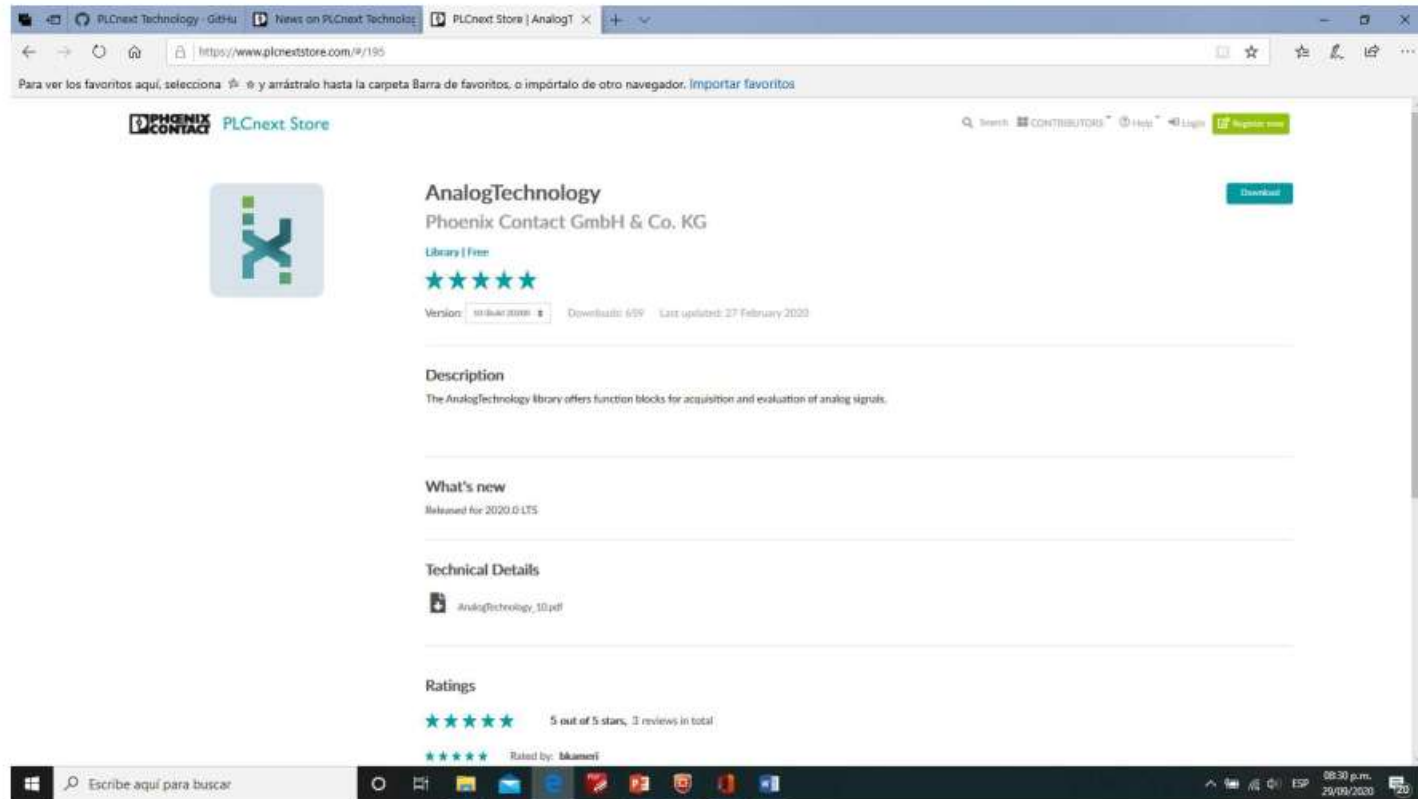
PLCnext Store

**www.plcnextstore.com**



PLCnext Store

**www.plcnextstore.com**



Function block library

AnalogTechnology\_10

for PLCnext Engineer

Documentation for  
PHOENIX CONTACT function blocks  
PHOENIX CONTACT GmbH Co. KG  
Flachsmarktstrasse 8  
D-32825 Blomberg, Germany

This documentation is available in English only.

3 Change notes

Library version	Library build	PLCnext Engineer version	Change notes	Supported PLCs
10	20200206	>= 2020.0 LTS	Released for 2020.0 LTS	AXC F 1152 (1151412) AXC F 2152 (2404267)
10	20191001	2019.0 LTS 2019.3 2019.6 2019.9	Adapted to 2019.9	AXC F 2152 (2404267)
9	20190920	2019.0 LTS 2019.3 2019.6	AnalogTechnology_9: <ul style="list-style-type: none"><li>Restricted visible function block</li></ul>	AXC F 2152 (2404267)
9	20190828	2019.0 LTS 2019.3 2019.6	AnalogTechnology_9: <ul style="list-style-type: none"><li>ANL_AO_NORM_3: Bug fix for iModuleType = 7</li></ul>	AXC F 2152 (2404267)

4 Function blocks

Function block	Description	Version	Supported articles	License
ANL_AI_NORM	Standardization of analog input values for analog modules.	3	IBS RT 24 AIO 4/2-T (?) IBS RT 24 AI 8-T (2723194) IB IL AI 2/SF (2726285) IB ST 24 AI 4/SF-WT (2752534) IB ST 24 BAI 8/I (2721028) IB ST 24 BAI 8/U (2721015) IB ST 2F 24 AI 4/BP (2724737) IB ST 2F 24 AI 4/I (2721264) IB ST 2F 24 AI 4/SF (2750620) IB ST 2F 24 AI 4/SF4 (2750594) IB ST 2F 24 BAI 2/BP (2724957) IB ST 2F 24 BAI 2/SF (2723958) AXL F AI2 AO2 1H (2702072) AXL F AI2 AO2 XC 1H (1035429) AXL F AI4 I 1H (2688491) AXL F AI4 I XC 1H (2702007) AXL F AI4 U 1H (2688501) AXL F AI4 U XC 1H (2702008) AXL F AI8 1F (2688064) AXL F AI8 XC 1F (2701232) AXL F AI8 V 1F (2702525)	none

5 ANL\_AI\_NORM

The ANL\_AI\_NORM function block cyclically converts the analog values of the Phoenix Contact analog modules in a measuring range preset by the user (rLoLim to rHiLim).

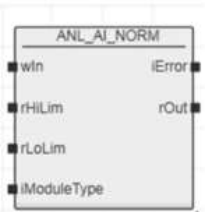
Caution: The function block does not support 16-bit representation of hardware error messages (iModuleType = 3, 6, 7).

The function block is not responsible for hardware error messages (module) or for parameterizing the module.

Example

- Measuring range : 0 V to 10 V (unipolar)
- Parameterized rLoLim : 2000
- Parameterized rHiLim : 4000
- Applied analog value at
  - win ->Output at rOUT
  - 0 V -> 2000
  - 5 V -> 3000
  - 10 V -> 4000

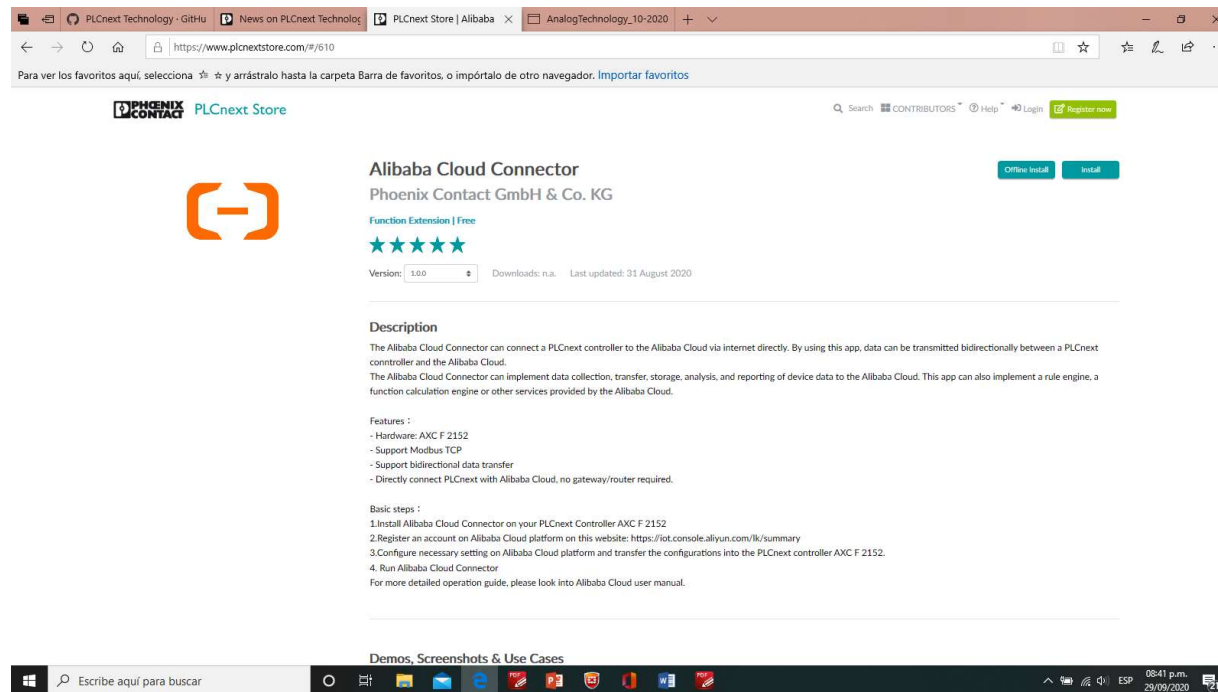
5.1 Function block call



5.2 Input parameters

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## Alibaba Cloud Connector

Phoenix Contact GmbH & Co. KG

Offline install Install

Function Extension | Free



Version: 1.0.0 Downloads: n.a. Last updated: 31 August 2020

### Description

The Alibaba Cloud Connector can connect a PLCnext controller to the Alibaba Cloud via internet directly. By using this app, data can be transmitted bidirectionally between a PLCnext controller and the Alibaba Cloud.

The Alibaba Cloud Connector can implement data collection, transfer, storage, analysis, and reporting of device data to the Alibaba Cloud. This app can also implement a rule engine, a function calculation engine or other services provided by the Alibaba Cloud.

#### Features :

- Hardware: AXC F 2152
- Support Modbus TCP
- Support bidirectional data transfer
- Directly connect PLCnext with Alibaba Cloud, no gateway/router required.

#### Basic steps :

1. Install Alibaba Cloud Connector on your PLCnext Controller AXC F 2152
2. Register an account on Alibaba Cloud platform on this website: <https://iot.console.aliyun.com/ik/summary>
3. Configure necessary setting on Alibaba Cloud platform and transfer the configurations into the PLCnext controller AXC F 2152.
4. Run Alibaba Cloud Connector

For more detailed operation guide, please look into Alibaba Cloud user manual.

### Demos, Screenshots & Use Cases

PLCnext Store

www.plcnextstore.com

Demos, Screenshots & Use Cases



Technical Details

Attribute Name	Attribute Value
website of Alibaba IoT Link Edge	<a href="https://help.aliyun.com/document_detail/85155.html?spm=a2c4g.11186623.6.542.58071ed2HEfg1A">https://help.aliyun.com/document_detail/85155.html?spm=a2c4g.11186623.6.542.58071ed2HEfg1A</a>
 PLCnext_Alibaba_Cloud_Connector_App_User_Manual_zh.pdf	
 PLCnext_Alibaba_Cloud_Connector_App_User_Manual_en.pdf	

Ratings

★★★★★ 5 out of 5 stars, 1 reviews in total

★★★★★ Rated by: [proficloudpm](#)

Very nice solution to connect to Ali-Cloud


Hardware and Software Recommendations

Description	Location Link
Controller - AXIC F 2152 - 2404267	<a href="http://www.jbphenixcontact.com">www.jbphenixcontact.com</a>
Alibaba Cloud Account	<a href="http://account.aliyun.com">account.aliyun.com</a>

Version history

PLCnext Store

**www.plcnextstore.com**




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### Proficloud Writer

Phoenix Contact GmbH & Co. KG

Solution App | Free

★★★★★

Version: 1.0 Downloads: n.a. Last updated: 26 November 2018

[Get it now](#) [Install](#)

#### Description

Easily automate and optimize your processes by analyzing your operational data out of the cloud. Start to log your data in the Proficloud and make it accessible no matter where you are.

PHOENIX CONTACT's Proficloud Writer is the perfect starter app for data logging in the cloud. It automatically sends your application data to the Proficloud. Easily customize your dashboard for efficient data analysis. Secure access lets you control who can use to your data anywhere in the world.

The app is a ready-to-use application. Individually connect up to 4 industry-specific analog field sensors, e.g. temperature, pressure, flow, level. The connection to the cloud is fully integrated. Just go to [www.proficloud.net](http://www.proficloud.net) and register your controller with the UUID printed on the enclosure.

Get into cloud data logging and download the PROFICLOUD Writer now.

Features:

- Efficient data analysis thanks to customizable dashboard
- Easy parameterization, no engineering or programming efforts required
- Individual connection of up to 4 analog field data sensors
- Automatic data logging in the Proficloud
- Secure access from all over the world

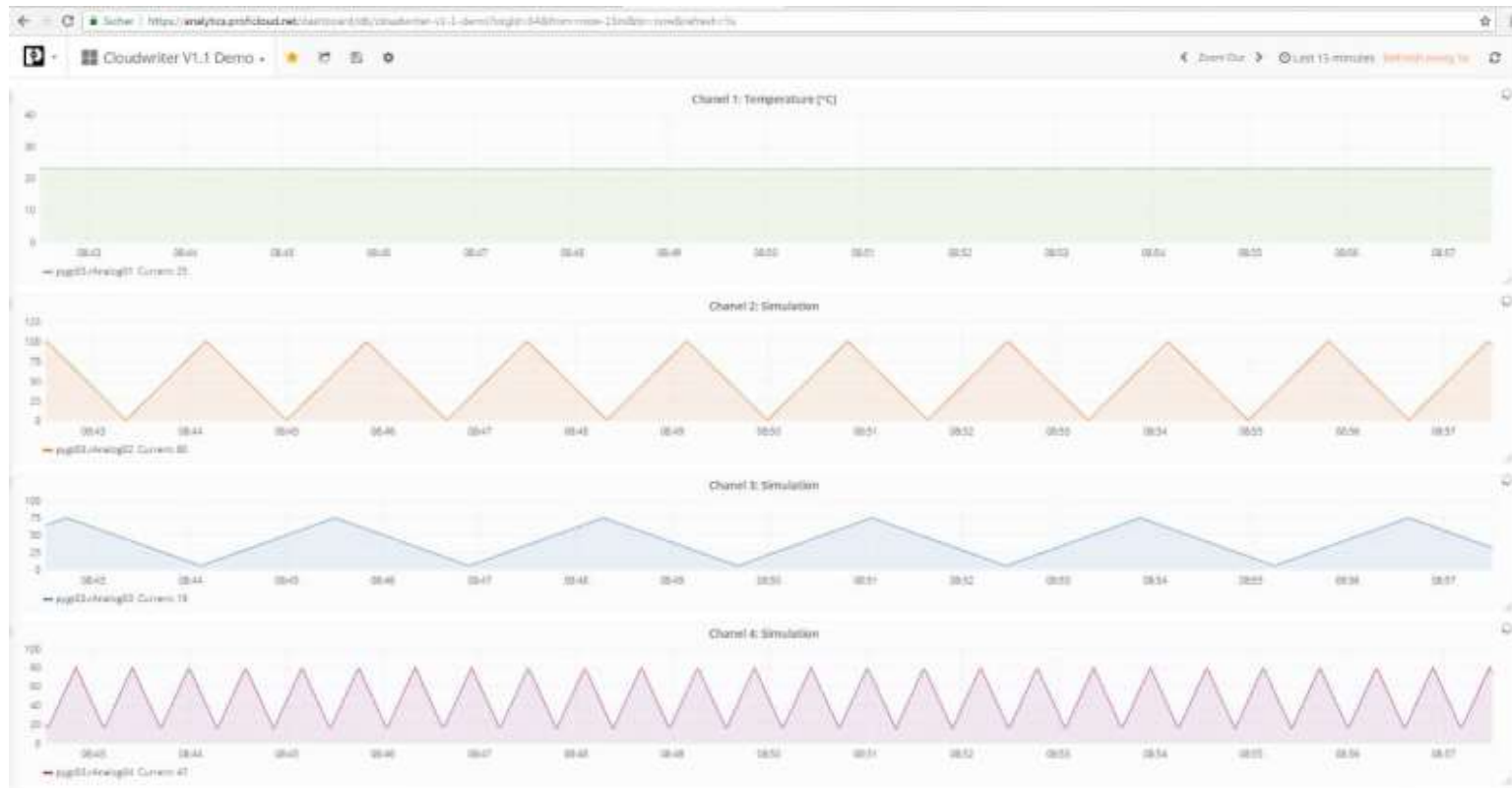
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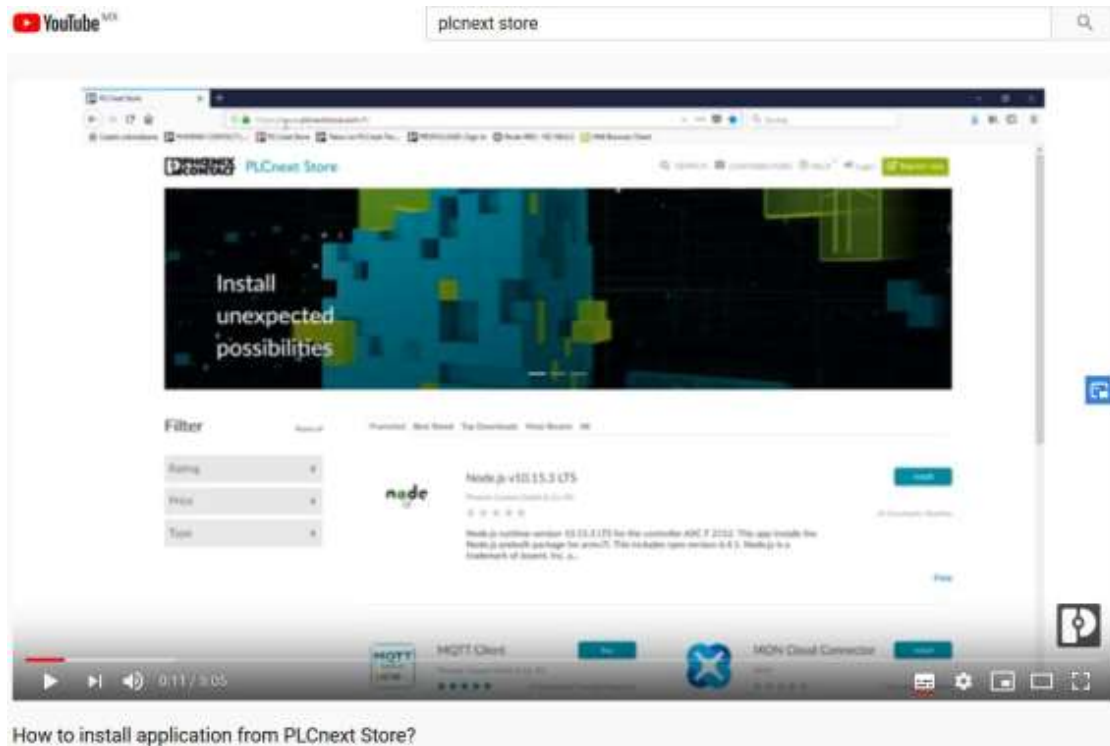
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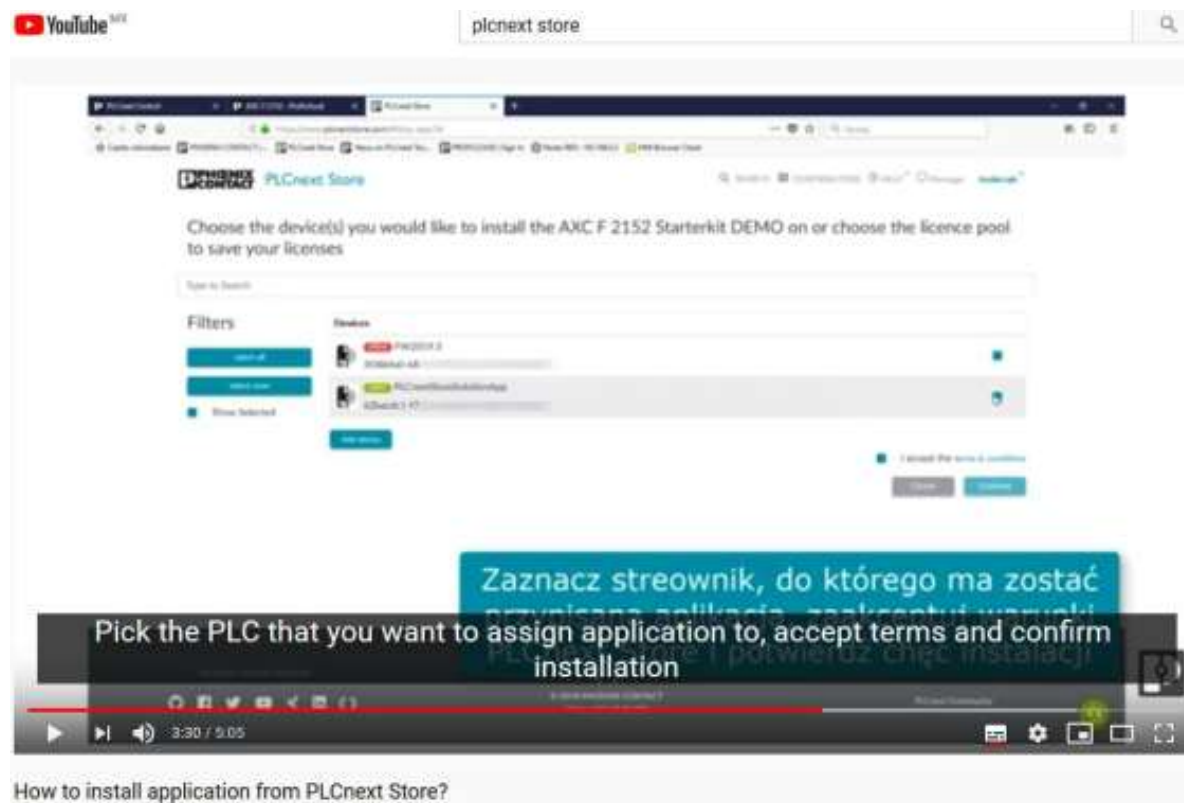


Link  
How to install application from PLCnext Store

PLCnext Store

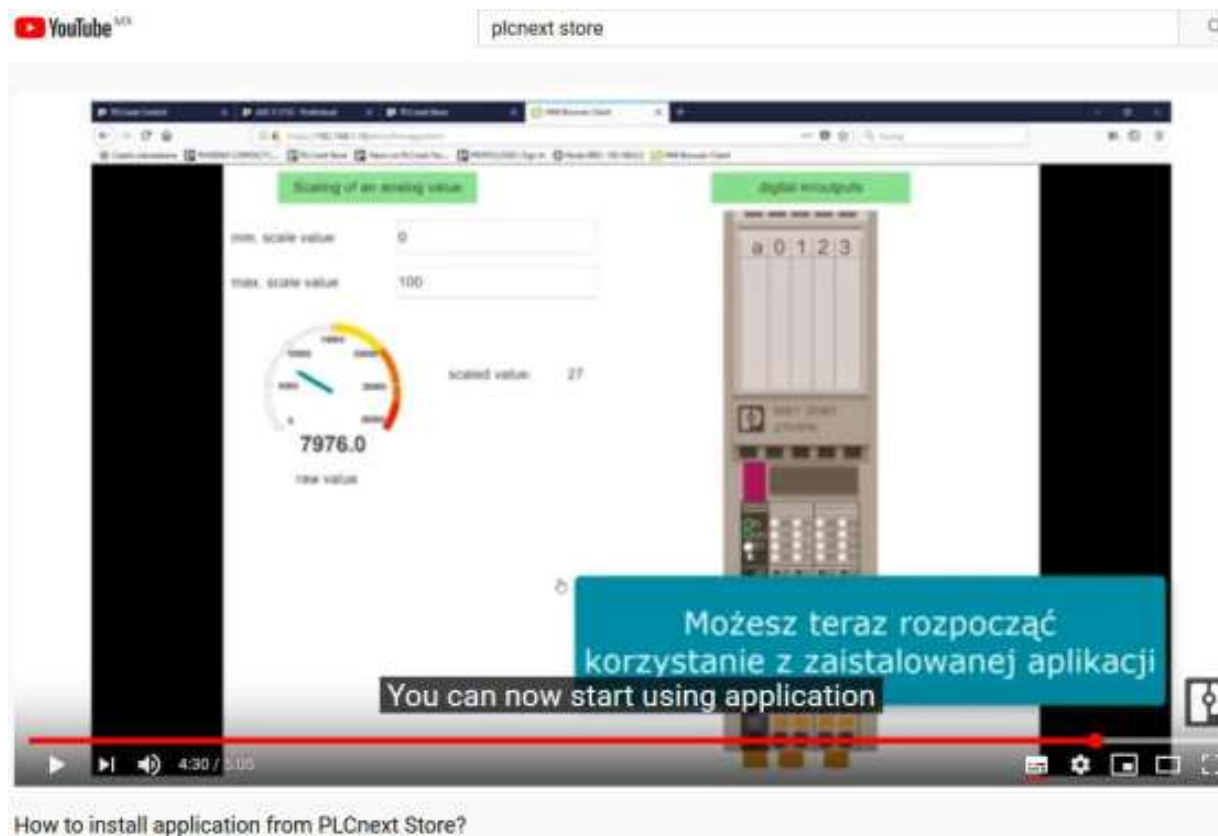
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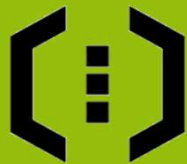
[www.plcnextstore.com](http://www.plcnextstore.com)



# Das Ecosystem für grenzenlose Automatisierung

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



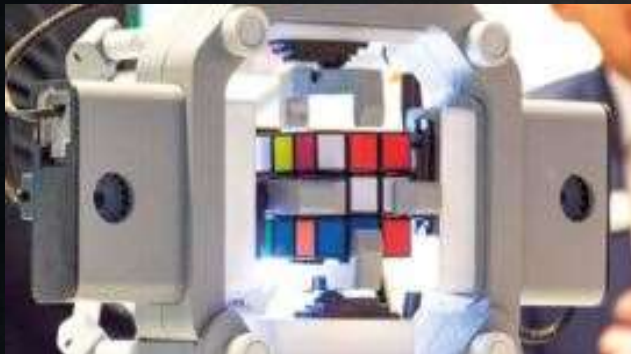
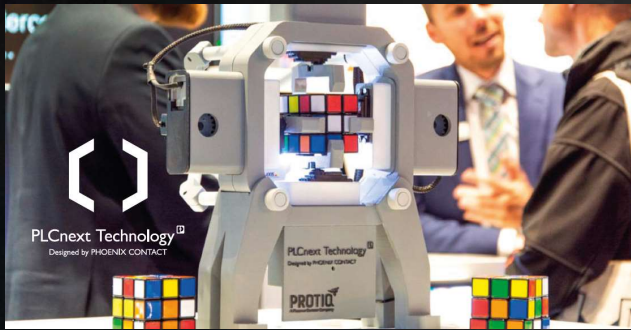
### User Collaboration & Resources

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



Special area on the Hanover Fair 2019

## Experience the Open Source Community live

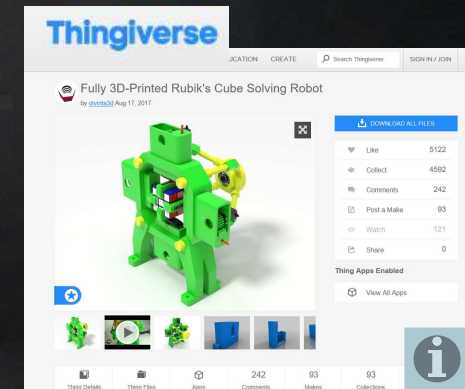


More and more people are networking in online communities. A community is a space used by users for exchanging information or gathering information about products and specialist topics, for example. With PLCnext Technology, Phoenix Contact offers an open ecosystem whose range of products and software for the first time includes a growing user community. Not least due to the possibility of integrating open source software into automation, common platforms in the IT sector are also becoming interesting for the automation industry. The Rubik's Cube exhibit is an example of an application that has grown out of a community.

*Experience the spirit of the makers scene and get involved:*

### Join and get involved: The Rubik's Cube Demo

- The Rubik's Cube Solver is an example for a community project. The project was published on the platform **Thingiverse**. Thingiverse is a community for discovering, making and sharing 3D printable things. All parts for this demo can be downloaded as 3D print templates. Furthermore the code for the automation via Rasp PI is available here.
- The PLCnext team transferred the Raspberry PI project to a PLCnext Control AX C F 2152. The components were printed in 3D by the Phoenix Contact Company PROTIQ.
- With the help of an OpenCV library (Open Source Software) the images of the cube pages are analyzed with a simple IP camera. An application program consisting of C++ code and IEC 61131 then brings the servo motors into the correct position. The demo shows that with the PLCnext Control we are now able to run software packages in the PLC that were previously only intended for execution on an operating system.



# PLCNEXT COMMUNITY

Join and get involved: [www.plcnnext-community.net](http://www.plcnnext-community.net)

Watch a tutorial on our YouTube Technical Support Channel:  
[www.youtube.com/phoenixcontacttechnicalsupport](http://www.youtube.com/phoenixcontacttechnicalsupport)

Find open source code and start an exciting new project: [www.github.com/plcnnext](http://www.github.com/plcnnext)

Follow us on Instagram: [www.instagram.com/plcnnext](http://www.instagram.com/plcnnext)

Share:  
**#iampcnnext**  
**#plcnnext**



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Tutorials for  
technical support



Use or share open  
source code



Share your experience  
on Instagram

# PLCnext Store

install unexpected possibilities

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