



Antonio Gordillo / 17 Agosto 2021 / IMA Marketing

Welcome

Presentación

CLOUD's tipos y proficloud.io con orientación a Servicios SMART

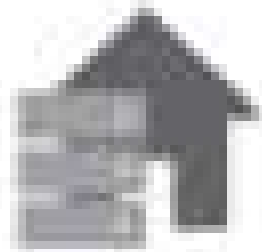


News 2021

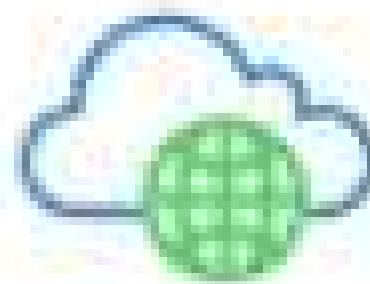
Agenda

- CLOUD's tips
 - PROFICLOUD and SMART Platform
 - PROFICLOUD.IO
 - Servicios SMART
-

CLOUD's Tipos



ON-PREMISE



CLOUD

CLOUD's Nubes Definiciones **What is cloud or cloud computing ?| on-premises and cloud explained |**
Free CCNA 200-301

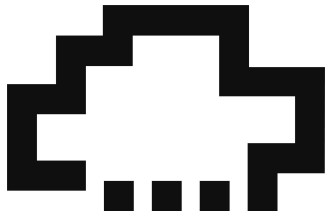
Oferta

CLOUD's



Cloud Strategy for Intelligent Networking

Proficloud, Public Cloud, Private Cloud, any Cloud



PROFICLOUD



Alibaba Cloud



Google Cloud



Azure



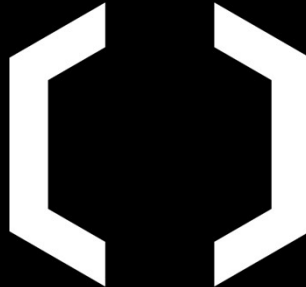
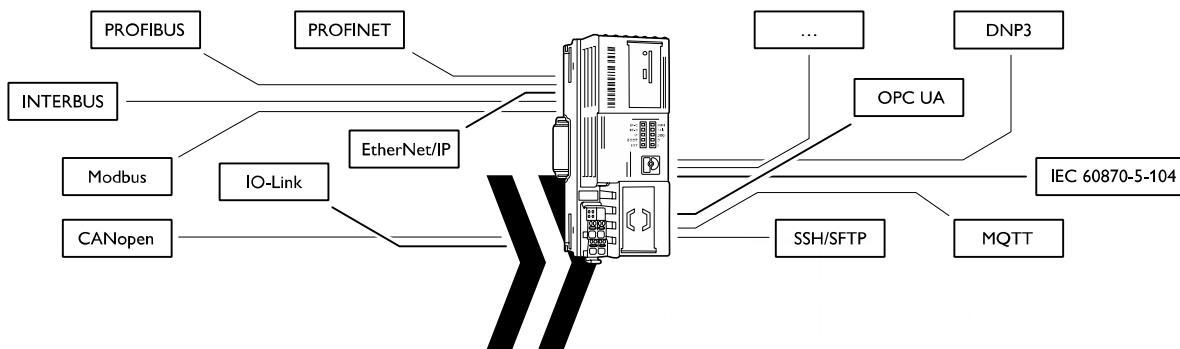
IBM Cloud

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.

enhanced connectivity – Intelligent Networking

Future-proof Connectivity

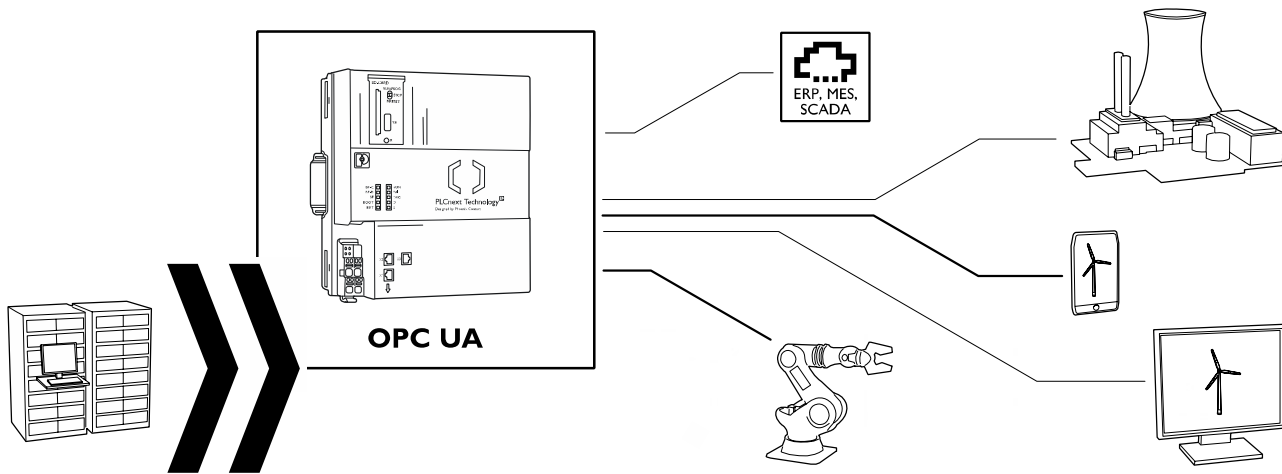
PLCnext Technology 
Designed by PHOENIX CONTACT



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

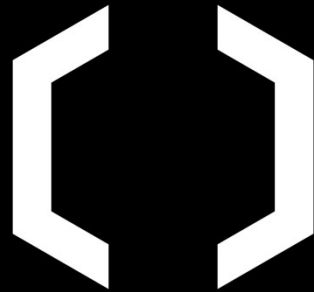


**Data Access, Alarms and
Conditions, Programs, Historical
Access, Global Discovery Server**

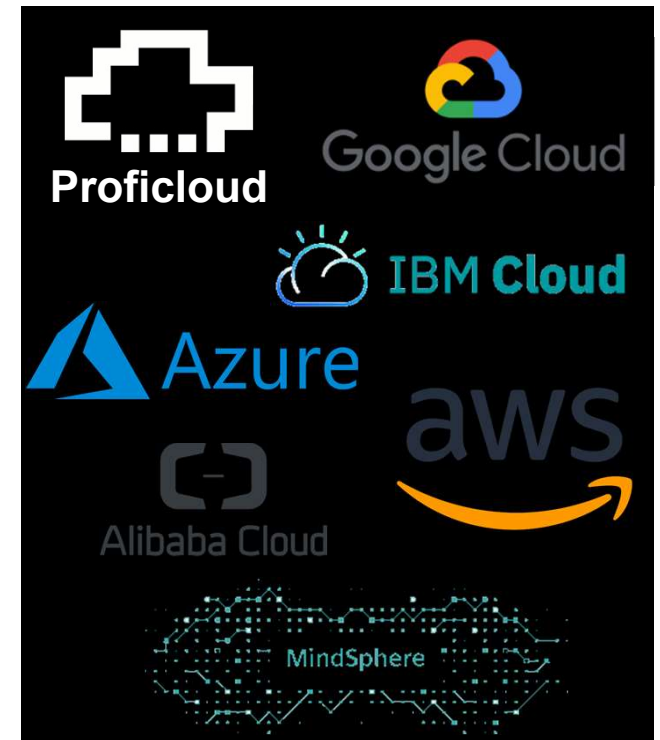
enhanced connectivity – Intelligent Networking

PROFICLOUD, Public Cloud, Private Cloud – any Cloud!

Implement new IoT-based business models through direct connection to cloud-based services and databases.

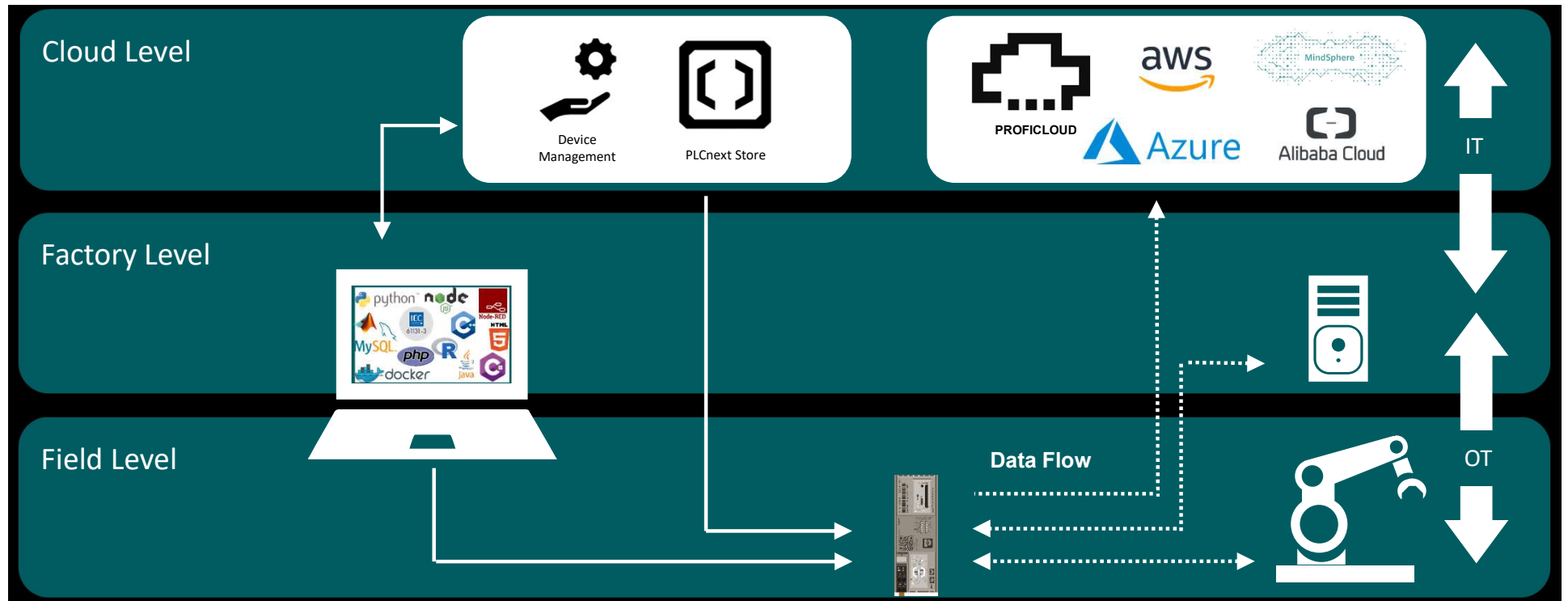


Benefit from the seamless integration of Phoenix Contact's PROFICLOUD and a cloud-agnostic strategy where the PLCnext Store delivers cloud connectors for every cloud. PLCnext Technology supports any customer cloud implementation – public, private, hybrid - including AWS, IBM, Azure, Alibaba, and MindSphere.



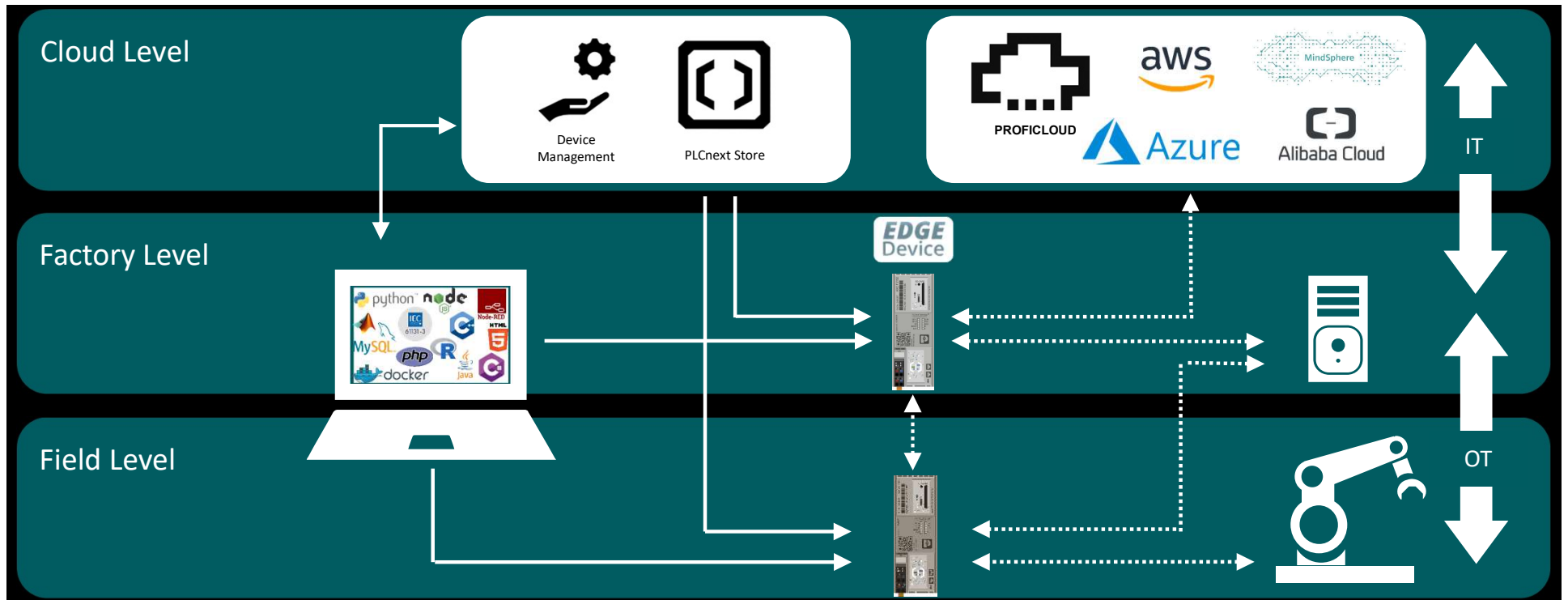
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as PLC



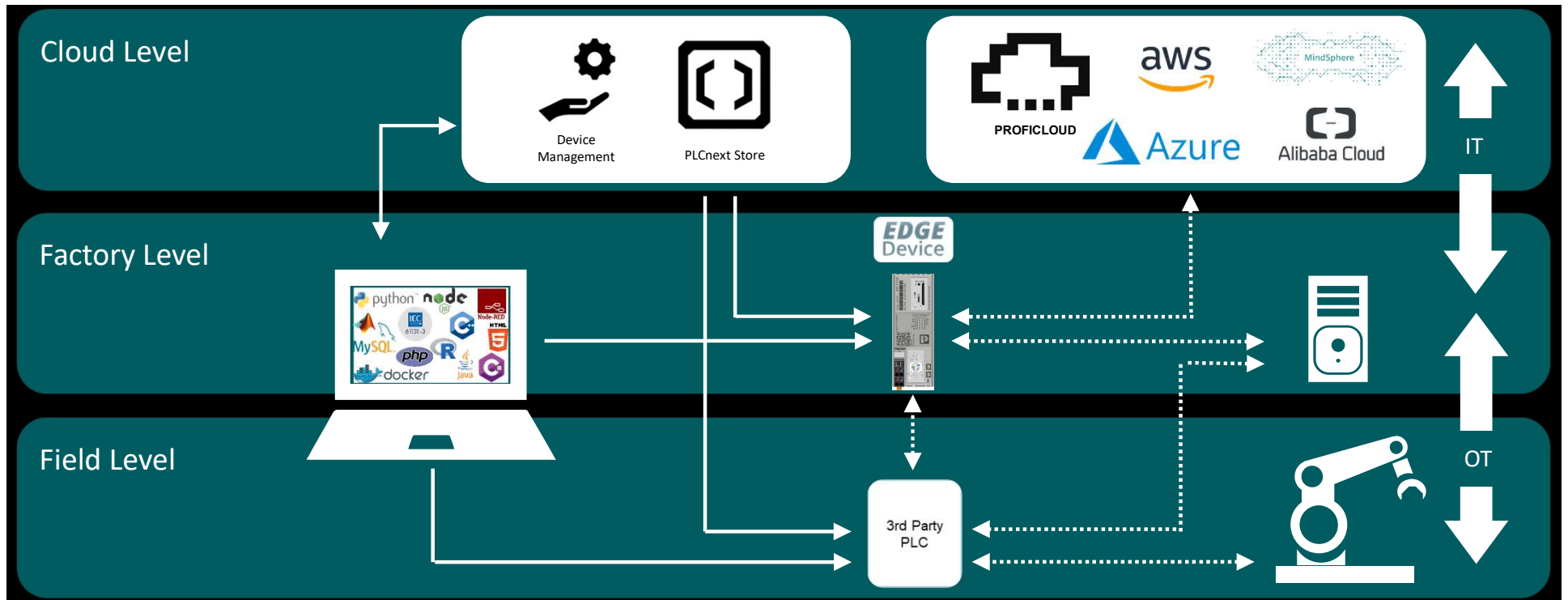
enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as PLC and Edge Device



enhanced connectivity – Edge Device or PLC connecting all Levels

PLCnext Control as Edge Device





PROFICLOUD and SMART Platform

Definition

PROFICLOUD



PROFICLOUD

Elements

PROFICLOUD

Our cloud solutions

With the PROFINET and Time Series Data cloud solutions, Phoenix Contact offers you cloud-based automation solutions that are perfectly tuned to your company's requirements and needs. This lets you benefit from fast value creation and full cost transparency, thanks to the pay-per-use model.

Cloud gateway for PROFINET

The Cloud gateway is the secure connection between your local PROFINET network and Proficloud, and makes it possible to use the cloud services.



PROFINET cloud solutions

Thanks to PROFINET cloud solutions, you can make your existing PROFINET network cloud-capable and add cloud services. This lets you directly see the benefits of Proficloud, e.g. for remote applications or when using services such as monitoring, reporting, or calculation.

Cloud controller for PROFINET

The modular Axiocontrol controller makes communicating with Proficloud possible.

Elements

PROFICLOUD

Time Series Data cloud solutions

The Time Series Data cloud solutions allow you to capture, evaluate, and visualize the process data from your machines and systems. This forms the basis for predictive maintenance and other big data applications. Thanks to web-based dashboards, you have access to your data anywhere and at any time.

Cloud controller with PLCnext Technology

With PLCnext Control based on PLCnext Technology, you connect directly with Proficloud and individually integrate cloud services.




PLCnext Technology 
Designed by PHOENIX CONTACT

Cloud IoT Gateway

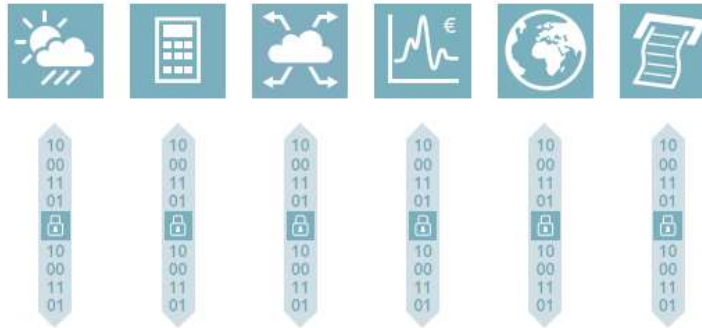
With our Cloud IoT Gateway, you integrate new and existing systems into Proficloud without the need for additional engineering effort. Thanks to its support of various protocols, it enables tailored and fast process integration.

Further information on the Cloud IoT Gateway:
Simply type the web code into the search field on our website.

 Web code: #1810

Elements

PROFICLOUD



Cloud services

Benefit from the almost unlimited possibilities that cloud services or the software development kit offer for your automation.

PROFINET cloud solutions	
Software Development Kit CLOUD SDK4J	Cloud services: weather, calculation, system couplers
Order no. 2404475	Order no. 2403325
Download free of charge	Order no. 2403326
	Order no. 2404449

Time Series Data cloud solutions	
Software Development Kit CLOUD SDK4J	Grafana dashboard
Order no. 2404475	Free of charge
Download free of charge	Access via www.proficloud.net

Elements

PROFICLOUD



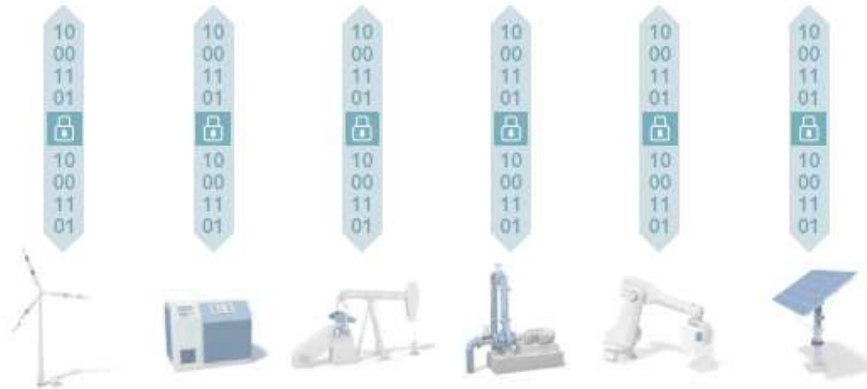
Cloud Credits

Simple, transparent pricing models enable you to operate flexibly.

Your currency in the Proficloud			
			
Cloud Credit 1 Credit: 8,760 units	Cloud Credit 2 Credit: 17,520 units	Cloud Credit 5 Credit: 43,800 units	Cloud Credit 10 Credit: 87,600 units
Order no. 2402989	Order no. 2402988	Order no. 2402987	Order no. 2402986

Elements

PROFICLOUD



Cloud hardware

Cloud hardware enables you to easily connect to new and existing machines, systems, and processes.

PROFINET cloud solutions	
	
Cloud gateway for PROFINET Cloud Coupler-Pro	Cloud controller for PROFINET AXC Cloud-Pro
Order no. 2402990	Order no. 2402985

Time Series Data cloud solutions	
	
AXC F 2152 cloud controller with PLCnext Technology	Cloud IoT Gateway
Order no. 2404267	Order no. 1031235

PLCnext Technology ³
Designed by PHOENIX CONTACT



AXC F 1152 AXC F 2152 AXC F 3152 RFC 4072S




EEM-SB370-C EEM-SB371-C IPCH-4X-PCL-TCP-24DC-UT



Cloud based Smart Services

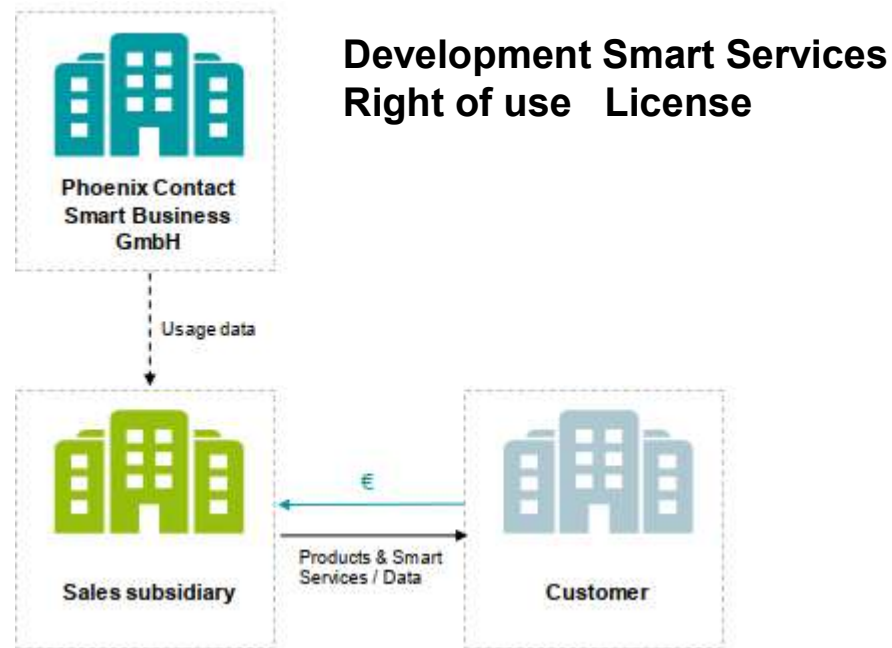
Phoenix Contact Smart Business GmbH



 Location 21 Employees in Bad Pyrmont & Berlin	 Competence Frontend & Backend Development, UX/UI Design, Machine Learning, Software Architecture	 Task Become the Smart Service and Data Science Competence Center for the Phoenix Contact Group	 Management M. Weßelmann (GM) Dr. T. Schlichting (CDNB)
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Phoenix Contact Smart Business GmbH

Business Model



Smart Services

Smart Business



Smart Services on Any Cloud

Increased reach of our Smart Services after testing them on our own platform



Smart Services on Proficloud

Establishment of recurring revenue models through development and operation of Device Management Services, Smart Device Services & Smart Solution Services



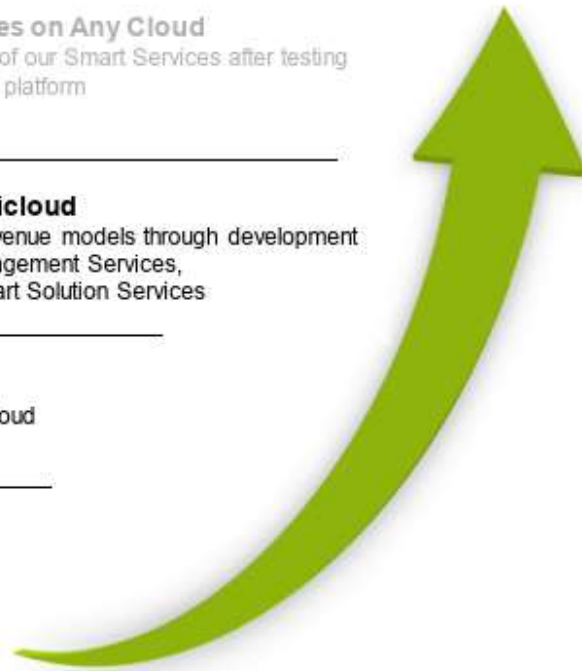
Smart Device Connectivity

Easy connection in Proficloud to Any Cloud



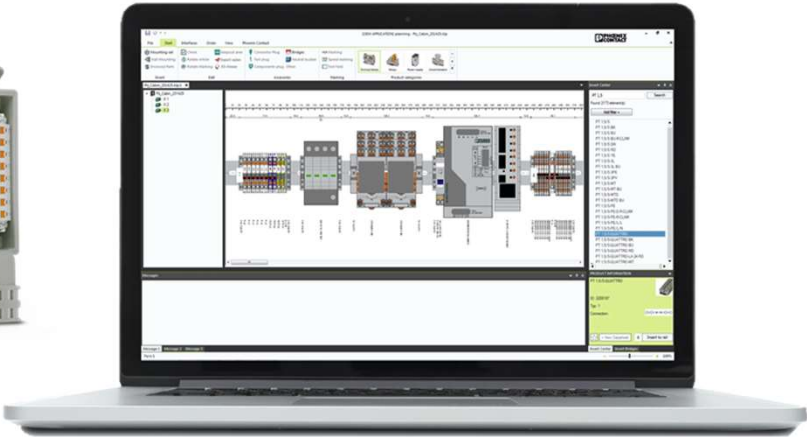
IoT Plattform für Phoenix Contact

Proficloud based on flexible microservice architecture

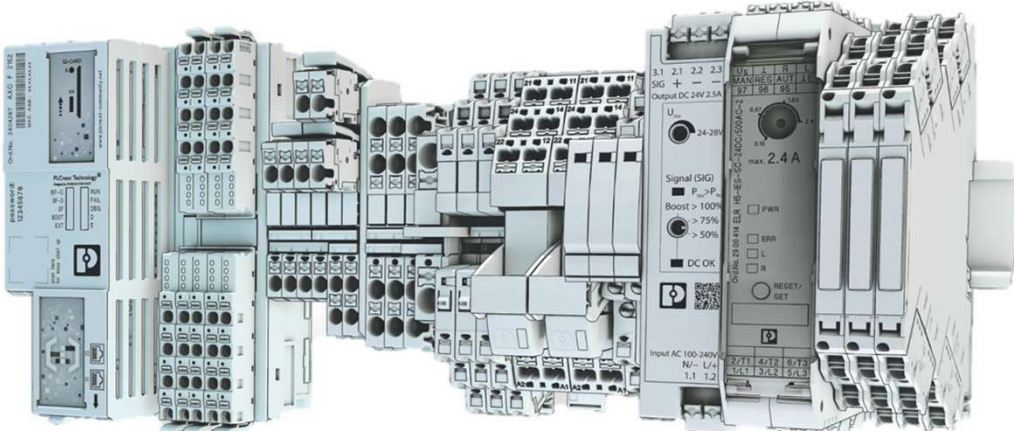


All Smart COMPLETE Line products

COMPLETE line



COMPLETE line



COMPLETE line



Cloud based solution

All Smart COMPLETE line Products

Objective: All smart COMPLETEline products support Proficloud by 2023



Block Modular I/O System
PSL: DR12

Energy Measurement
PSL: CK4C1, CK4C2

Power supplies with highest functionality
PSL: CMPI

Highly compact relay modules
PSL: CK62

Industrial Ethernet And Security
PSL: DNN121, DNN31

PLCnext Controls
PSL: DRAAEB

Assistance system for surge protection devices
PSL: CL116, CL117, CL118, CL124, CL133

DC UPS with IQ Technology
PSL: CMUI

Hybrid motor starter/ machine manager
PSL: CK7

Tele control and remote maintenance
PSL: DNC42, DNC61

Isolating amplifier with functional safety and explosion protection
PSL: CK 14, CK11, CK31

Automate **Monitor** **Supply + Protect** **Switch** **Communicate** **Disconnect**

PROFICLOUD Ready Planned for PROFICLOUD-readiness

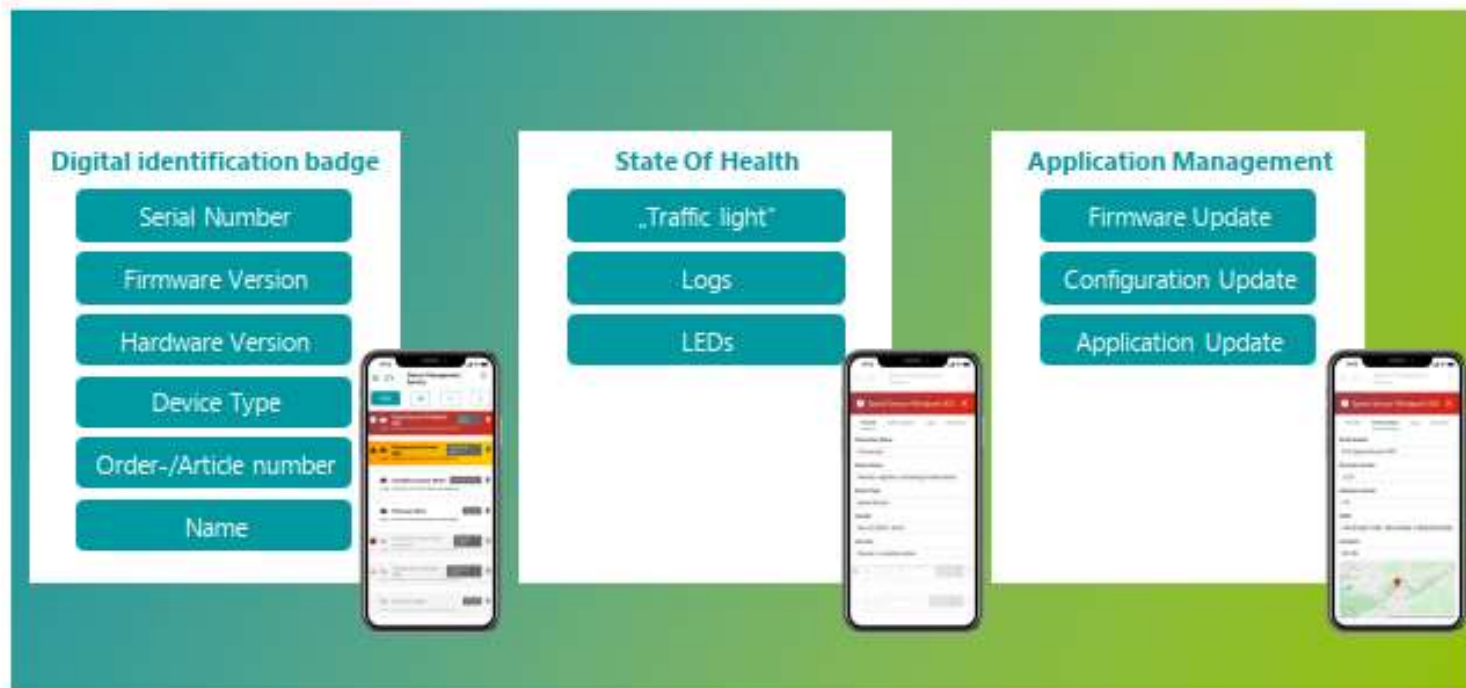
Smart Services

Types of Smart Services

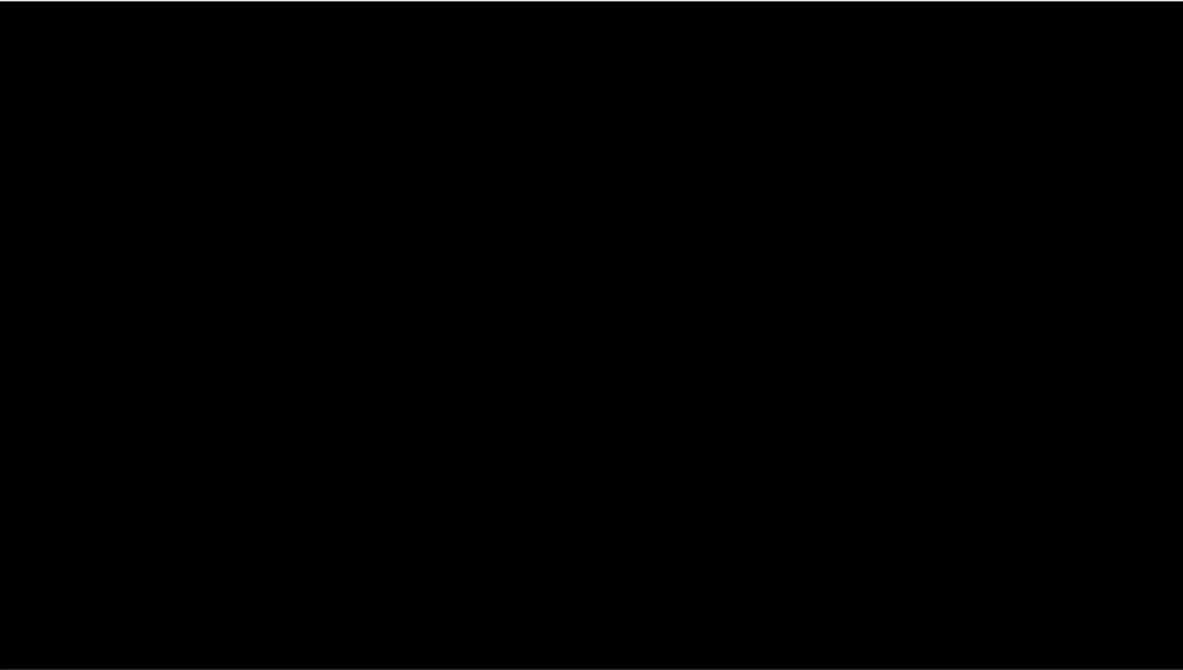
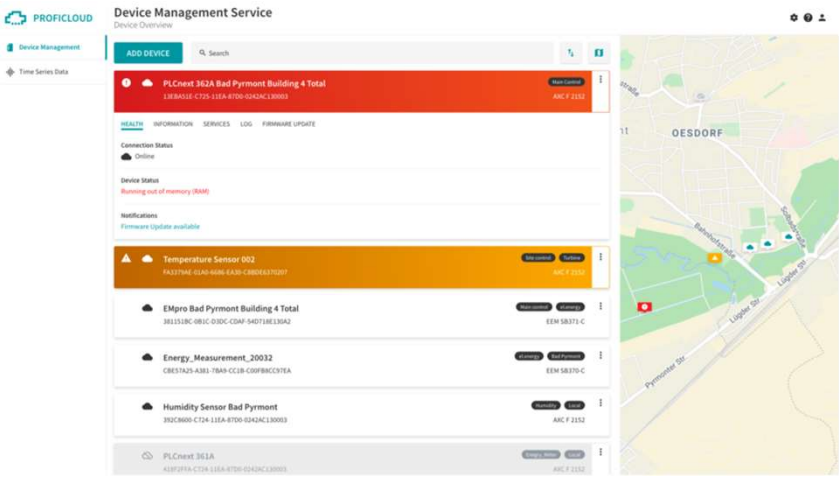
	DEVICE MANAGEMENT SERVICE	SMART DEVICE SERVICES	SMART SOLUTION SERVICES
DEFINITION	Minimal standard for all PROFICLOUD-compatible products	Standardized value-added service for different industries / applications	Industry or application-specific value-added service
	Standardized, application-independent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

Value add

Device Management Service

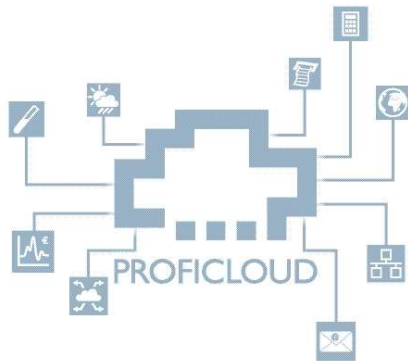


Device Management Services



Video Device Management Services

PROFICLOUD Generation 2 enables state of the art Smart Services



Secure

- From the cloud to the device
- Hosting (IaaS) at the market leader with server location in Frankfurt

Powerful

- Unlimited memory and computing power
- Access and user management
- Build-in Visualization
- Easy integration of ML algorithms

Extendable

- Multi-Cloud ready
- Connectivity to AWS, AZURE, Alibaba, ...

Connective

- SDK for PHOENIX- and 3rd party devices
- Data normalization for common protocols

Intuitive

- Easy user interface
- User centric dashboard
- Single-Sign-On for all Services related to Software at PHOENIX CONTACT

Flexible

- Different IaaS applicable e.g. AWS, Alibaba, ... (later relocation possible)
- Comprehensive support of recurring revenue streams, e.g. subscription fees

Smart Services
by
PHOENIX CONTACT

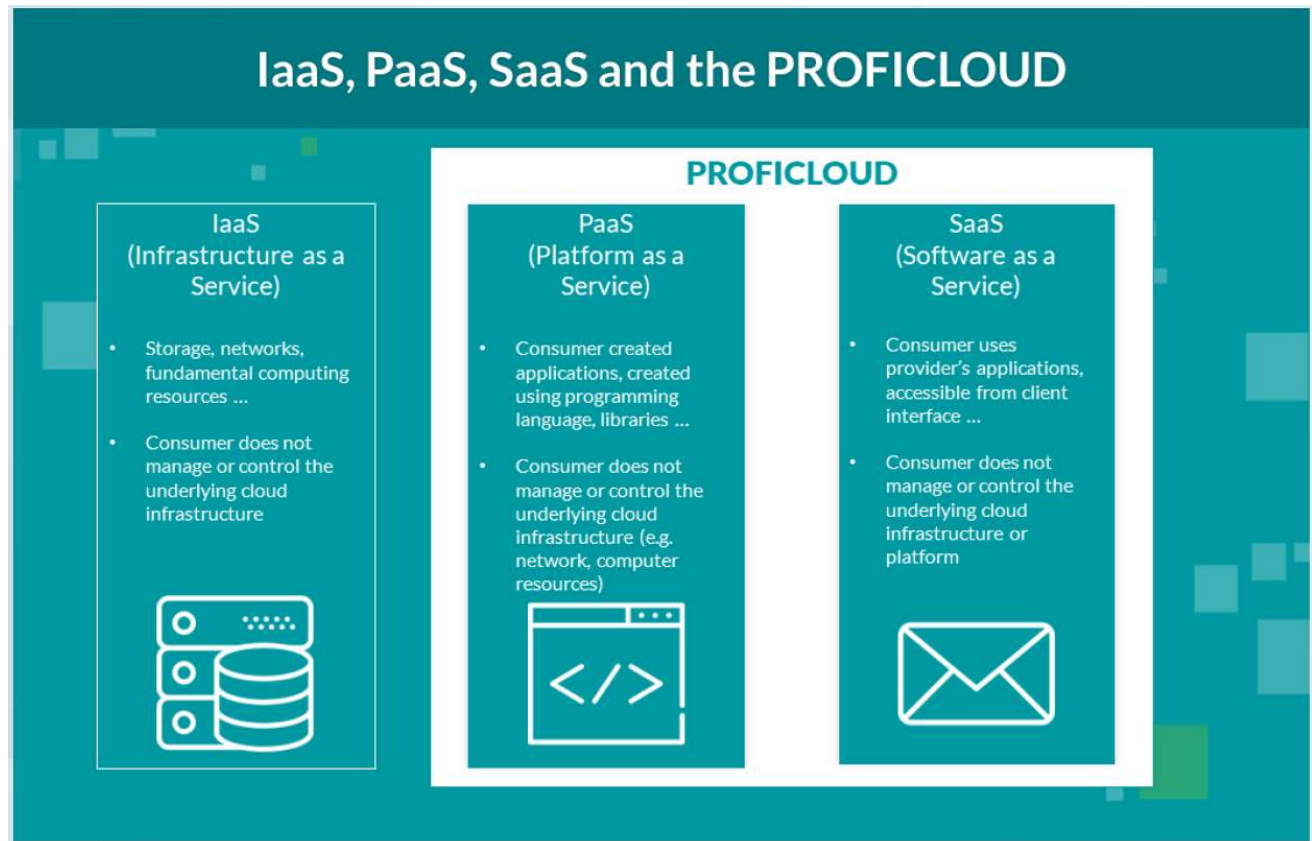
PROFICLOUD

[PROFICLOUD 2](https://proficloud.io) <https://proficloud.io>

PROFICLOUD

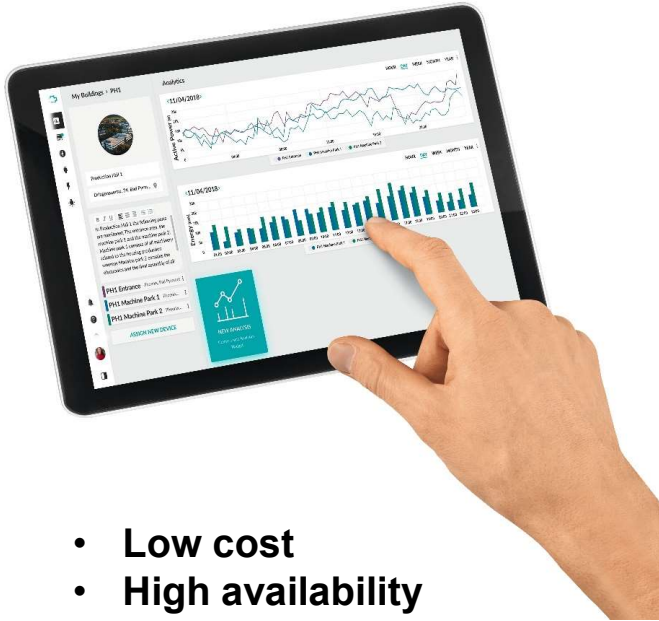
IaaS

PaaS SaaS



CLOUD

Advantages



- Low cost
- High availability

 Low cost	 High availability	 Scalability	 High speed of development	 World wide availability
 Ability to quickly update software	 Higher security	 Compliance becomes less of an issue	 Less time spent on secondary tasks	 Flexibility

TSD Time Series Data

PROFICLOUD

TSD is a series of data indexed in time order.

The proficloud TSD Service allows customers to send data from their devices into Proficloud and have it visualized on our own dashboarding solution



PLCnext Technology[®]
Designed by PHOENIX CONTACT

How to use
time-series data



Energy Management Service

Dashboards on Proficloud



AXC F 2152 and PROFICLOUD Tutorial

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AXC F 2152 Setup Cloud Variables

- This guide shows how to setup a Proficloud Dashboard using an AXC F 2152 controller with the following variables configured

Name	Type	Usage	Comment	Init	Ret...	OPC	HMI	Proficloud
▼ Default								
xEnable	BOOL	External						
analogIN	INT	Local		INT#0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
threshold	INT	Local		INT#15000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
xOutput	BOOL	External						
Channel1	WORD	External						
xEnable_cloud	BOOL	OUT Port		FALSE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
xOutput_cloud	BOOL	OUT Port		FALSE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
analogIN_cloud	INT	OUT Port		INT#0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Enter variable name here</i>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AXC F 2152 Setup Source Code

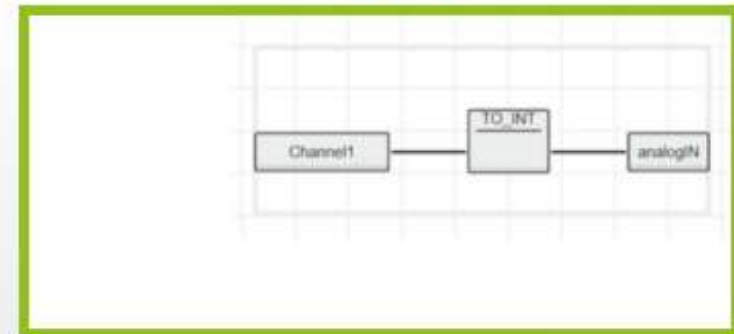
- > xEnable = DI1
- > xOutput = D01
- > analogIN = AI1
- > Threshold = 15000

ST Code

```
IF xEnable = TRUE THEN
  IF analogIN > threshold THEN
    xOutput := TRUE;
  ELSE
    xOutput := FALSE;
  END_IF
ELSE
  xOutput := FALSE;
END_IF

//Proficloud Data
xEnable_cloud := xEnable;
xOutput_cloud := xOutput;
analogIN_cloud := analogIN;
```

LD Code



AXC F 2152 Setup

Web-based management configuration

- Enable the Proficloud, TSD, and PLCnext store services
- Verify the Proficloud service state is “reachable and available”
- Verify Proficloud Connection State is “Online”
- Verify Device registration state is “Registered”
(The device will need to be added to proficloud first)

The screenshot displays the configuration page for an AXC F 2152 device. The left sidebar shows navigation options: Information, General Data, Diagnostics, Proficloud, Local Run, and Configuration. The main content area is titled 'Configuration' and includes a 'PROFICLOUD' section. Under 'State', a table shows the following information:

Property	Value
UUID	ed89142-6892-4d82-a23a-6ed1706ef0e1
Proficloud Service State	The Proficloud is reachable and available.
Proficloud Connection State	Online
Device Registration State	Registered

Below the state table, the 'Settings' section contains three checkboxes, all of which are checked:

- Enable Proficloud Service
- Enable Time-Series Data (TSD) Service
- Enable PLCnext Store Service

A 'Apply' button is located at the bottom right of the settings section.

TSD Device Manager

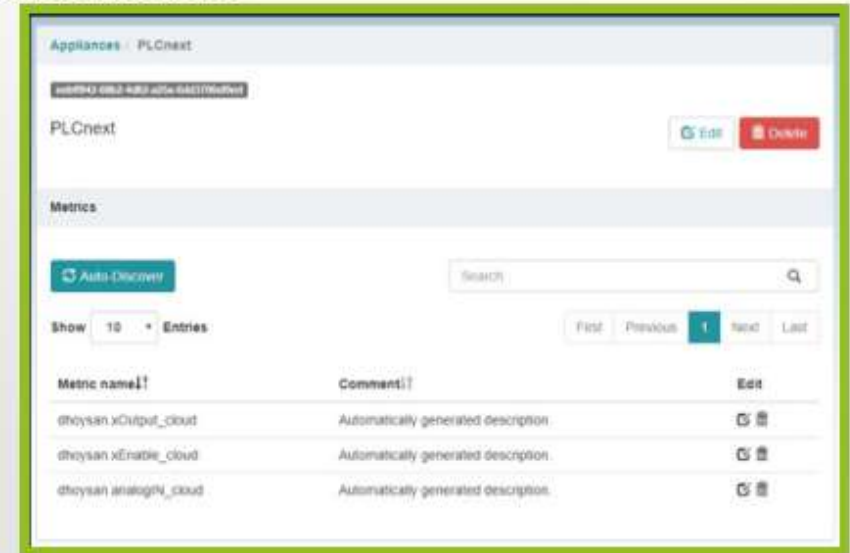
TSD Device Manager

- Choose TSD Device Manager from the Proficloud home screen



TSD Device Manager Device Registration

- Register the AXC F 2152 controller on the Proficloud by creating an “appliance” and adding the device UUID (1).
- Verify the device is online and can “auto-discover” all cloud variables



TSD Device Manager

Creating multiple accounts (nice to know, not required)

- Create a second account (1) and add a new user to the account (2) (use a secondary email)

The screenshot displays the PHENIX CONTACT TSD Device Manager interface. On the left, a sidebar menu is visible with the following options: 'Back to Appliances', 'Manage Account', 'Settings', 'Members', and 'Add Account'. A red circle with the number '1' highlights the 'Add Account' button. The main content area is titled 'Members Customer 1' and features an 'Add user' button, a search bar, and a pagination control. A red circle with the number '2' highlights the 'Add user' button. Below these elements is a table with the following structure:

Username	User role	Edit
Admin	Admin	[Edit] [Delete]
User	User	[Edit] [Delete]

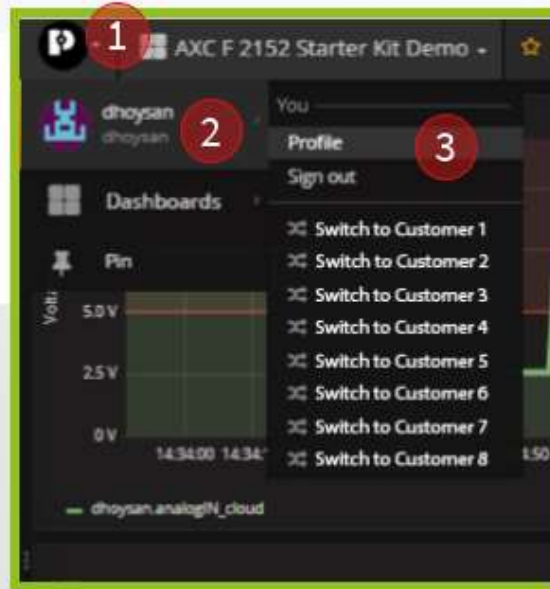
TSD Analytics - General Application Access

- Go to TSD analytics from the Proficloud home page **(1)**
- Go to TSD analytics from the TSD Device Manager (Look out for how the dashboard changes based on which account you are on) **(2)**



TSD Analytics - General Dark Mode

- Change TSD analytics to dark mode
 - Click on PxC-Logo (1)
 - Click on User (2)
 - Click on Profile (3)
 - Click on UI Theme (4)



TSD Analytics - General

Rename, save, and tag a dashboard

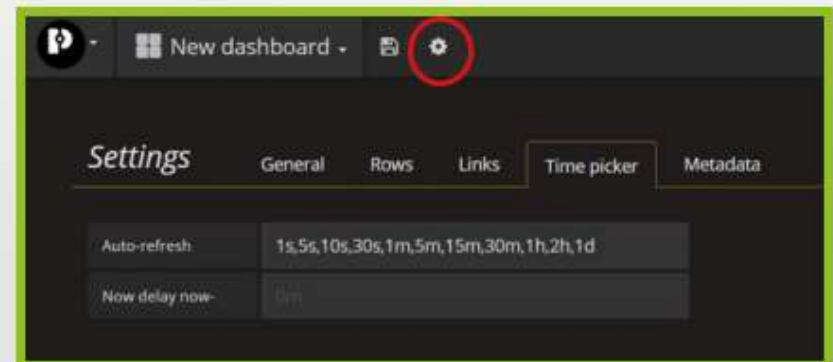
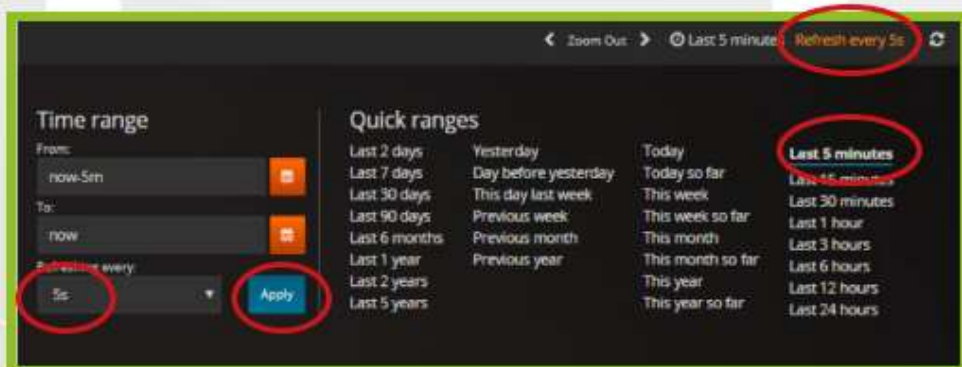
- Click on Gear (1)
- Rename the dashboard (2)
- Tag the dashboard (3)
- Save your dashboard (4)



TSD Analytics - General

Time Range & Refresh Rate

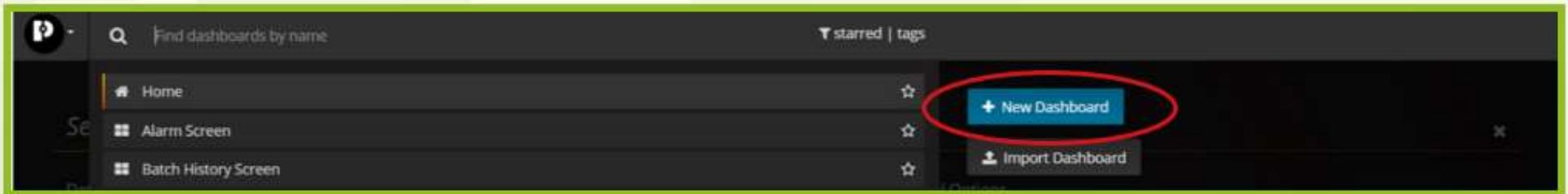
- Configure Proficloud to refresh every 5s
- Change the data range to Last 5 minutes
- Edit the Time picker settings to enable Proficloud to refresh every 1s



TSD Analytics - General

New Dashboard

➤ Create a new dashboard



TSD Analytics - Graphs

Dashboard Setup

- Create a new dashboard and add a graph (drag and drop)



- Add a single stat next to the graph (expand the menu in the upper left to find the add panel option)



TSD Analytics - Graphs Dashboard Setup

- > Add a second row with 1 graph and 2 single stats



- > Add a third row with a table



TSD Analytics - Graphs

Graph Settings

➤ Click “panel title” above the first graph to edit



TSD Analytics - Graphs

General Settings

➤ Change the title to Analog Input

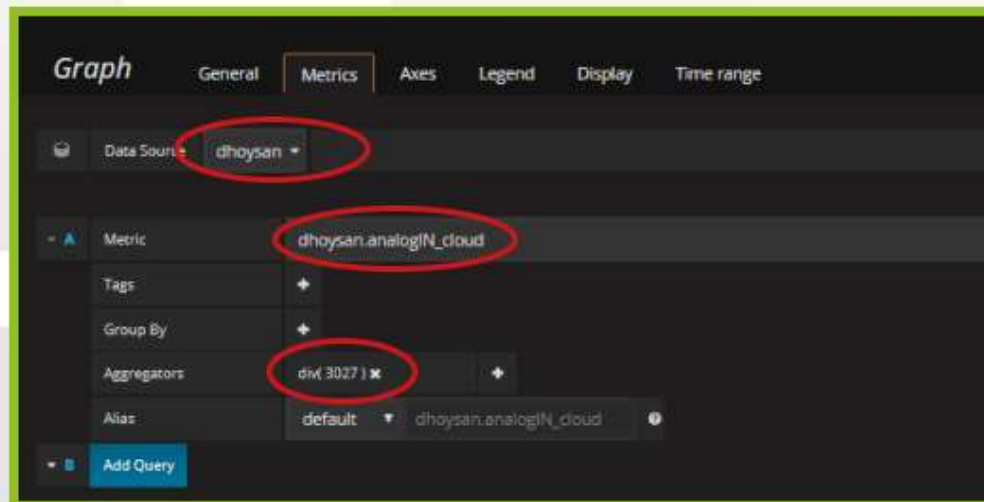
The screenshot shows the 'Graph' configuration interface with the 'General' tab selected. The 'Title' field is highlighted with a red circle and contains the text 'Analog Input'. The 'Description' field contains the text 'Panel description, supports markdown & links'. The 'Dimensions' section includes 'Span' (8), 'Height' (100px), and 'Transparent' (checkbox). The 'Templating' section includes 'Repeat Panel' and 'Min span' dropdowns. The 'Drilldown / detail link' section has an '+ Add link' button.

Section	Field	Value
Info	Title	Analog Input
	Description	Panel description, supports markdown & links
Dimensions	Span	8
	Height	100px
	Transparent	<input type="checkbox"/>
Templating	Repeat Panel	
	Min span	
Drilldown / detail link	+ Add link	

TSD Analytics - Graphs

Metric Settings

- Change the data source and add the analogIN_cloud metric (hint: just start typing and Proficloud will help you find it)
- Add an aggregator to scale the analog input values from 0-30270 to 0-10



TSD Analytics - Graphs

Axes Settings

- Set the units to Volts.
- Fix the Y Axis from 0-12
- Add a voltage label

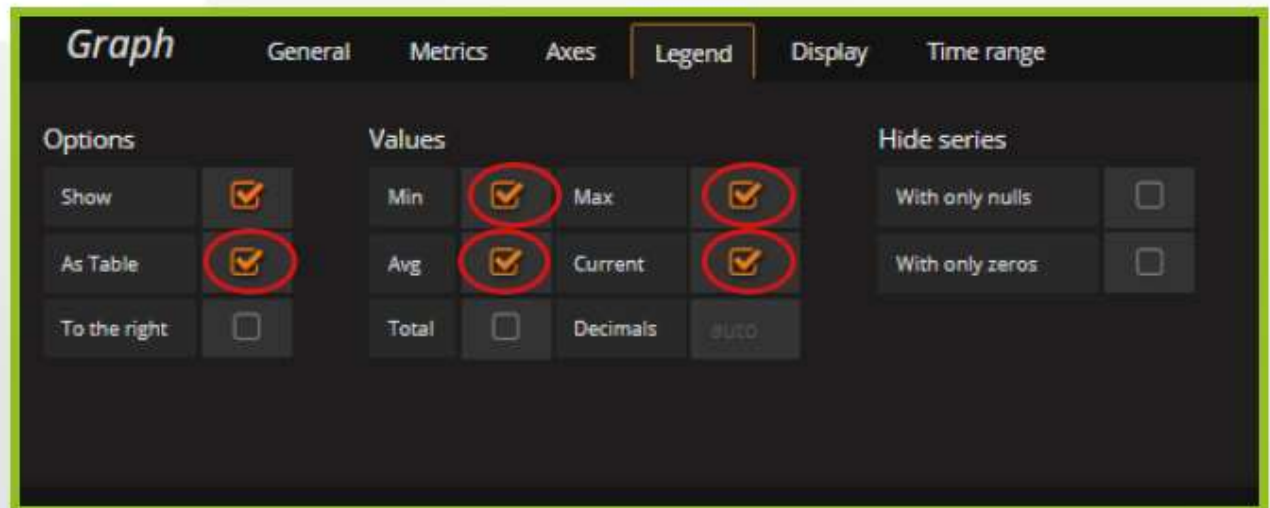
The screenshot shows the 'Graph' settings interface with the 'Axes' tab selected. The settings are organized into three columns: Left Y, Right Y, and X-Axis.

Section	Property	Value
Left Y	Show	<input checked="" type="checkbox"/>
	Unit	Volt (V)
	Scale	linear
	Y-Min	0
	Y-Max	12
	Label	Voltage
Right Y	Show	<input checked="" type="checkbox"/>
	Unit	short
	Scale	linear
	Y-Min	auto
X-Axis	Show	<input checked="" type="checkbox"/>
	Mode	Time

TSD Analytics - Graphs

Legend Settings

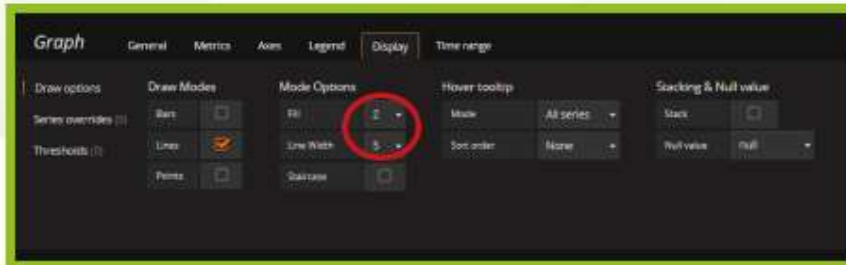
- Configure the Legend to display as table
- Configure the legend to display min, max, average, and current values



TSD Analytics - Graphs

Display Settings

- Change the Fill to 2 and Line Width to 5



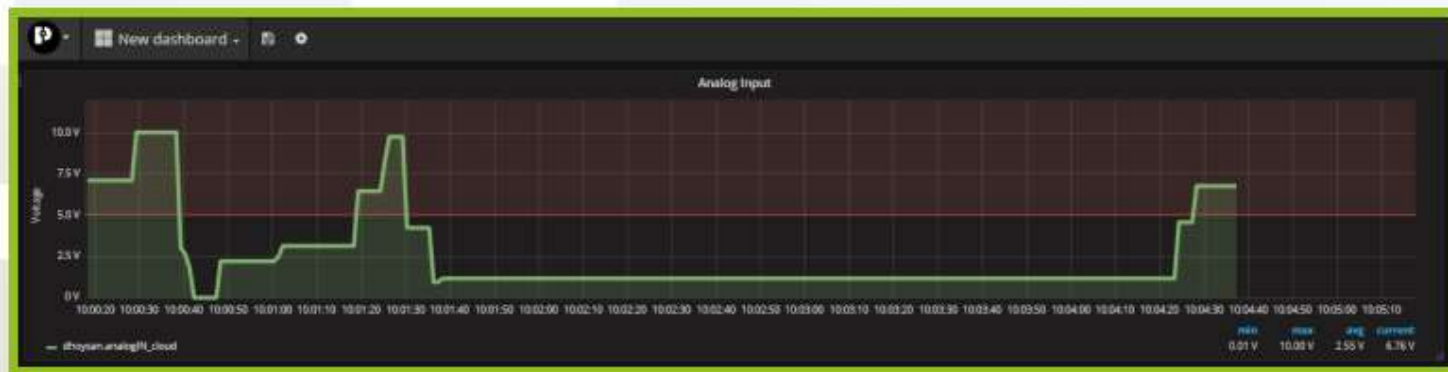
- Add a critical threshold at 5



TSD Analytics - Graphs

Analog Input Graph Check

- Your graph should now be formatted to look like this
- Change the analog input on the AXC F 2152 and watch the value change



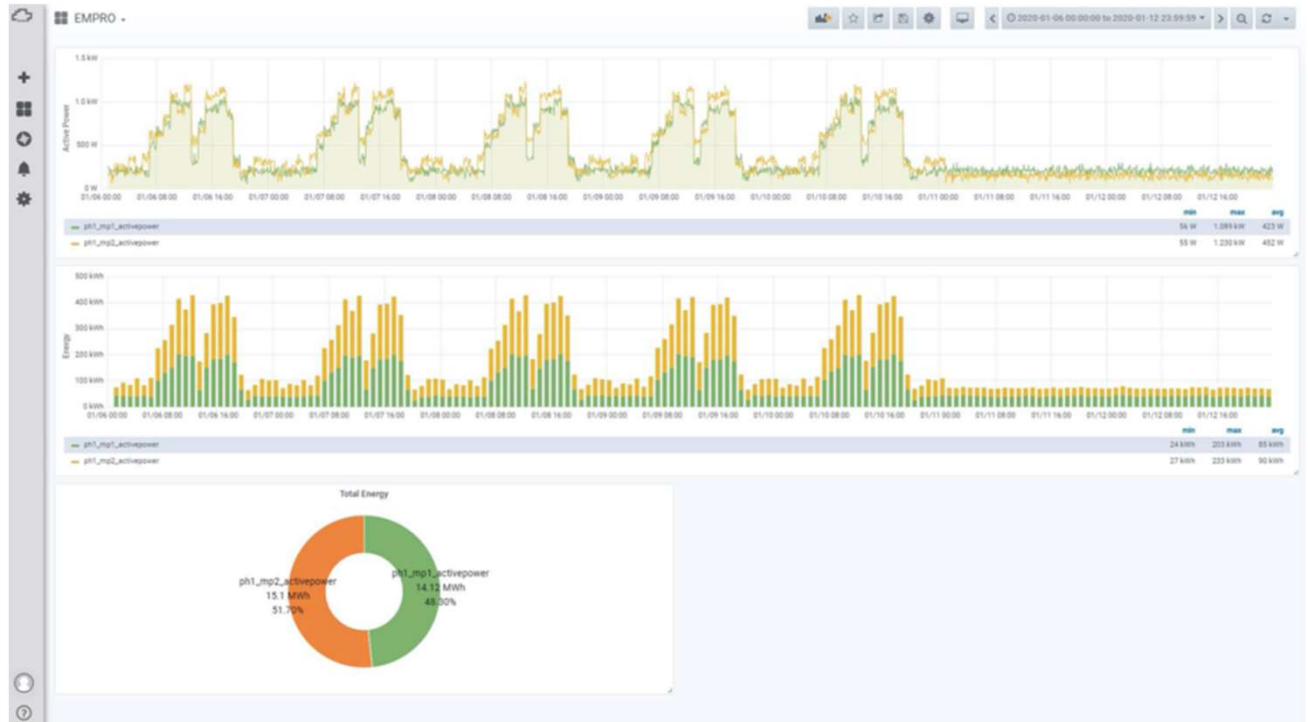
TSD Analytics – Single Stats Verification

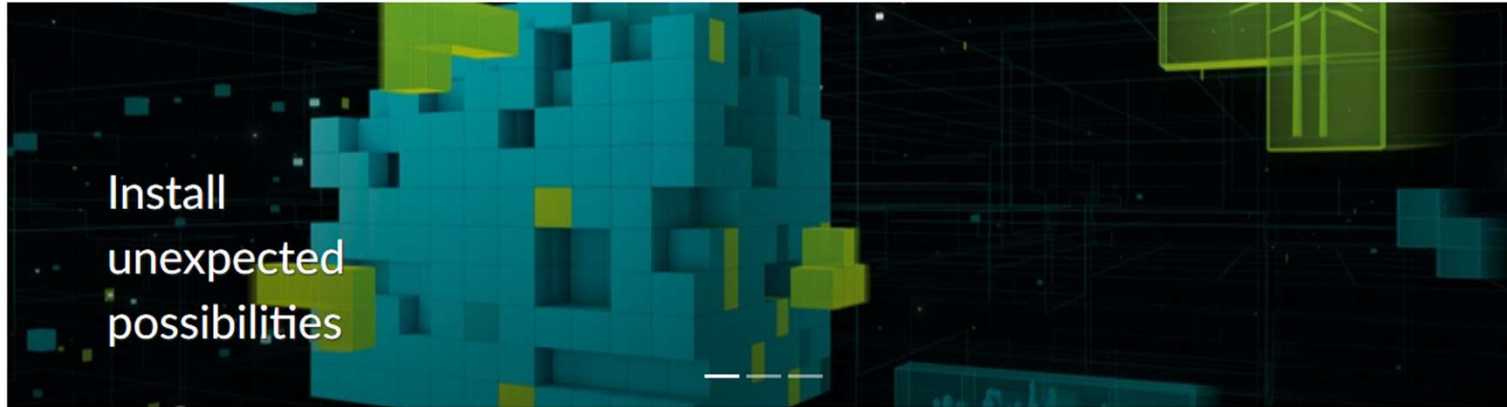
- Verify that the panel changes from OFF and Grey to ON and Green whenever the digital input tied to xEnable is toggled



Example

TSD Time Series Data





Filter

Reset all

Promoted Best Rated Top Downloads Most Recent All

Hardware

- AXC F 2152
- AXC F 1152
- AXC F 3152
- RFC 40725



easymon AXC F 2152

in-tech GmbH

Remote Monitoring of PLCnext controllers - It's that easy! With easymon you can easily view any data values from your controller live & remotely and monitor thresholds. Temperature too high, quantit...

Get it

NEW | Function Extension

Support

Free

PLCnext Store

New Apps

PLCnext Store

0€

Type ▾

- All
- Function Extension
- Runtime
- Library
- Solution App

Rating ▸



balenaEngine-Docker ForIOT-ARM

Phoenix Contact Deutschland GmbH

NEW | Function Extension

BalenaEngine is an OCI (including Docker) compatible container runtime for embedded systems and is based on the Moby project. Known issues: Will be found in our GitHub Project. Support: You can get ...

Free

Get it



straton Runtime for AXC F 2152

Straton Automation

NEW | Runtime

The straton Runtime is a softPLC engine allowing to develop IEC61131-3 applications for the PLCnext Controller AXC F 2152. It supports many protocols: IEC61850, IEC60870, OPC UA, Modbus... The install...

Free

Get it



DataMux

Phoenix Contact SAS

NEW | Library

This library handles communication between 2 PLCs. It permits to exchange a complete data structure, no matter the size, by the use of a multiplexed communication using the PN I/Os.

Free

Get it



Reisenbauer Solutions Runtime

Reisenbauer Solutions GmbH

NEW | Runtime

Reisenbauer Solutions stands for easy and rapid automation. The Runtime process the Logic which is programmed with our Engineering-Software Assemble. Additionally you can monitor, receive alarms and r...

Free

Get it

Library

PLCnext Store



Alarms Lib

Phoenix Contact SAS

Downloads: 26 | Library

Get it

This library handles alarms. It can use 100 different alarms, and archive them in an historic array of 1000 items. The text of each alarm has to be set by programming. The function bloc archives the a...

Free



AsynCom

Phoenix Contact GmbH & Co. KG

Downloads: 145 | Library

Get it

The function blocks of the AsynCom library are working as an interface between function blocks which are intended to communicate acyclically and bus system dependent firmware function blocks (PCP_CONN...

Free



AXL_ComSerial

Phoenix Contact GmbH & Co. KG

Downloads: 166 | Library

Get it

The AXL_RSUNI_PD block provides the user with a convenient option for configuring a serial connection when using the AXL F RS UNI 1H module.

Free



AnalogTechnology

Phoenix Contact GmbH & Co. KG

Downloads: 665 | Library

Get it

The AnalogTechnology library offers function blocks for acquisition and evaluation of analog signals.

Free



AXL_Analog

Phoenix Contact GmbH & Co. KG

NEW | Library

Get it

Function blocks for acquisition and evaluation of analog signals for the Axioline system.

Free



AXL_PDI

Phoenix Contact GmbH & Co. KG

Downloads: 85 | Library

Get it

Function blocks for asynchronous communication with Axioline modules.

Free

Solution App PLCnext Store



Proficloud Writer

Phoenix Contact GmbH & Co. KG

Get it

NEW | Solution App

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 CONT...

Free



Pump Station Control

Phoenix Contact GmbH & Co. KG

Get it

NEW | Solution App

Save time and money by continuous monitoring and controlling of your pumping stations. Easily transform your controller into a pumping station without any engineering or programming effort! Pump Sta...

Free



SBT_Gateway

Phoenix Contact SAS

Get it

NEW | Solution App

This application is designed to control up to 16 InLine or AxioLine Safety Bridge devices. Both can be mixed, using the appropriate bus coupler. ----- In the technical details, y...

Free



seepex MTP

Phoenix Contact GmbH & Co. KG

Get it

NEW | Solution App

MTP interface for Seepex pump A Seepex pump can be driven using two MTP compatible services: - "Portioning": You can pump a specified amount of fluid for batch operations. - "Dosing": You can dose ...

Free



Starter Kit Demo

Phoenix Contact GmbH & Co. KG

Get it

NEW | Solution App

Use this solution app to test the AXC F 2152 Starter Kit. It is possible to test the digital inputs and outputs and to display and scale the analog input. A visualization is included. The app was deve...

Free



Tank and Well Control

Phoenix Contact GmbH & Co. KG

Get it

NEW | Solution App

Simplify and ensure your reliable drinking-water supply. Easily control your tank and wells without any engineering or programming effort! The Tank and Well Control from PHOENIX CONTACT takes on all...

Free

Function extensions PLCnext Store



Alibaba Cloud Connector

Get it

Phoenix Contact GmbH & Co. KG

NEW | Function Extension

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...

Free



balenaEngine-DockerForIoT-ARM

Get it

Phoenix Contact Deutschland GmbH

NEW | Function Extension

BalenaEngine is an OCI (including Docker) compatible container runtime for embedded systems and is based on the Moby project. Known issues: Will be found in our GitHub Project. Support: You can get ...

Free



balenaEngine-DockerForIoT-x86

Get it

Phoenix Contact Deutschland GmbH

NEW | Function Extension

BalenaEngine is an OCI (including Docker) compatible container runtime for embedded systems and is based on the Moby project. Known issues: Will be found in our GitHub Project. Support: You can get ...

Free



CDPIO for PLCnext

Get it

CDP Technologies AS

NEW | Function Extension

CDP Studio is a comprehensive software development tool to build industrial control, automation and edge systems. The CDPIO app enables CDP Studio applications to use the analog and digital I/O modu...

Free



connect-Gateway HTTP Trial

Get it

verlinked GmbH

NEW | Function Extension

An HTTP client and server for your PLCnext. Collect data from variables of your PLCnext project and send them via HTTP to any Web server. Or provide a RESTful Web interface to the realtime data of you...

Free



connect-Gateway MQTT Trial

Get it

verlinked GmbH

NEW | Function Extension

An MQTT client and Broker for your PLCnext. Collect data from variables of your PLCnext project and send them via MQTT to any MQTT Broker. Or provide a MQTT Broker with realtime data of your PLCnext p...

Free


Browser address bar: <https://www.plcnext-community.net/en/>

Browser tabs: PHOENIX CONTACT..., PHOENIX CONTACT..., Braskem Idesa, News Cover | Just S..., XCC Community Ho..., Estafeta | Buscar un..., Windows 10 IoT Up..., Product Announce..., Approvals PXC, Otros favoritos

Navigation bar: PHOENIX CONTACT | NEWS | BUSINESS LOUNGE ▾ | MAKERS BLOG | KNOWLEDGE BASE ▾ | FORUM | Search ... | LOG IN

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Industry trends and applications



Read about real applications or find out more about new trends in the industry.

[BUSINESS LOUNGE](#)


Stories from users for users



Get inspired or write about your own user story with PLCnext Technology.

[MAKERS BLOG](#)

What's new?



Find out what's new, where you can meet us next and what we have been up to first.

[NEWS](#)

PLCnext Community

MQTT examples

PLCnext Store > IloT Library



IloT_Library

Phoenix Contact GmbH & Co. KG



Download

NEW | Library

This software library contains libraries and function blocks for "IIoT communication". With this library, PLCnext controllers can establish direct communication with cloud service providers. (Azure, A...

Free

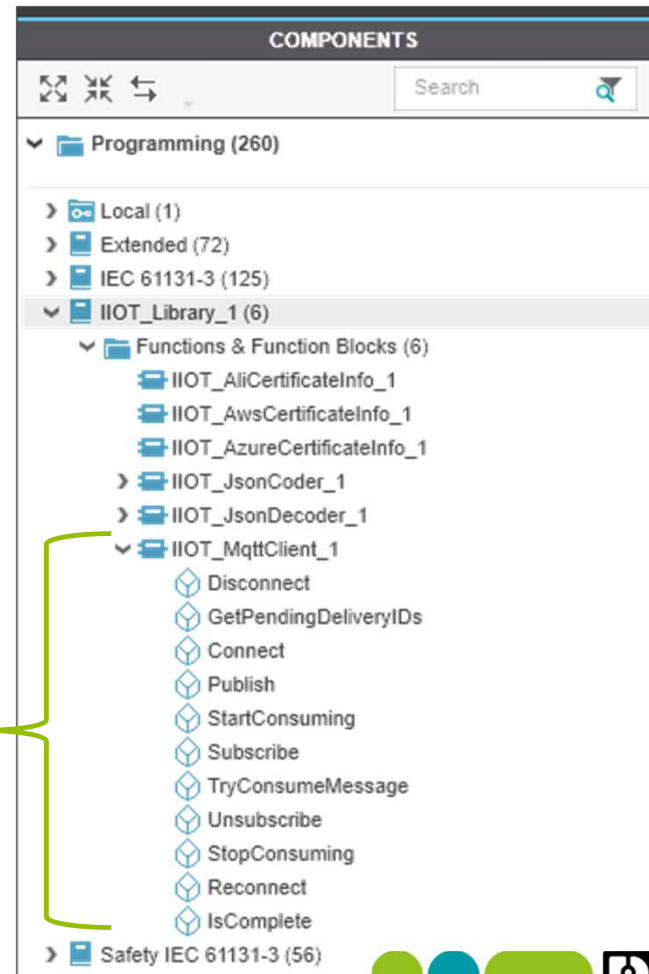


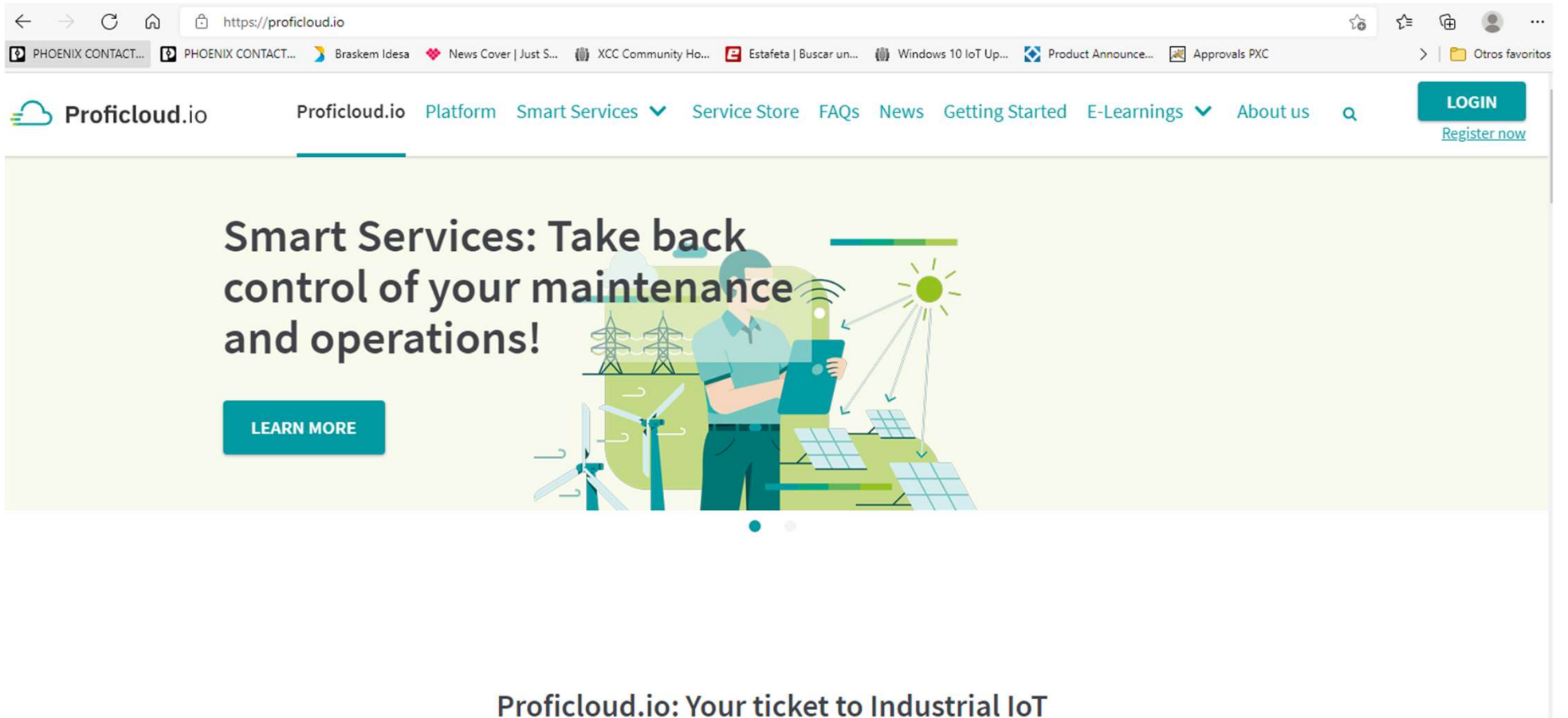
<https://www.plcnextstore.com/#/878>

MQTT examples

IEC61131 MQTT library

MQTT function block
with different methods





Proficloud.io: Your ticket to Industrial IoT

PROFICLOUD.IO

- What should I know? WrapUp - Smart Services on Proficloud.io
- Use cases for our Smart Services
- How to book a Smart Service
- Closing

Get to know Proficloud.io

Every Smart Service starts with a Smart Device



Smart Networking

- Smart Devices are ready for sending data to Proficloud.io – safely and easily.
- Smart Services from Phoenix Contact are simple and standardized Software-as-a-Service solutions.

Smart Management

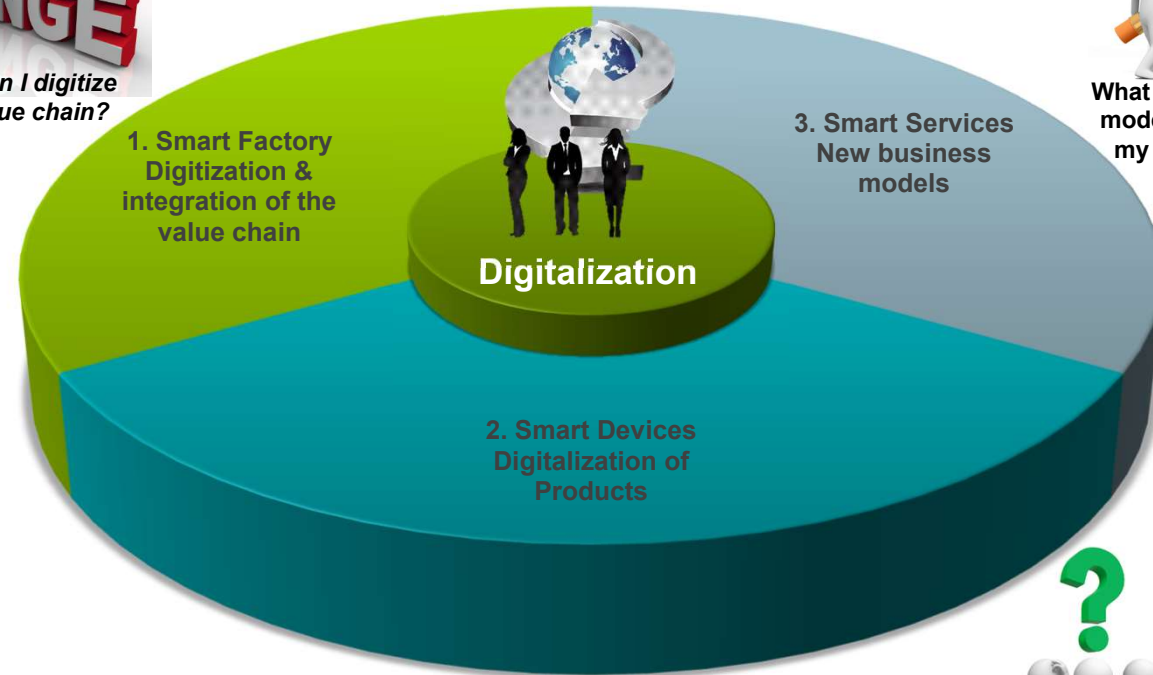
The Smart Service portfolio on Proficloud.io comprises for example

- Secure device management
- Real-time measurement
- Cloud-based analysis
- State of health
- Predictive maintenance
- Energy management

**Digitalization
affects the entire
economy:**

**Every company
should ask itself
3 questions**

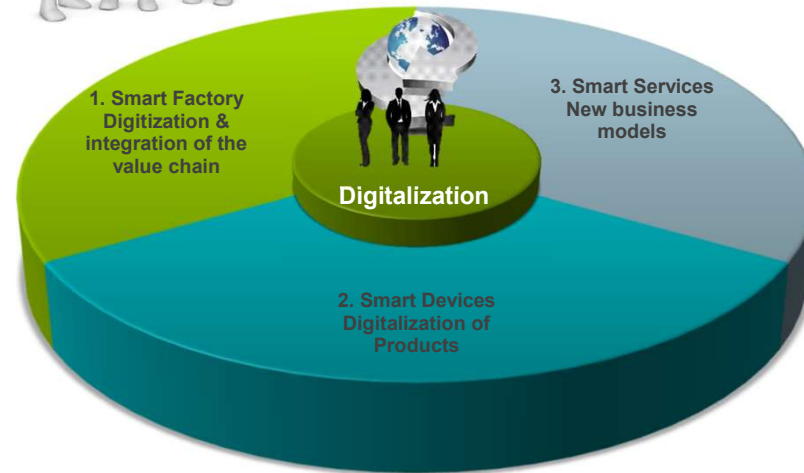
Internet of Things and Services



Digitalization affects the entire economy:

Every company should ask itself 3 questions

Internet of Things and Services



Device Management Service	Time Series Data Service	InsightsAnalytics Service
Free of Charge	Starts at \$100	Starts at \$100
<ul style="list-style-type: none">✓ Free of Charge✓ Scalable and secure cloud-based✓ Capable of storing and processing large volumes of data✓ State-of-the-art security features	<ul style="list-style-type: none">✓ 24/7/365 availability✓ Real-time data processing and analysis✓ High availability and fault tolerance	<ul style="list-style-type: none">✓ Available for on-premise and cloud-based✓ Comprehensive analytics of the data✓ Time-series analysis of the data✓ High-level dashboards



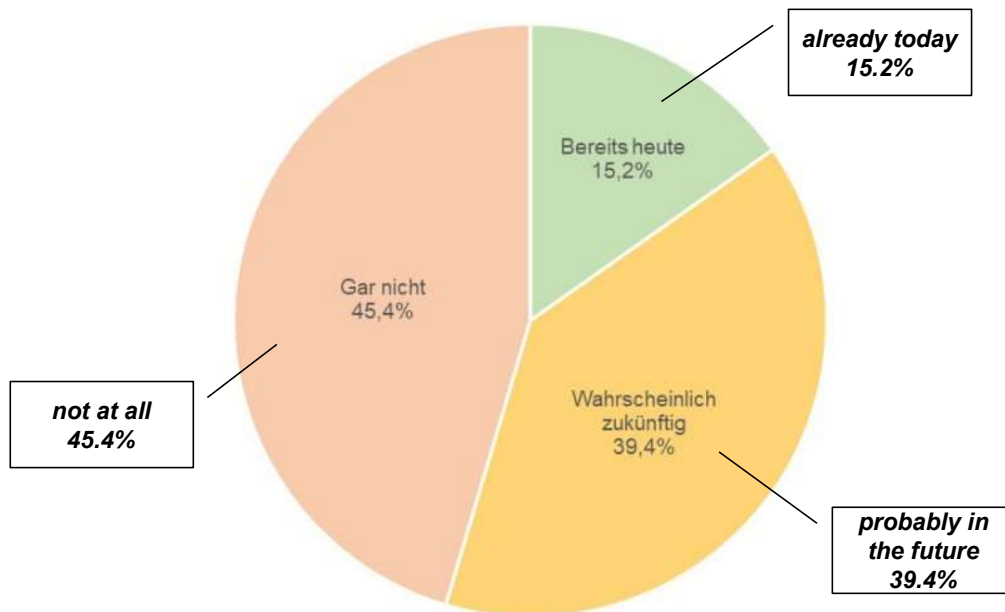
**Digitalization
affects the entire
economy:**

**Machine Builders
in Germany**

Internet of Things and Services

MICHAELA
ROTHHOFT
Marktstudie
Industrielle
Kommunikation

Inwieweit sind Ihre Maschinen/Anlagen an eine Cloud
angebunden?



To what extent are your machines / systems connected to a cloud?

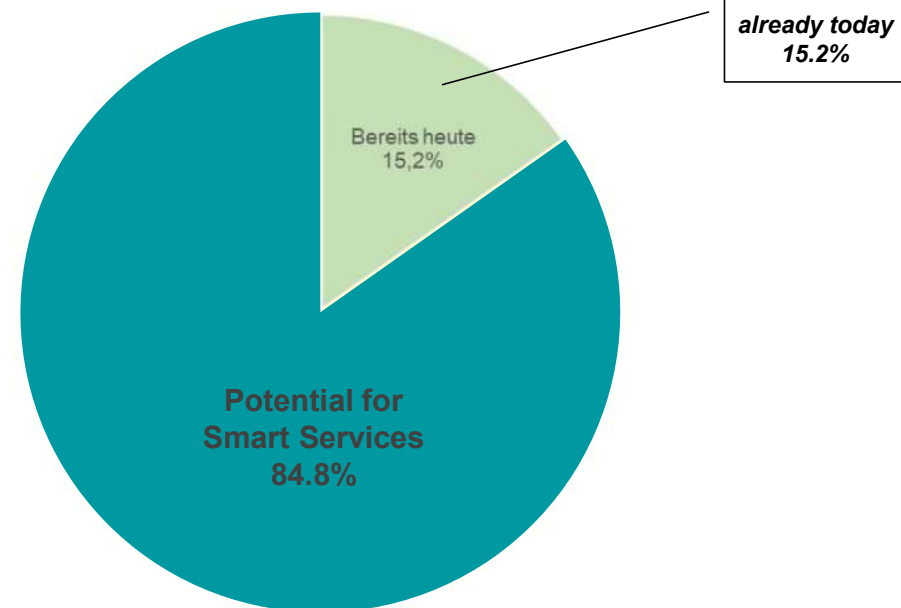
**Digitalization
affects the entire
economy:**

**Machine Builders
in Germany**

Internet of Things and Services

MICHAELA
ROTHHOFT
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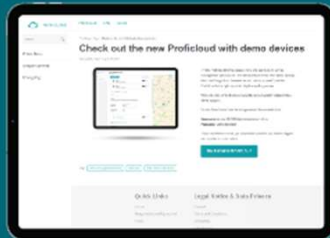
**Digitalization
affects the entire
economy:**

Think about

Internet of Things and Services

- **Cloud Technology:** Hardware and software resources and services are made available over the Internet.
- **Digitization is more than the application of technologies:** ... business models, cultures, people, ...
- **Internet of Things:** Products that are made smarter through sensors and network technology. They lead to the Internet of Things.
- **Automation of IT:** Intelligent systems that can perform tasks - also based on artificial intelligence (AI).
- **Robotics:** More powerful robots that drive automation thanks to AI and improved dexterity.
- **Mobile Internet:** Expansion of structures in order to increase networking and reduce prices.

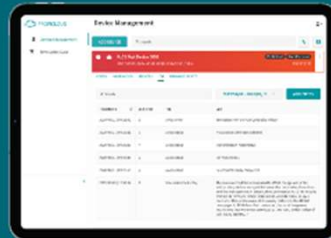
The introduction to Proficloud.io



Proficloud.io stands for a simple, usable possibility to realise industrial applications in the cloud. For us and our customers, data security and high usability are in the focus.

[ACCESS FREE COURSES](#)

Core functionality within Proficloud.io



The Device Management Service is one of the linchpins of Proficloud.io – so of course you will find some lessons for this service as well.

[ACCESS FREE COURSES](#)

The Time Series Data Service



Visualising incoming data points, setting up customised dashboards and setting up alerts – you will learn all this in the Time Series Data Service lessons.

[ACCESS FREE COURSES](#)

Agenda

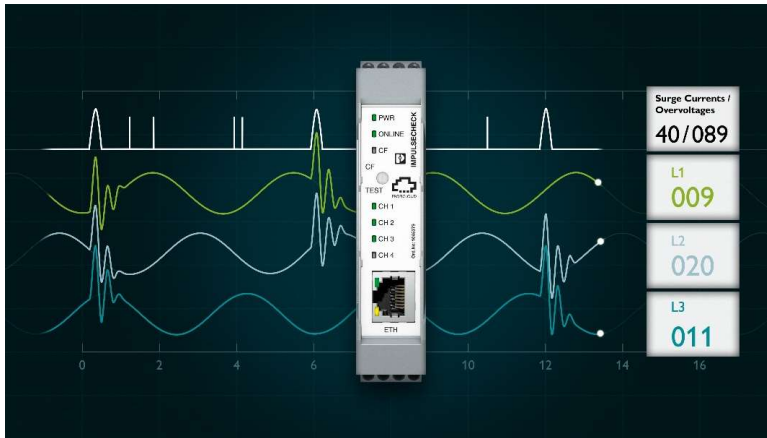
- Welcome and Introduction
- What should I know? WrapUp - Smart Services on Proficloud.io
- **Use cases for our Smart Services**
- How to book a Smart Service
- Closing

E-PMM 2021 | Get to know Proficloud.io

Use cases for our Smart Services



Impulse Check



Digital Solutions

EMpro



Digital Solutions EMpro



Digital Solutions

EMpro

- Equipos EMPRO



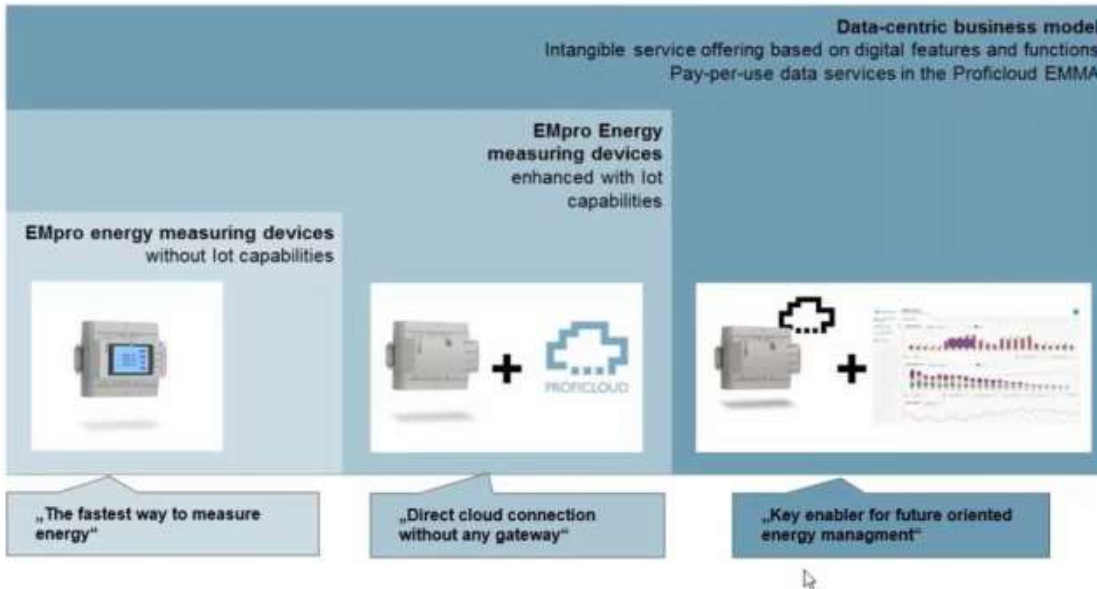
Digital Solutions

EMpro



EMpro PROFICLOUD

The EMpro Evolution



EMMA Energy Monitoring Management Analytics



The cloud solution for industrial purposes: Proficloud.io

Use the many advantages of the Proficloud, whether for your automation solutions or to monitor your machinery. Get an individual notification or simply check the health status of your Phoenix Contact hardware.

SIGN UP

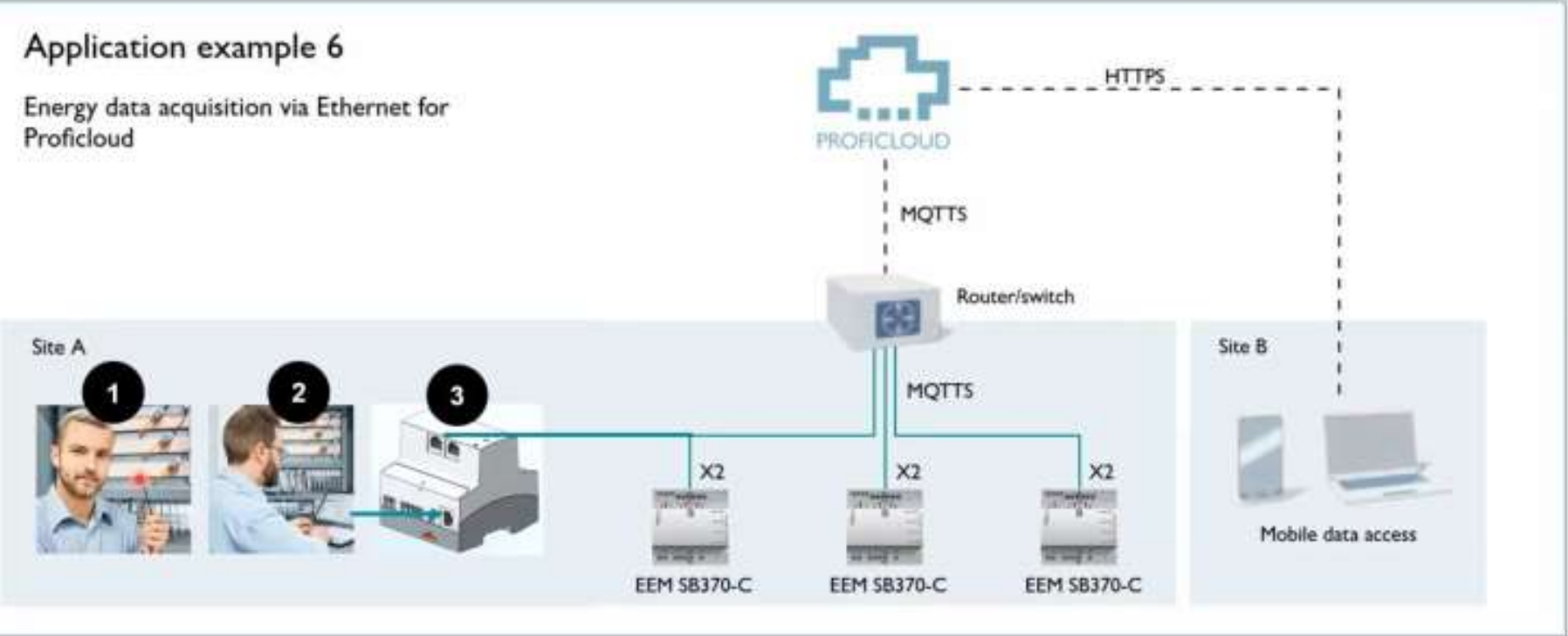
Welcome back!

LOGIN

Empro in PROFICLOUD

Application example 6

Energy data acquisition via Ethernet for Proficloud



EEM SB371-C

The screenshot displays the Phoenix Contact EEM SB371-C web interface. The browser address bar shows the URL 'EEM SB371-C' and the IP address '192.168.1.2/remote'. The page title is 'EEM-SB371-C'. The device label is 'MY-DEVICE-LABEL' and the metering point is 'MY-METERING-POINT'. The interface features a navigation menu on the left and a main content area with several data tables.

Instantaneous values

Phase conductor voltage	
U12	407.47 V
U23	405.67 V
U01	406.70 V
UavgLN	406.62 V

Phase voltage	
U1	235.81 V
U2	234.65 V
U3	233.77 V
UavgLN	234.76 V

Current	
I1	99.23 A
I2	100.74 A
I3	100.57 A
Iavg	2.12 A
Iavg	100.18 A

Frequency	
f	50.65 Hz

Active power	
P1	22.52 kW
P2	22.84 kW
P3	22.72 kW
ΣP	68.09 kW

Reactive power	
Q1	6.33 k var
Q2	6.08 k var
Q3	6.04 k var
ΣQ	18.46 k var

Apparent power	
S1	23.40 k VA
S2	23.63 k VA
S3	23.51 k VA
ΣS	70.54 k VA

Power factor	
PF1	0.96
PF2	0.96
PF3	0.96
PF	0.94

cos(φ)	
cos(φ1)	0.96
cos(φ2)	0.96
cos(φ3)	0.96

PROFICLOUD

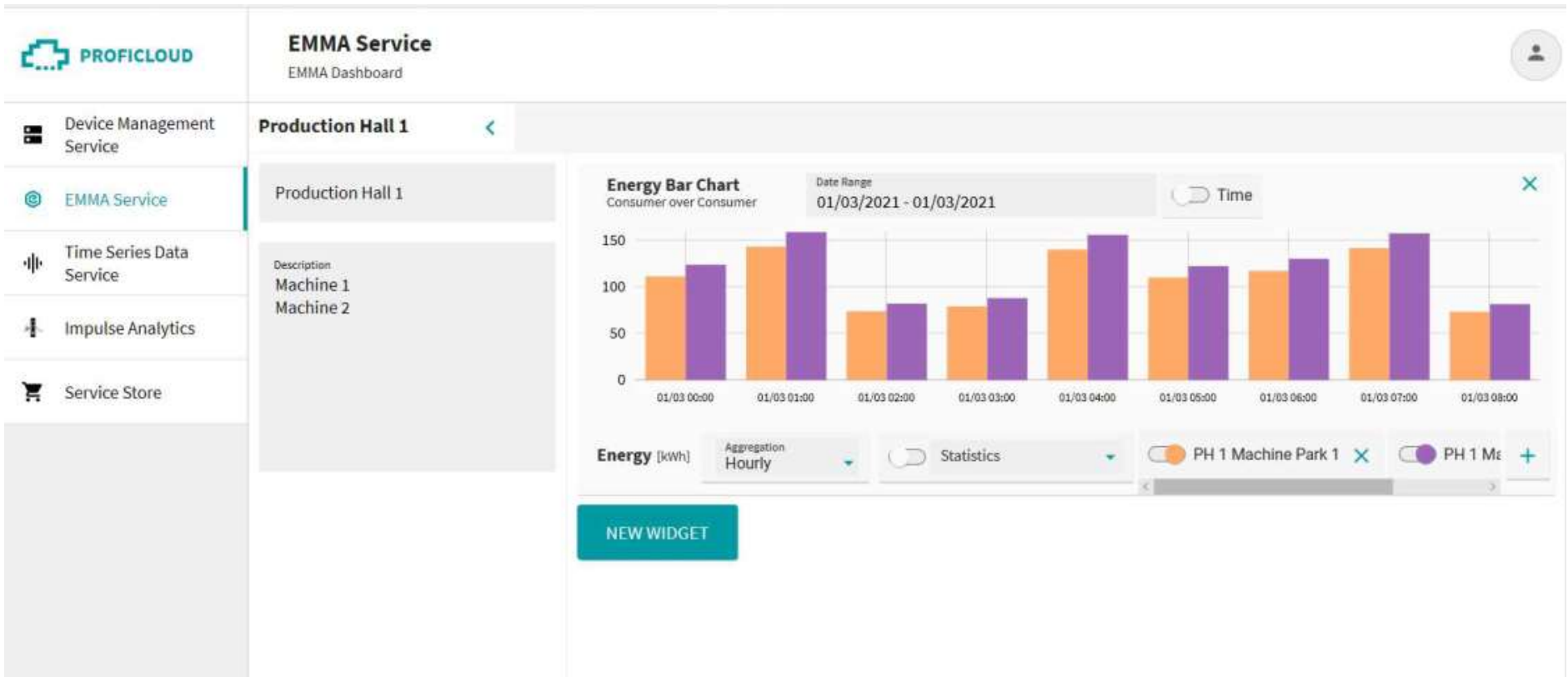
Device Management Service
Device Overview

ADD DEVICE STATUS

Online	PH 1 Machine Park 1 77c8f486-eded-4581-b928-9f76730b6526	EEM-SB370-C
Online	Device 3 2ae5e0d6-8bc7-4398-80be-f97bf1be0a27	EEM-SB370-C
Online	PH 1 Machine Park 2 690a6911-30f9-4def-98a0-d7b1a0e96f3b	EEM-SB370-C

irnberg, MARIENVORSTADT, GLEISSHAMMER, LUDWIGSFELD, ZERZABELSHOF, DUTZENDEICH, BEUTHENER STRASSE, SÜDÖSTLICHE AUSSENSTADT, Kettelersiedlung

EMMA Service



EMMA Service

The screenshot displays the EMMA Service dashboard interface. On the left is a navigation sidebar with the PROFICLOUD logo and menu items: Device Management Service, EMMA Service (highlighted), Time Series Data Service, Impulse Analytics, and Service Store. The main content area is titled 'EMMA Service' and 'EMMA Dashboard'. Below this, a breadcrumb path shows 'Production Hall 1'. A description box lists 'Machine 1' and 'Machine 2'. The central feature is a 'Power Line Chart' titled 'Consumer over Consumer' for the date range '01/03/2021 - 01/03/2021'. The chart shows active power in kW on the y-axis (0 to 0.2) against time on the x-axis (Mar 01, 03:00, 06:00, 09:00). It features two data series: 'PH 1 Machine Park 1' (orange) and 'PH 1 Machine Park 2' (purple), both showing periodic spikes. A 'NEW WIDGET' button is located below the chart.

Production Hall 1



Active power (kW) Statistics PH 1 Machine Park 1 PH 1 Machine Park 2

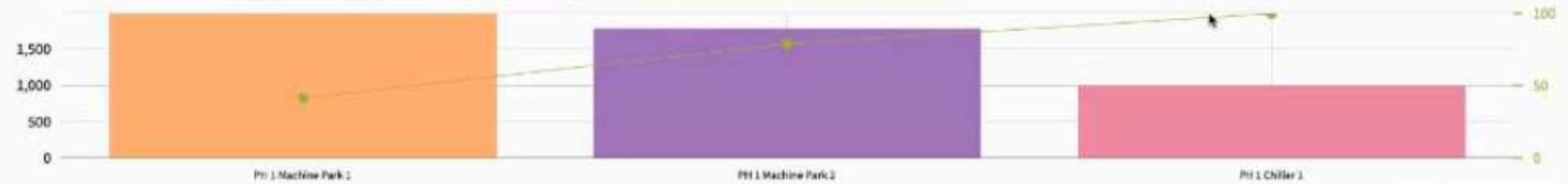
Consumer	PH 1 Machine Pa...	PH 1 Machine Pa...
min (kW)	0,00349 <small>01/03/2021, 10:47</small>	0,00316 <small>02/03/2021, 14:32</small>
all time max (kW)	0,22 <small>22/11/2020, 20:34</small>	0,22 <small>04/10/2021, 05:08</small>

Energy Pareto Chart

Ranked by Consumer

Date Range
01/03/2021 - 01/03/2021

Time



Energy Daily (kWh) PH 1 Machine Park 1 PH 1 Machine Park 2 PH 1 Chiller 1

Cumulative Percentage [%]
100% = 4.762 kWh

NEW WIDGET

Get to know Proficloud.io

- Welcome and Introduction
- What should I know? WrapUp - Smart Services on Proficloud.io
- Use cases for our Smart Services
- **How to book a Smart Service**
- Closing

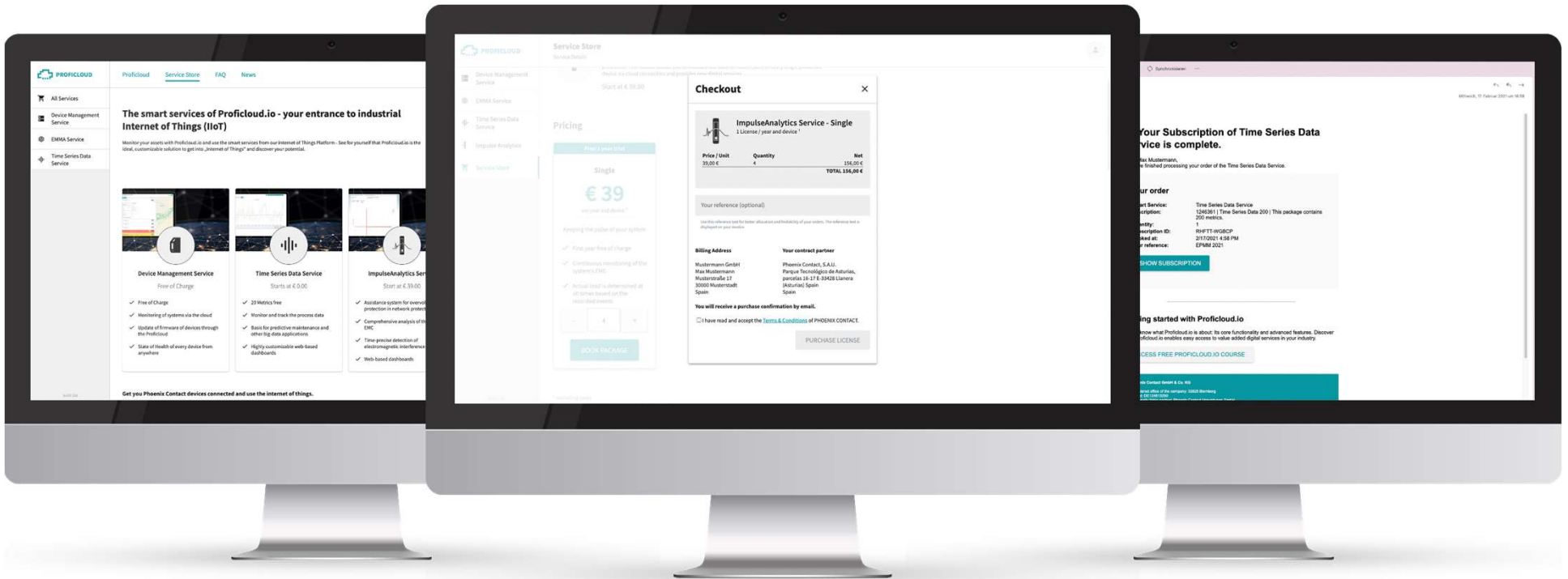
E-PMM 2021 | Get to know Proficloud.io

How to book a Smart Services?



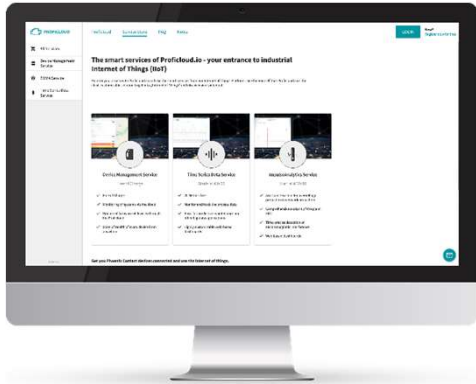
Get to know Proficloud.io

View into the Smart Service Store at Proficloud.io



Get to know Proficloud.io

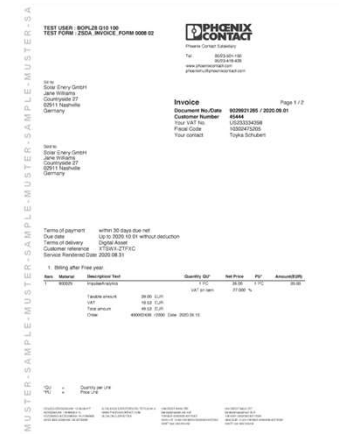
From booking to the invoice



Customer



PxC Smart Business



PxC Sales Subsidiary



Successful Pilot-Testing in Q4/2020 with 4 Countries

Get to know Proficloud.io

- Welcome and Introduction
- What should I know? WrapUp - Smart Services on Proficloud.io
- Use cases for our Smart Services
- How to book a Smart Service
- **Closing**

**Smart Services
affect the entire
company –
Phoenix Contact!**

Let's SumUp!

Workshop SB | Get to know Proficloud.io



- Welcome and Introduction
- What should I know? WrapUp - Smart Services on Proficloud.io
- Use cases for our Smart Services – Breakout Session
- How to book a Smart Service

Workshop IF-1 | Smart Service EMMA

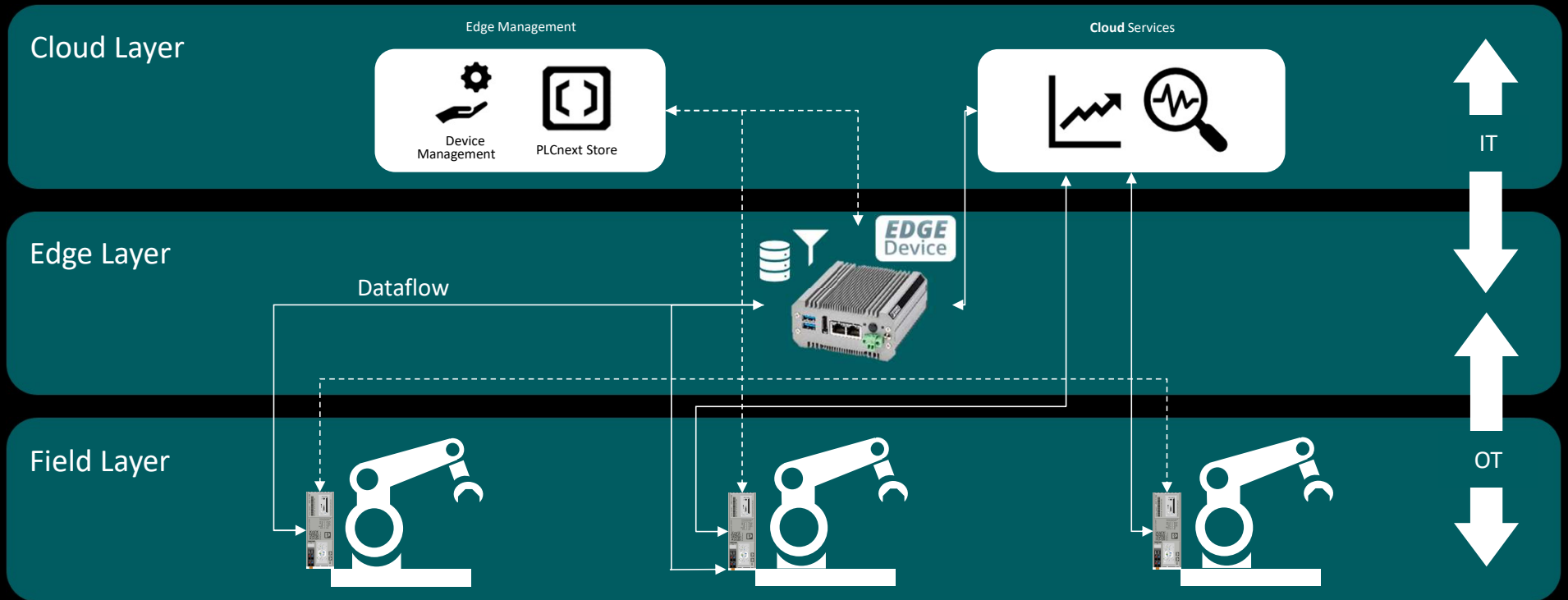


Workshop BDM-1 | Machine Building



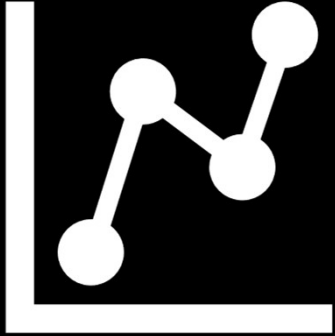
PLCnext Control

PLCnext Control for Edge Computing

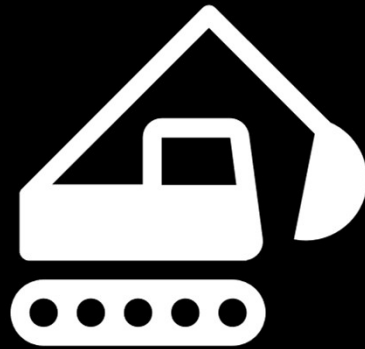


Application Example

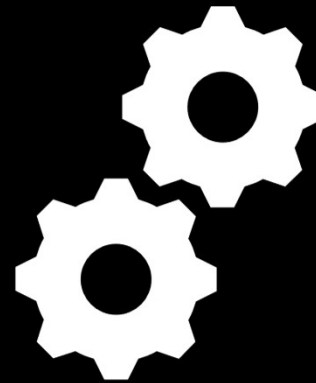
USE CASES



Downsampling data to
reduce network traffic.
Local processing of data
(mathematical functions)



Autonomous driving
or autonomous
transport systems

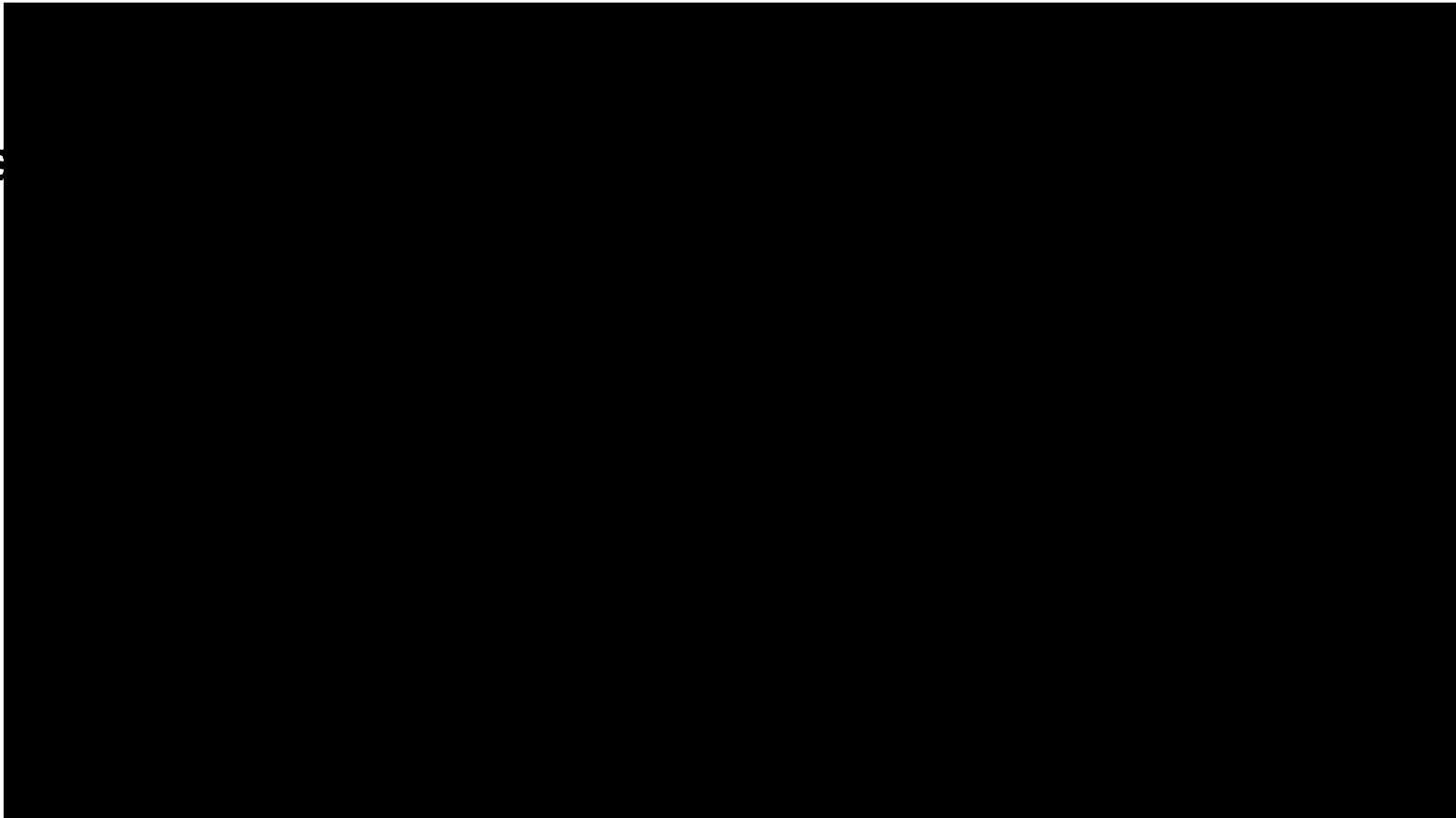
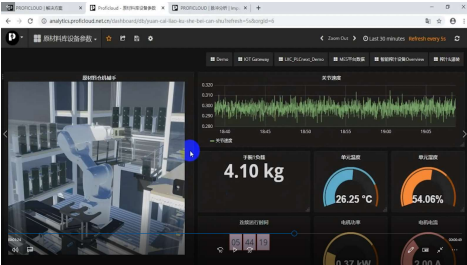


Predictive
maintenance of
machines



Quality assurance in
production

Smart Services



Video ALIBABA Cloud PXC China





Re-Lanzamiento Sistema Cloud Industrial: PROFICLOUD.IO

