Welcome

Arquitecura y posibilidades con la nube

PROFICLOUD 2.0

Antonio Gordillo IMA Enero 2021

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INSPIRING INNOVATIONS

Webinars

Agenda

- Beneficios de la tecnología CLOUD
- Proficloud 1.0
- PROFICLOUD 2.0
- Arquitecturas

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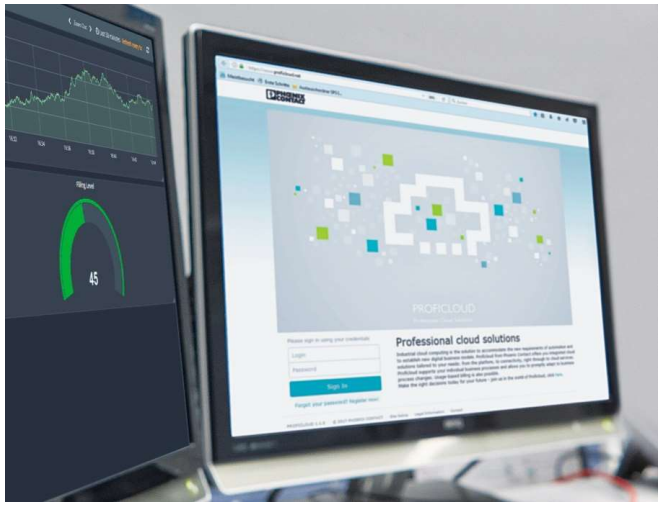
Webinar IMA Enero 2021

Arquitectura y posibilidades con la nube PROFICLOUD 2.0



Fecha	**13 Enero 2021**
Hora	9:00
Hora	
Duración	1 hora
Costo	gratuito

Lograr mayor conocimiento de PROFICLOUD y sus aplicaciones en nuevas arquitecturas industriales

Durante esta sesión tendremos mayor profundidad de ejemplos de como instalar, aplicar y desarrollar la utilización de la nube PROFICLOUD con los retos de comunicación ya desarrollados a productos Phoenix Contact y a nuevos equipos que formarán parte de la digitalización prevista para ayudarle en la necesidad de almacenamiento, análisis y cálculos diversos en la nube con enfoque de eficiencia para sus aplicaciones en su planta industrial y/o su solución.

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Cloud

Beneficios

- **Remote access;** Using cloud services it is very simple to log into a remote machine
- **Dashboards;** when all the data is in a cloud service you can create a graphical interface that can be accessed globally
- **Users;** Since the data exists in the Cloud granting access to new users is not restricted to limits on the control hardware in the field
- **Historical Data;** The cloud can store data for several years to keep in compliance with any regulations
- **Services;** Many clouds offer different services from predictive analytics to machine learning there are many functions that might help
- **Simplicity**; Allows companies to focus on their core business (hardware changes

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Cloud

Remote Access

- Outbound Connection ensure that port forwarding is not used.
- Cloud connection used as a gateway to pick the machine that needs service
- Uses strong AES encryption
- Limited to no IT knowledge required by end user

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Cloud

Dashboards

- Data is pushed from the end device into a server sitting on the Cloud.
- Anyone with the right credentials can log into the cloud service and view the data
- 1 way connection can be enabled for security

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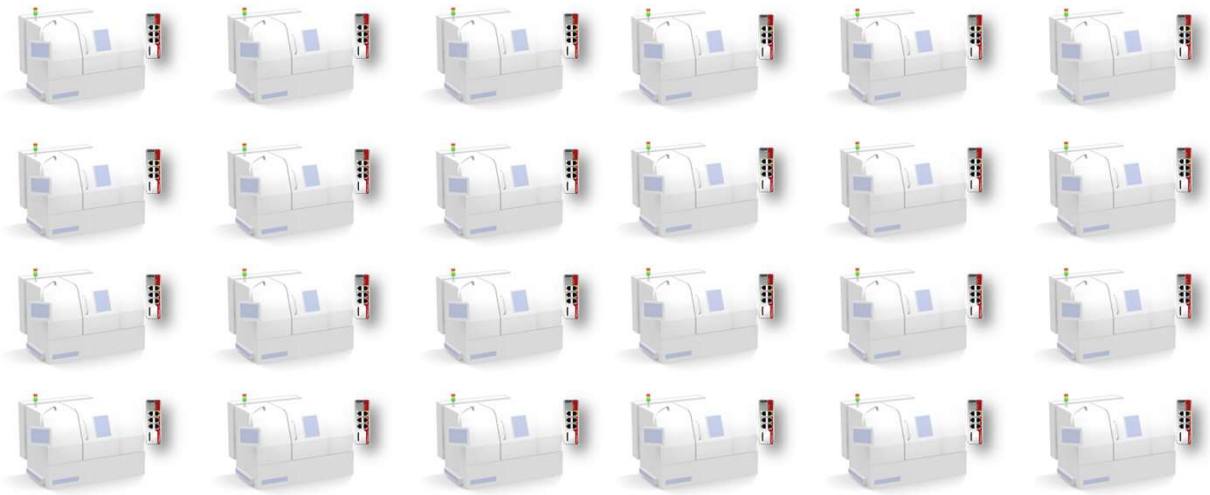
Cloud

User Management



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Cloud

Historical Data

Think of the cloud as being a server. You can quickly get more storange if needed and keep your files for a long time. No need to worry about regulations the data is managed off site and backed up in multiple locations.

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Cloud

Services

More services can be added at the click of a button. Many cloud providers are looking at adding features such as

- Weather tracking
- Predictive maintenance
- AI or Machine learning
- Data Analytics and optimization

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Cloud

Simplicity

The cloud can offer agile development. Rely on the experts to take care of your data and **save yourself from**:

- Staffing in house IT experts
- Having hardware that needs upgrades every 3-5 years
- Updating and patching the software regularly; Iaas, Saas, Paas

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Cloud

Parts of Services

What are the differences between IaaS, PaaS and SaaS?

IaaS (Infrastructure as a Service) offers the highest level of flexibility in hosting custom applications and a common data center for data storage.

Platform as a Service (PaaS) is typically built on an IaaS platform to reduce the need for system administration. It allows you to focus on application software development rather than infrastructure management.

SaaS (Software as a Service) provides out-of-the-box solutions that meet business needs (e.g. website or email). Most modern SaaS platforms are based on IaaS or PaaS platforms.

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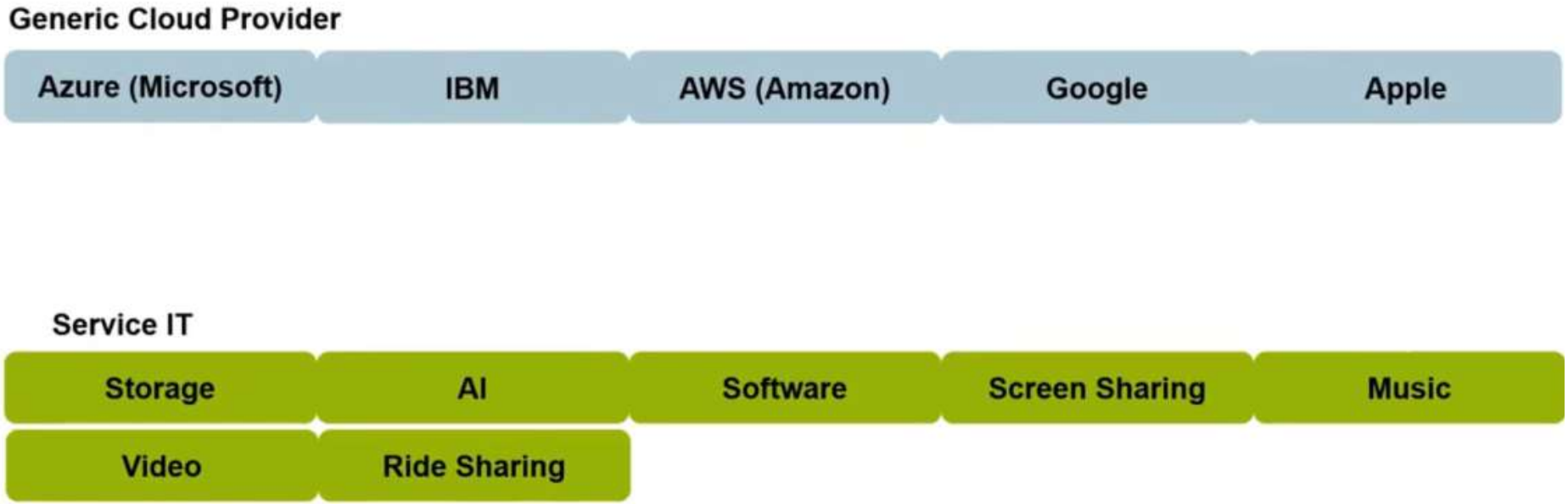
Cloud

Examples of everyday use



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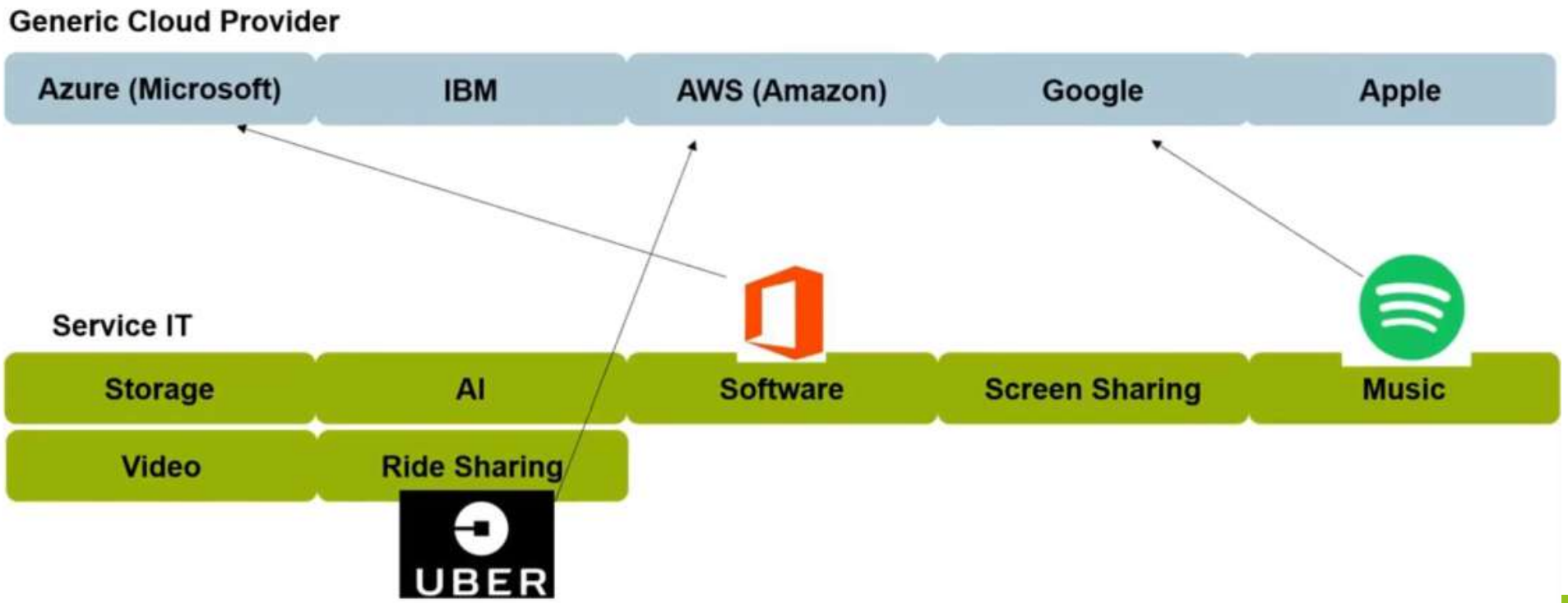
Cloud

Examples of everyday cloud functions



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Proficloud 1.0

- Complete offering for Industry 4.0
  - **Impulse Analytics**: Multi-site manager
  - **Community**: Blog/ news for the PLC Next, PC Worx Engineer and Proficloud Solution
  - **PLC Next Store**: Apps store for the PLC Next
  - **Community**: Blog/ news for the PLC Next, PC Worx Engineer and Proficloud Solution
  - **Profinet**: Communication of Profinet over Internet
  - **TSD Analytics**: DashBoard solution
  - **TSD Device Manager**: Connection and Data base solution.

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PROFICLOUD 2.0

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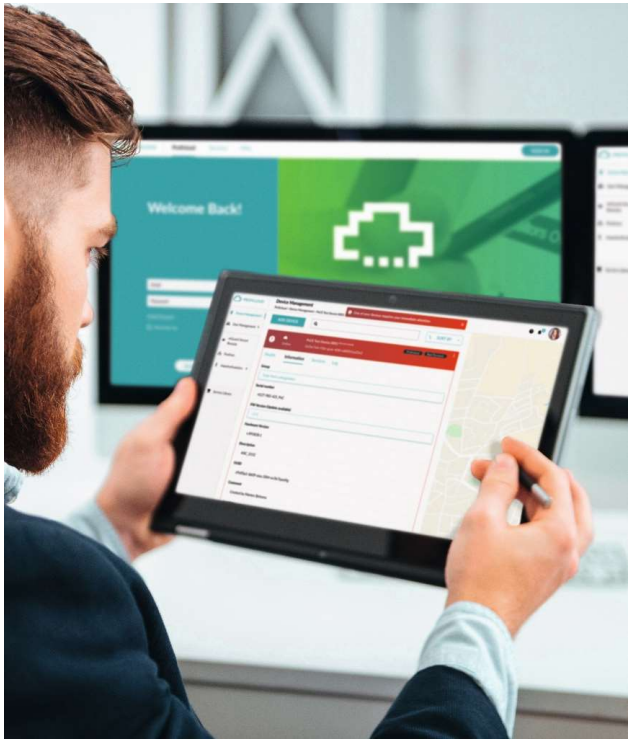
Smart Services@Phoenix Contact

Agenda



About Us

IoT-Plattform Proficloud

Smart Services for Smart Devices

Applications

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Corporate structure

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Group Functions

Core Business Areas

Device
Connectors

Industrial Components
and Electronics

Industry Management
and Automation

New Business Fields

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New Business Fields

Identify, develop and establish new future-oriented business fields

Incubator for new business models, promoting an innovation und start-up culture

Creating freedom for entrepreneurship and learning curves

Additive Manufacturing

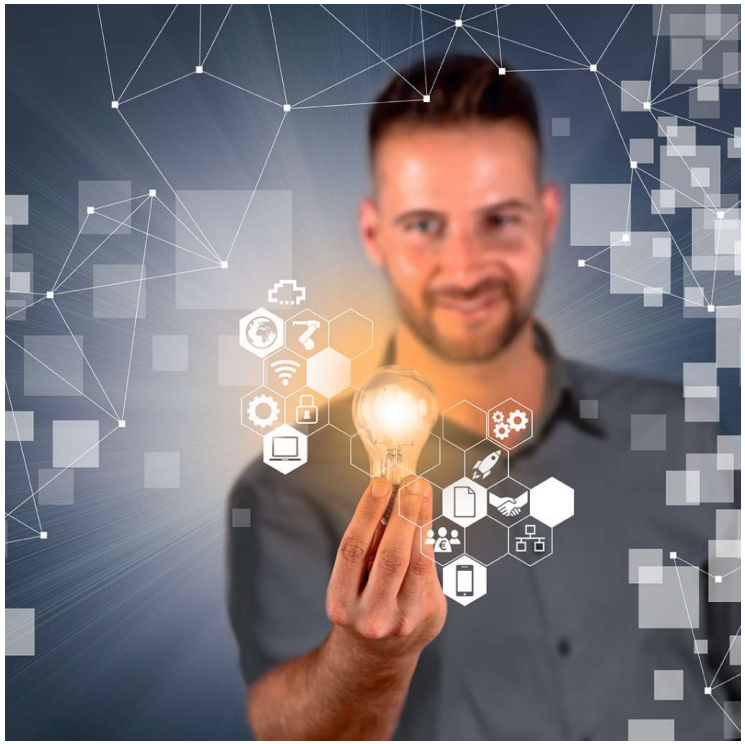
E-Mobility

Smart Services

Sensor applications

Corporate Venture Capital

Platform Business



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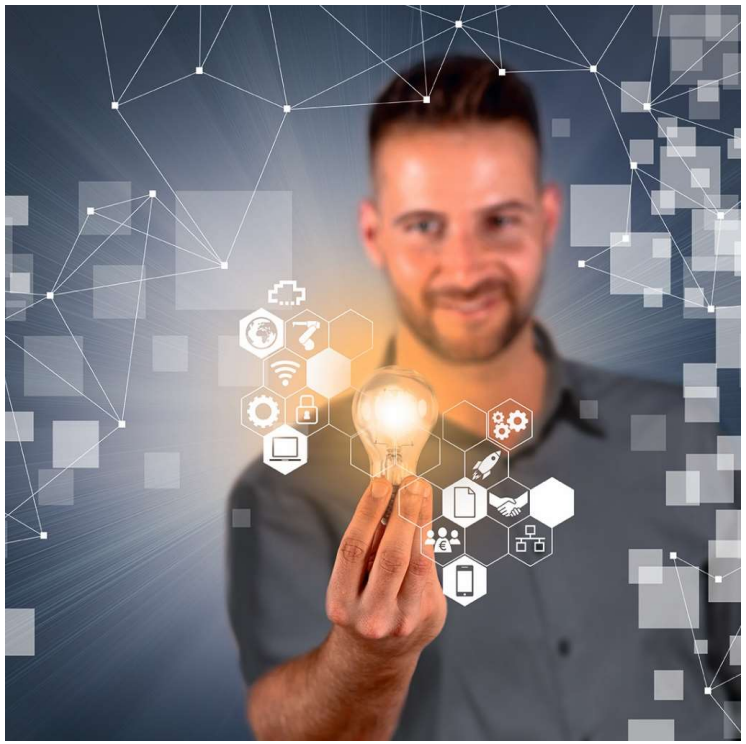
New Business Fields



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New Business Fields
PHOENIX CONTACT Smart Business

Center of expertise for smart service and data science

2020 PHOENIX CONTACT Smart Business GmbH was founded

Berlin, Germany
Bad Pyrmont, Germany

IoT-based cloud solutions

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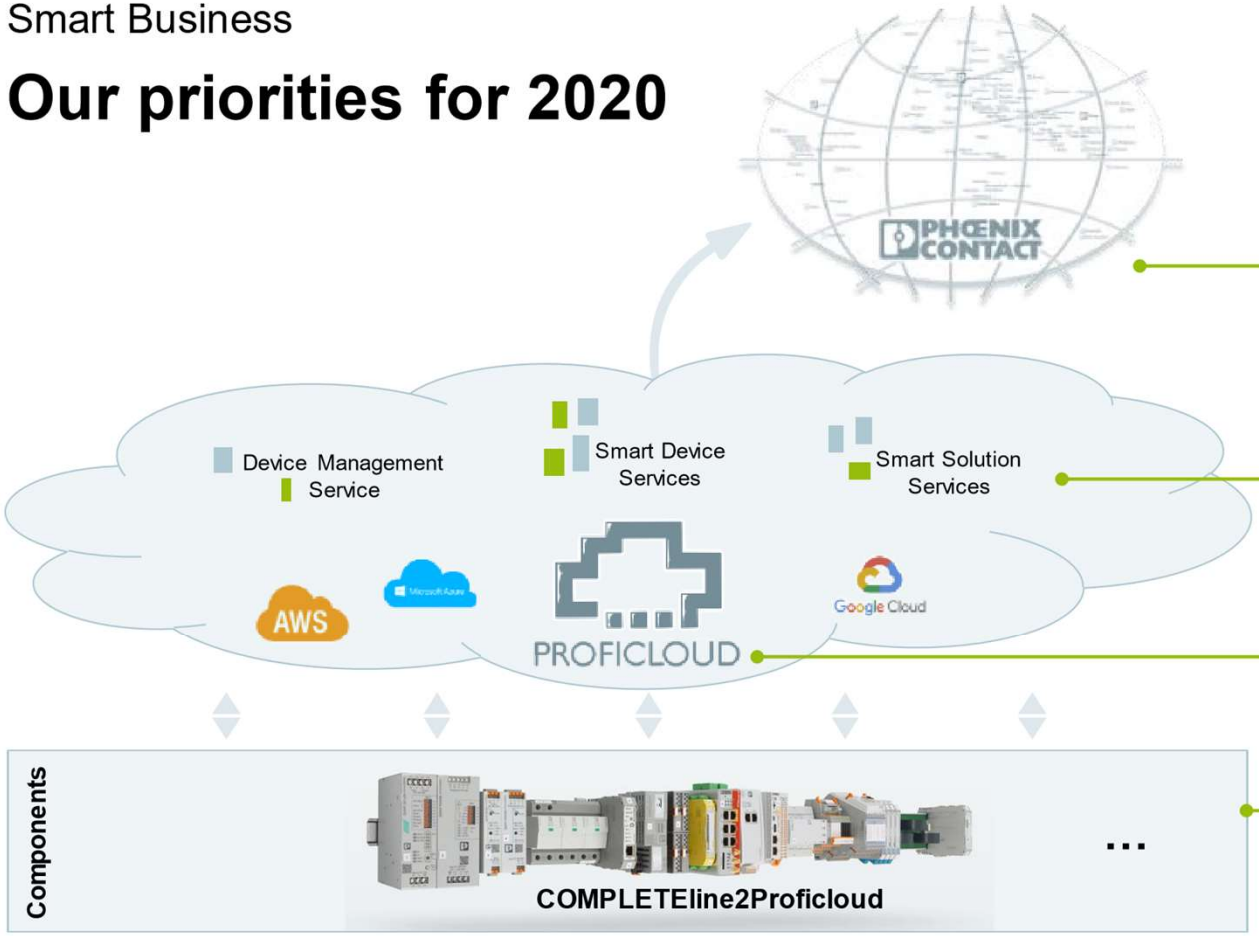
Smart Business

Our priorities for 2020

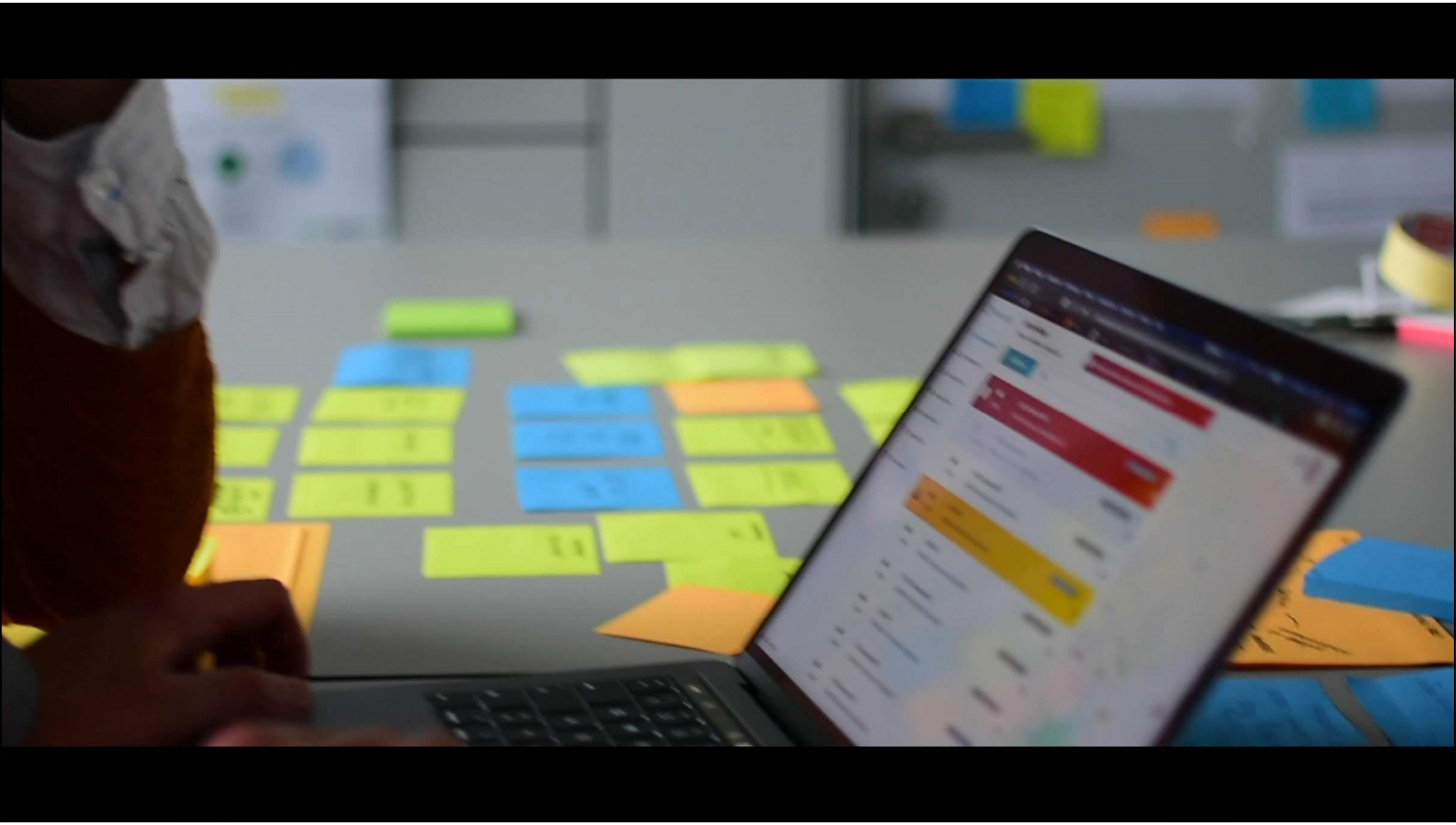


Sales and process
Installation of sales and administration processes for recurring revenues

Smart Services
Scalable smart services based on our component and industry know-how

PROFICLOUD
Update of PROFICLOUD to be the SaaS Platform of Phoenix Contact

Smart Device Connectivity
PROFICLOUD & Any Cloud connectivity for our smart devices



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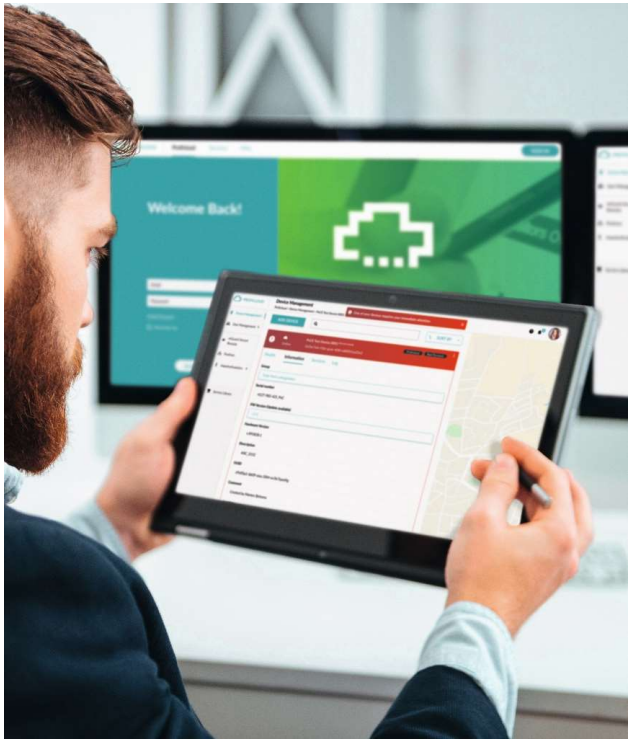
Agenda



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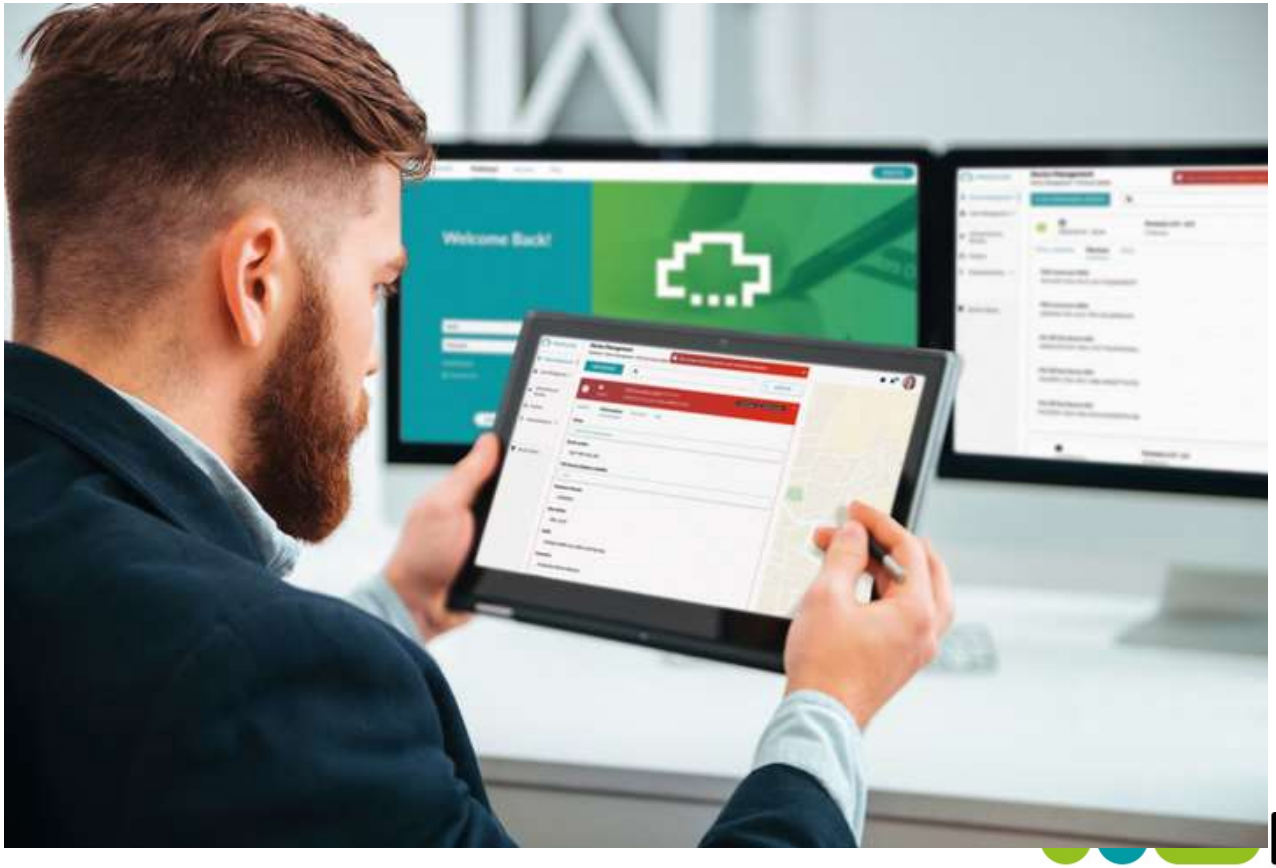
Proficloud.io enables state of the art Smart Services



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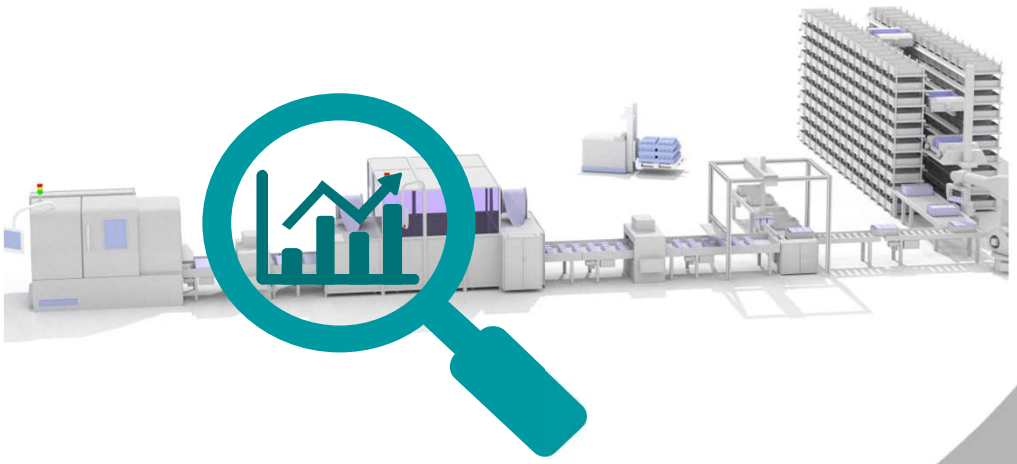
Every Smart Service starts with a Smart Device



Be prepared for future challenges

Smart services based on data

Cloud-based data access

Smart device to record and extract data intelligently

From Digital Twin to Smart Services

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Proficloud.io enables state of the art Smart Services

Every Smart Service starts with a Smart Device

Smart networking

- Smart services from Phoenix Contact are simple and standardized Software-as-a-Service solutions.
- Smart devices are ready for sending data to the cloud – safely and easily.

Smart management

The service portfolio on the IoT platform comprises for example

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

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Proficloud.io enables state of the art Smart Services

Proficloud.io Advantages of our IoT Platform

Secure

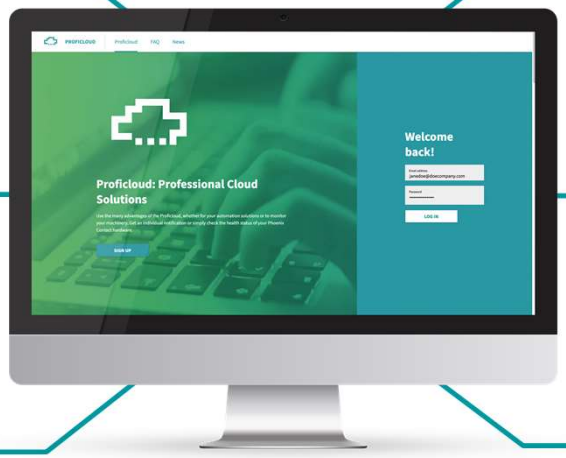
- From the sensor to the cloud
- Hosting (IaaS) at the market leader with server location in Frankfurt

Powerful

- Unlimited memory and computing power
- Access and user management
- Build-In Visualization/Dashboard

Extendable

- Connectivity to AWS, AZURE, Alibaba, ...
- REST API



Connective

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

Intuitive

- Easy user interface
- Single-Sign-On for all Services related to Software at PHEONIX CONTACT

Flexible

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

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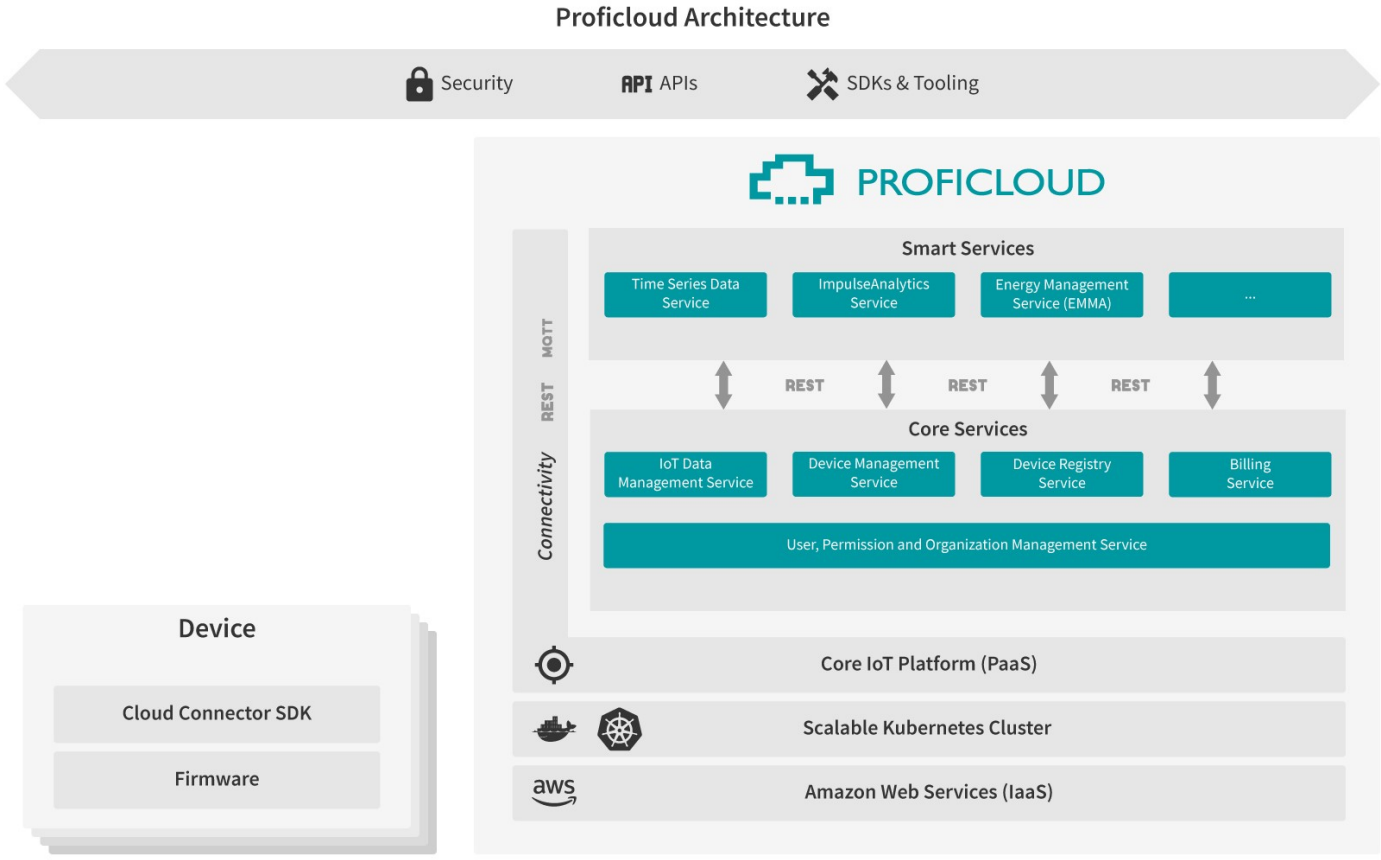
Proficloud.io enables state of the art Smart Services

Proficloud.io is based on a flexible microservice architecture



INSPIRING INNOVATIONS

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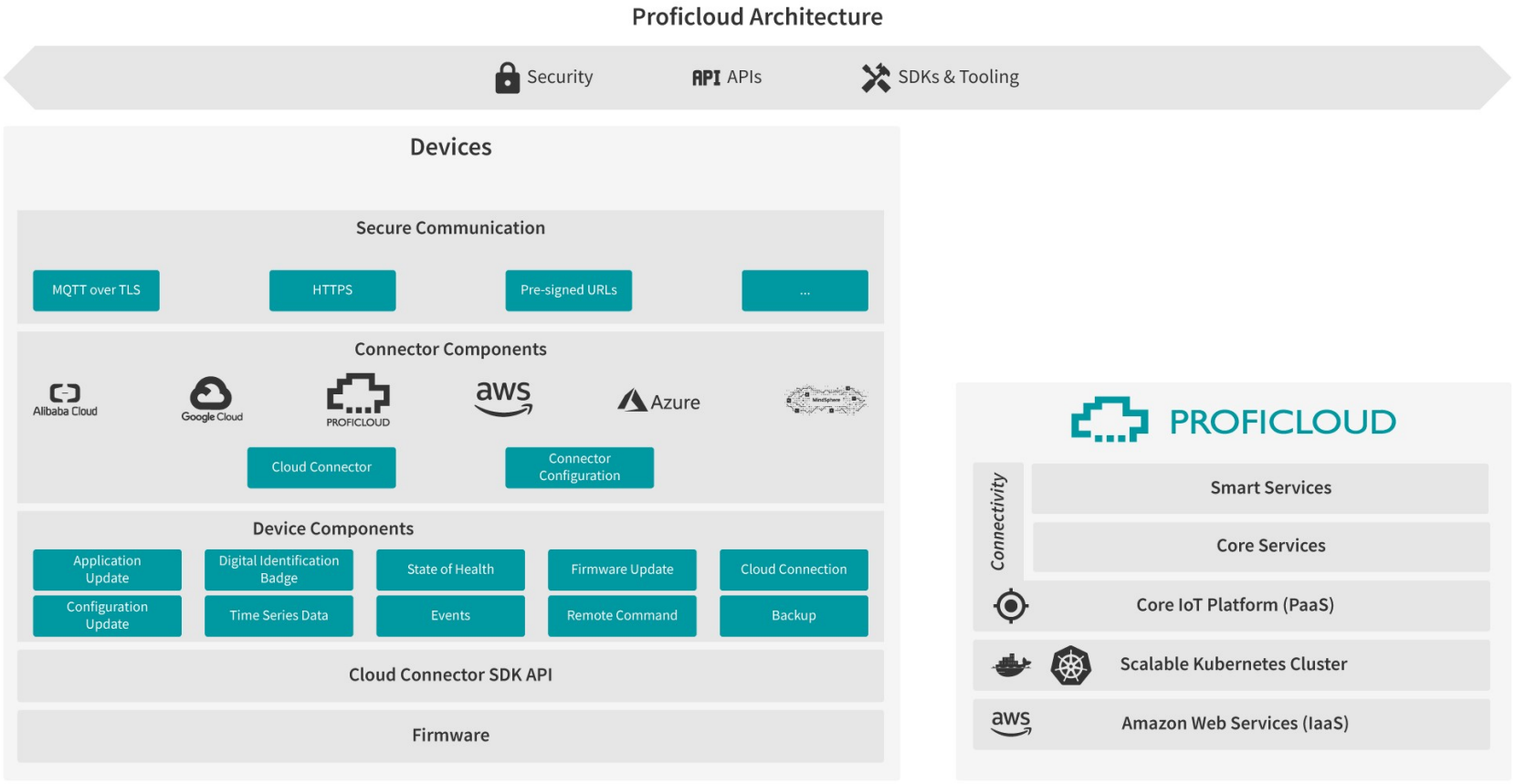
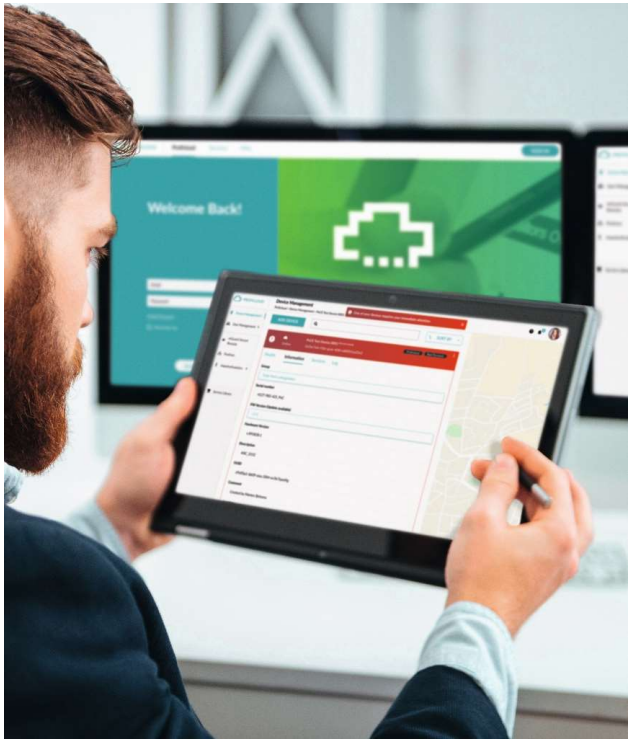


Smart Services@Phoenix Contact

Agenda



- About Us
- IoT-Plattform Proficloud
- **Smart Services for Smart Devices**
- Applications

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All smart COMPLETEline products support Proficloud by 2023

Block Modular
I/O System

Energy Measurement

Power supplies with
highest functionality

Highly compact
relay modules

Industrial Ethernet
And Security

PLCnext Controls

Assistance system for
surge protection devices

DC UPS with IQ Technology

Hybrid motor starter/
machine manager

Telecontrol and remote
maintenance

Isolating amplifier with
functional safety and
explosion protection

Automate	Monitor	Supply + Protect	Switch	Communicate	Disconnect

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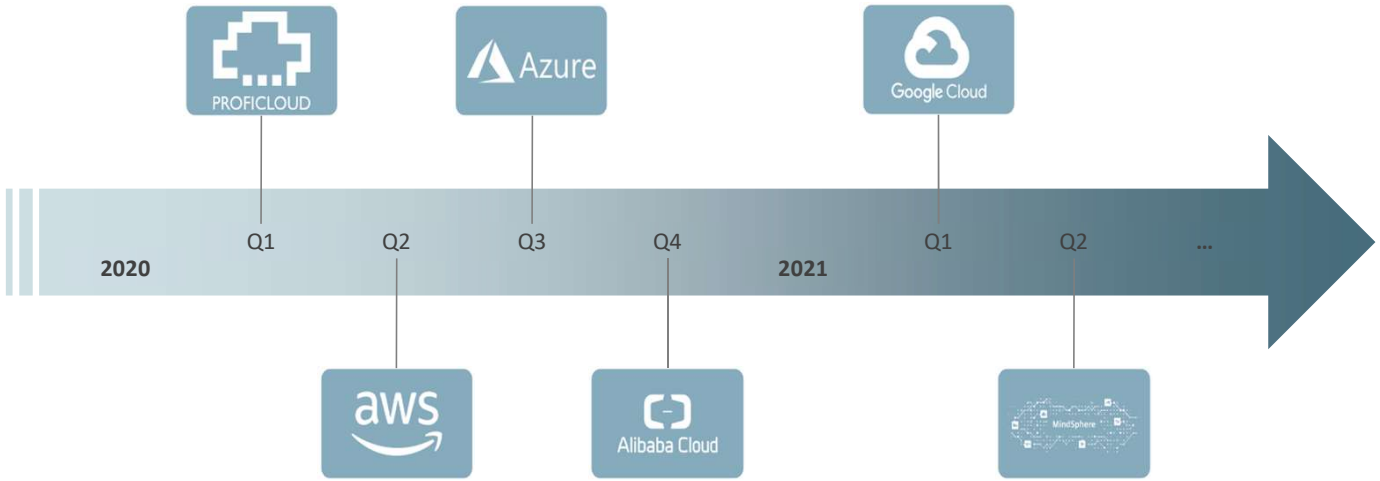
Easy networking in Proficloud up to Any Cloud



Software Development Kit (SDK)
Roadmap

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Smart Devices connected to Proficloud

Trabtech - Impulsecheck

Status:

- Launch at HM 2019
- First experiences and learnings from working with customers.
- GIT* Award 2020

Interface - EMpro

Status:

- EMpro launched at HM 2019
- Becomes smart HM 2020
- REST API and Web Versions support integration of Smart Services into customer environm.

Interface – Machine Manager

Status:

- Use case shown at HM 2019.
- First digital service “anomaly detection” developed and further discussed with customers.

Power Supplies – Quint UPS

Status:

- Since 2017 UPS with e.g. State of Health Capability (VOC: these snapshots are decisive…)
- 2021 launch of Quint with Anomaly Detection

*German Publisher,
famous for B2B professional journals
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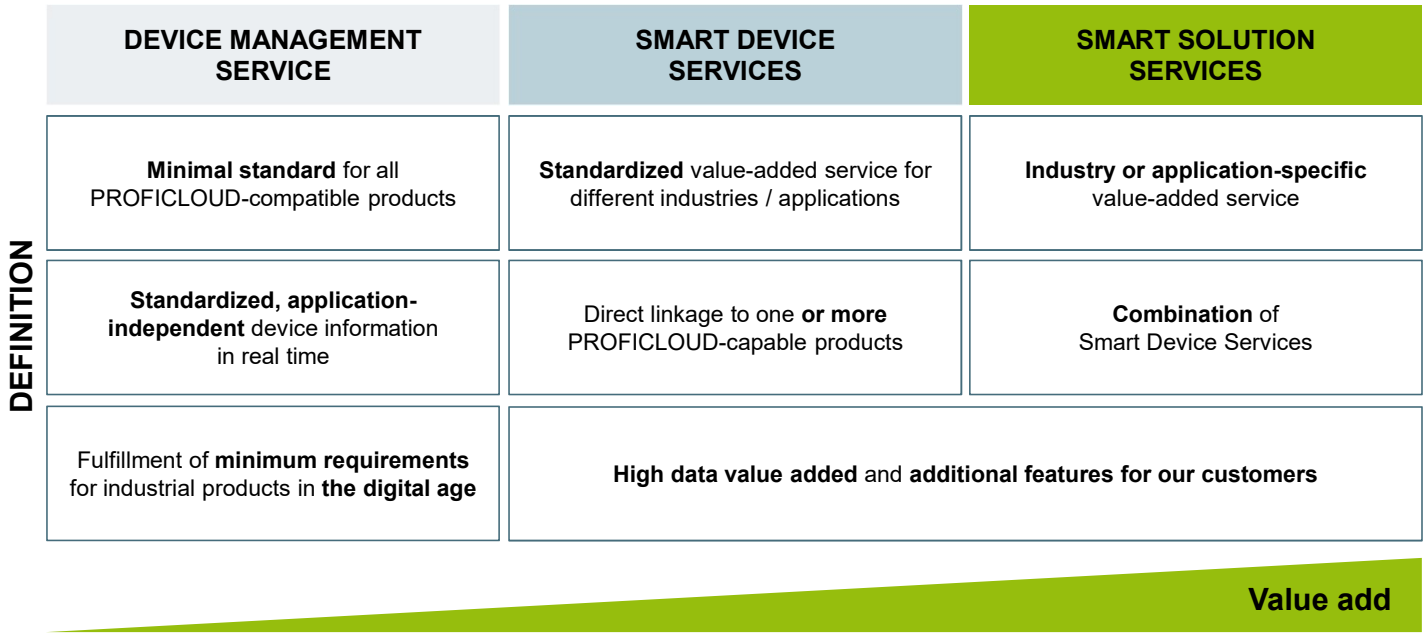
We basically distinguish three types of Smart Services



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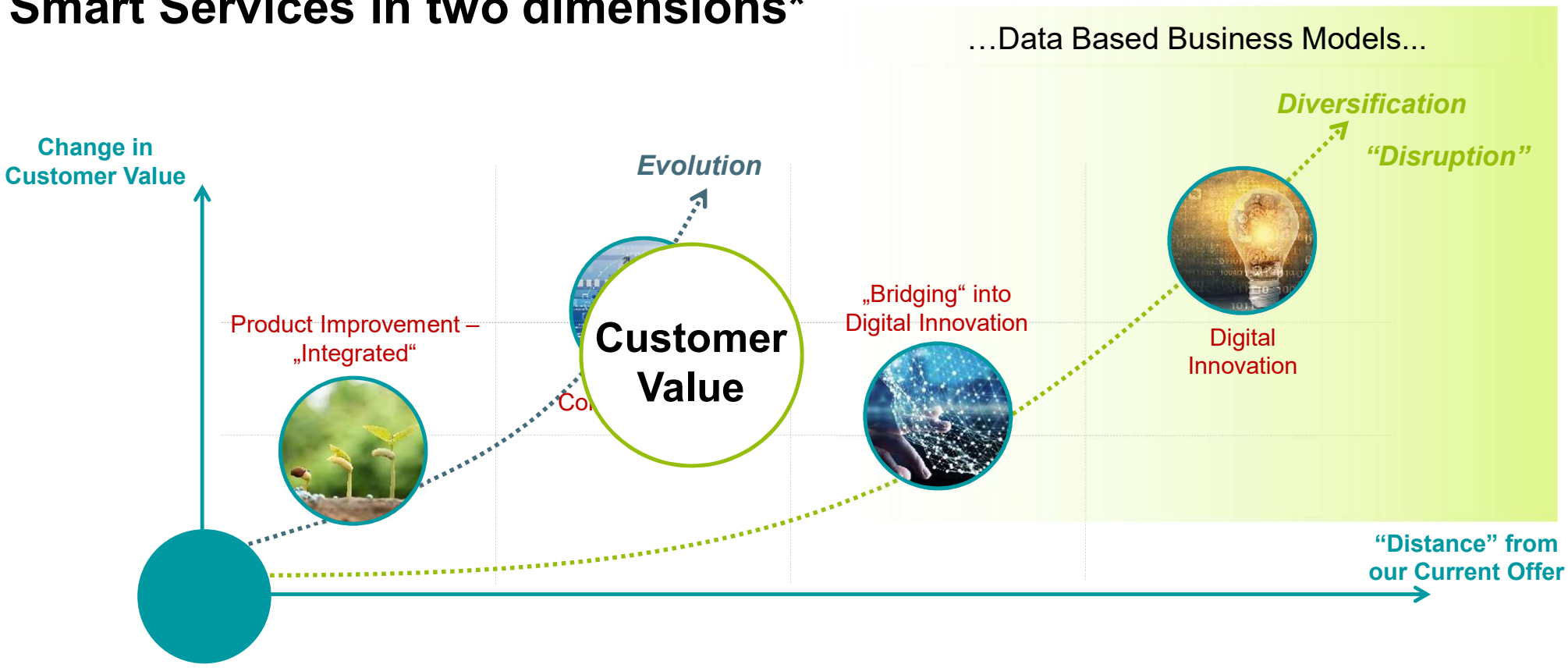
Smart Services in two dimensions*



* With reference to VDMA = Mechanical Engineering Industry Association

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Smart Services on Proficloud.io

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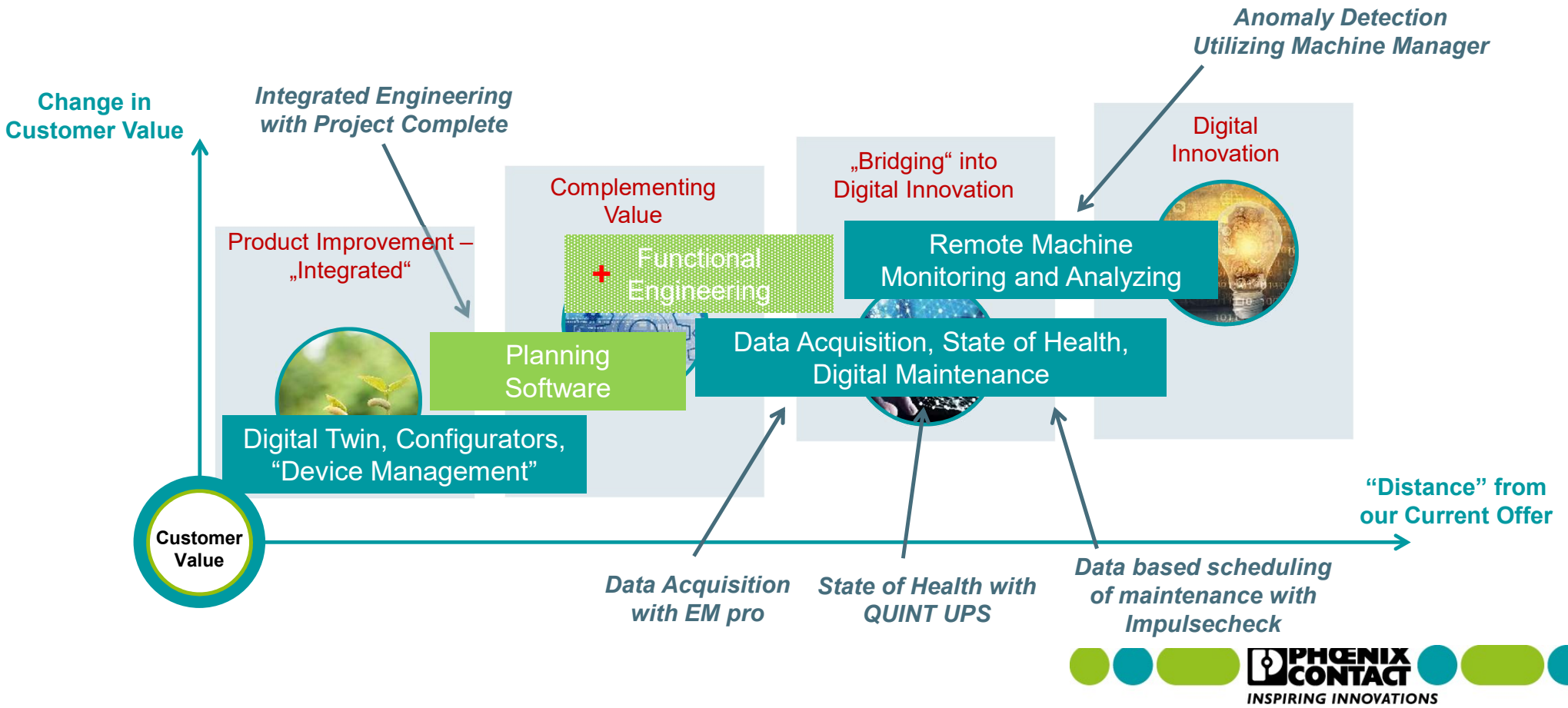
Evaluation of Smart Services in two dimensions



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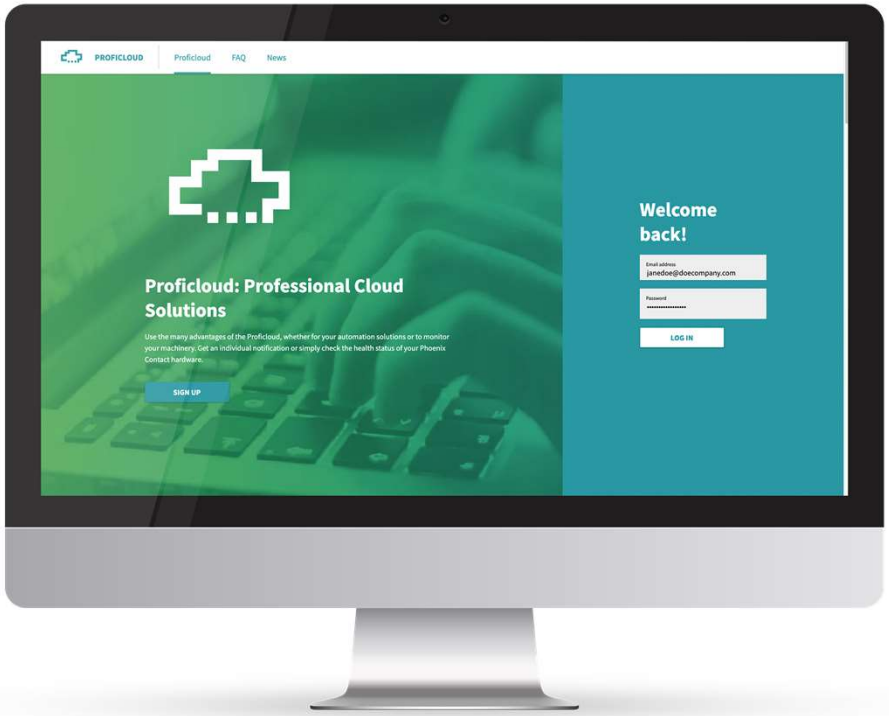
Proficloud.io

Proficloud Smart Services

Proficloud Advantages



Proficloud News

Proficloud FAQ

Proficloud Payment*

Proficloud Dashboards

Proficloud User Management*

Release Q1/2021*

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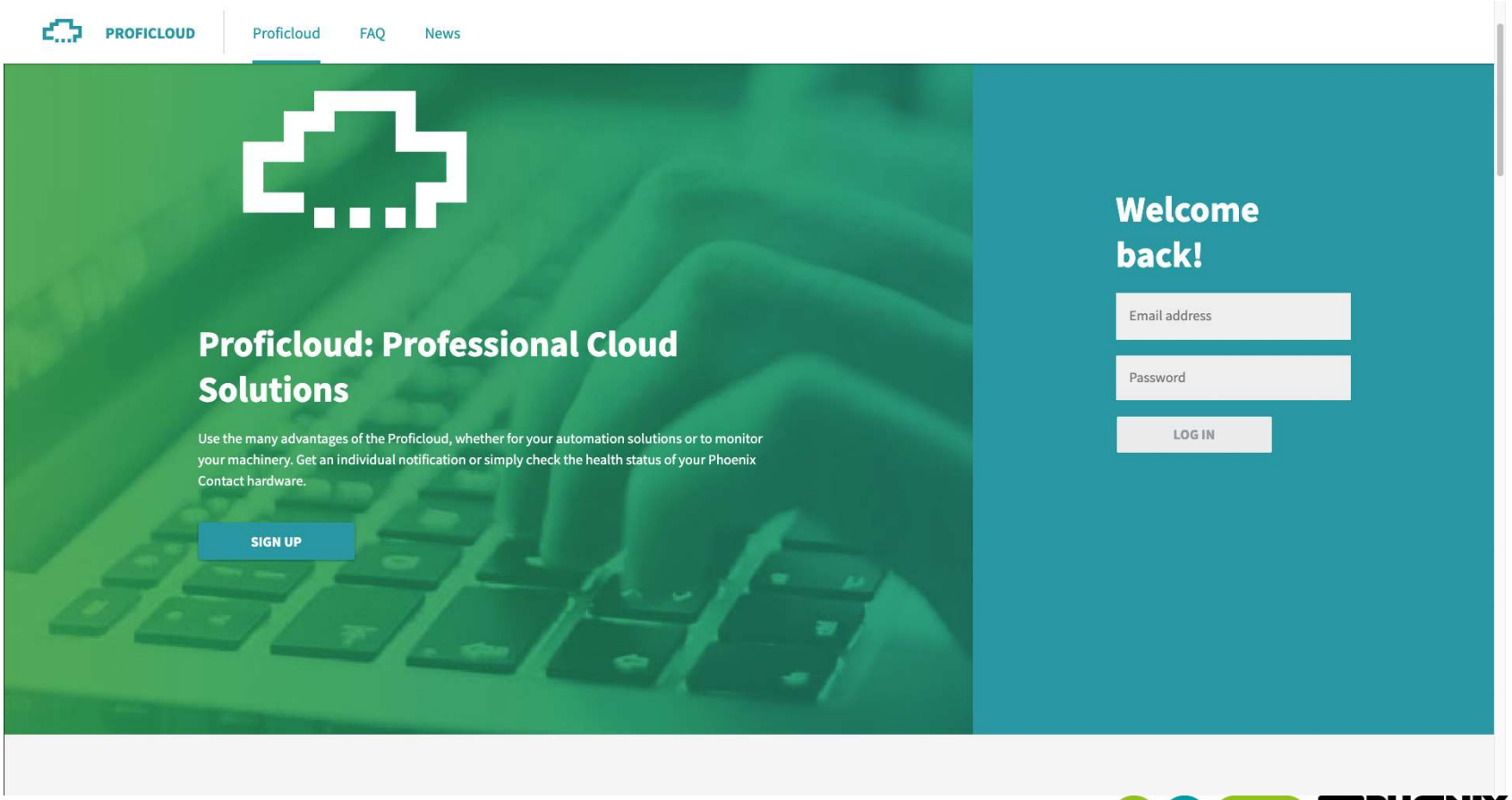
Proficloud.io - Landing Page



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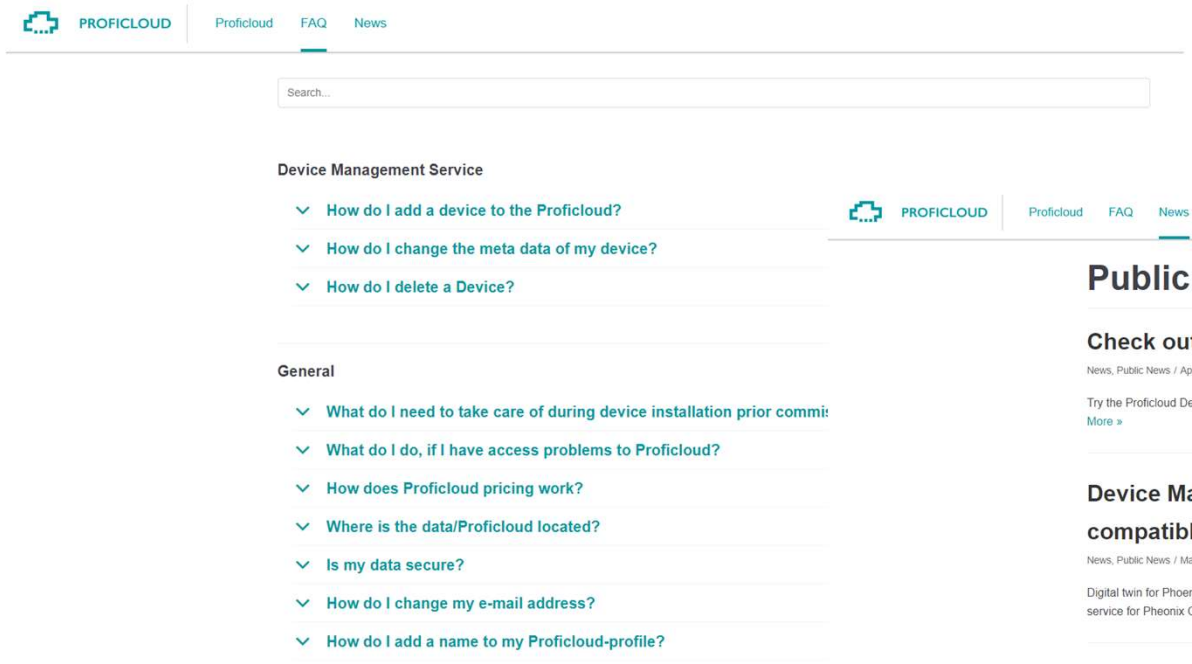
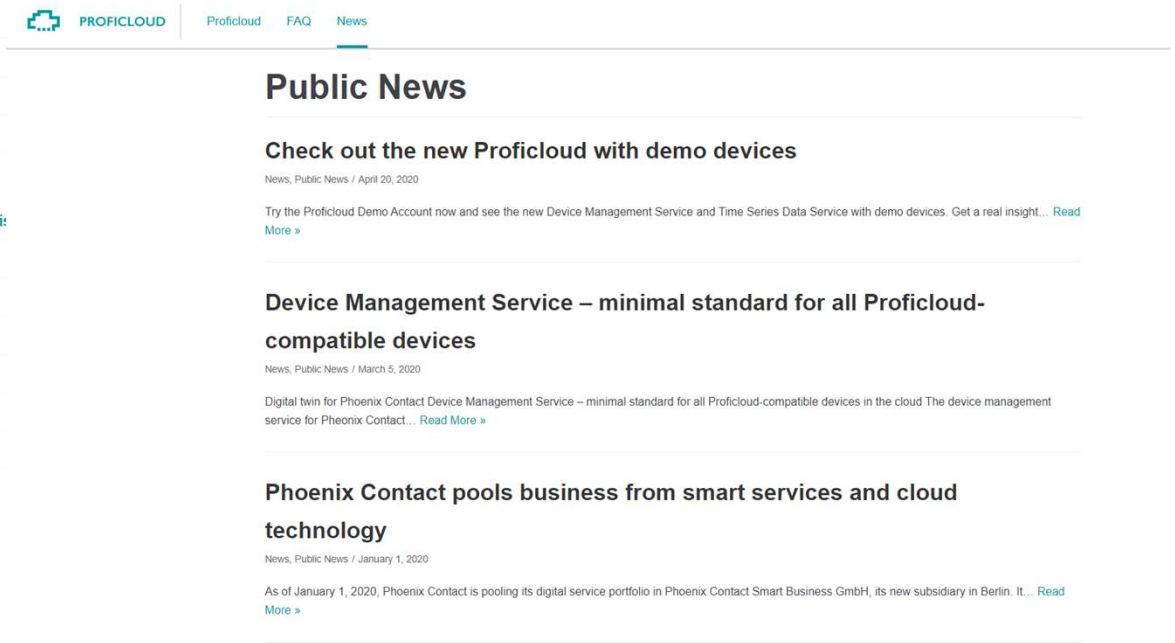
Proficloud.io - Landing Page I FAQ & News





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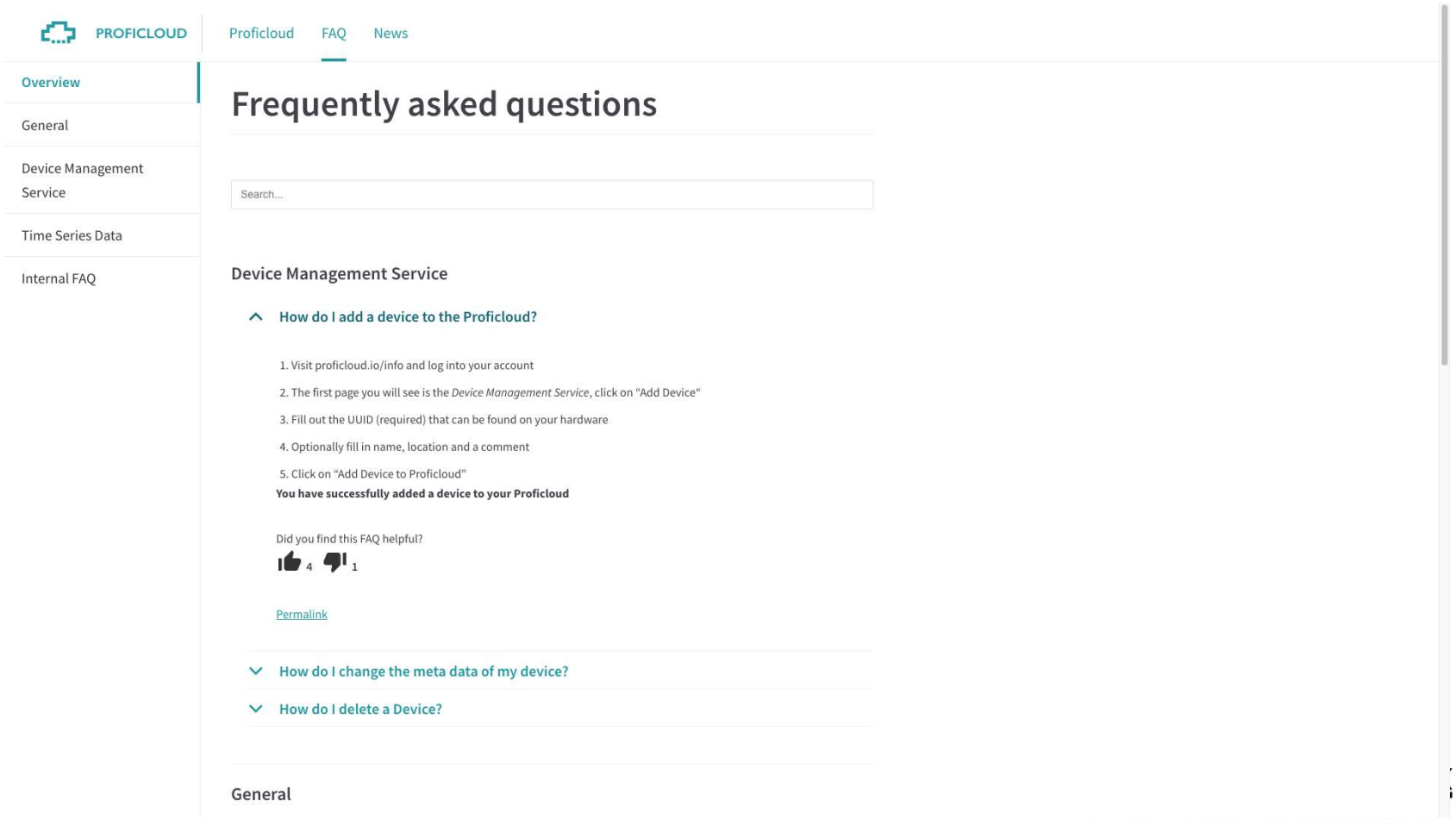
Proficloud.io - Landing Page I FAQ & News



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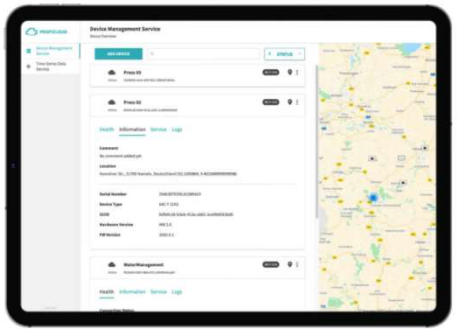
Proficloud.io - Landing Page I FAQ & News

PROFICLOUD | Proficloud | FAQ | News

Proficloud > News > Check out the new Proficloud with demo devices

Check out the new Proficloud with demo devices

News, Public News / April 20, 2020



Try the Proficloud Demo Account now and see the new Device Management Service and Time Series Data Service with demo devices. Get a real insight into the services and see for yourself that the Proficloud is the right step into digitization for you too.

With one click on the button you will be automatically logged into a demo account.

For the Time Series Data Service you need these credentials: **Username:** demoHMI2020@phoenixcontact-sb.io
Password: GoDigital2020!

TRY THE NEW PROFICLOUD

Tags: Device Management Service | Proficloud | Time Series Data Service

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News

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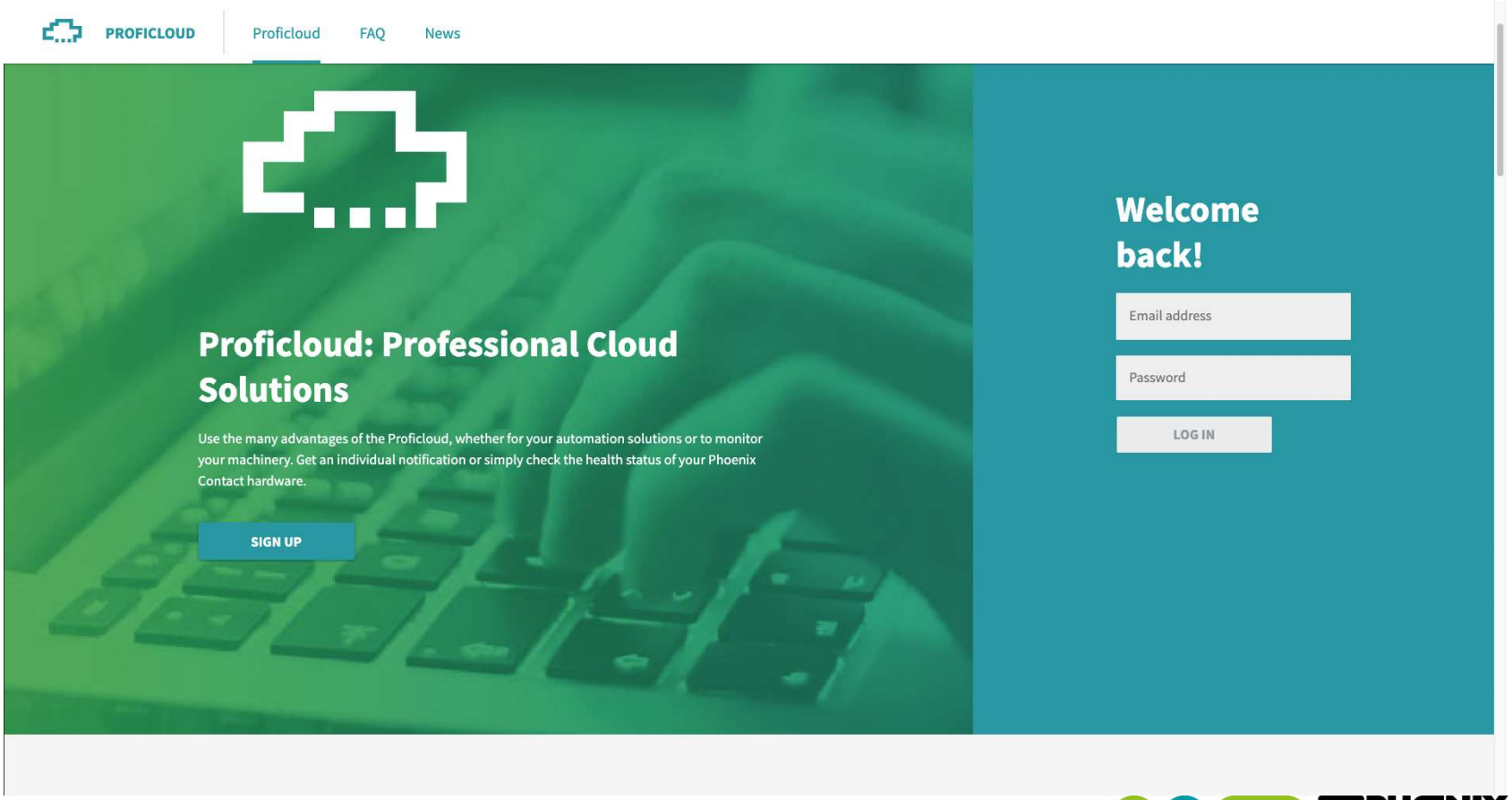

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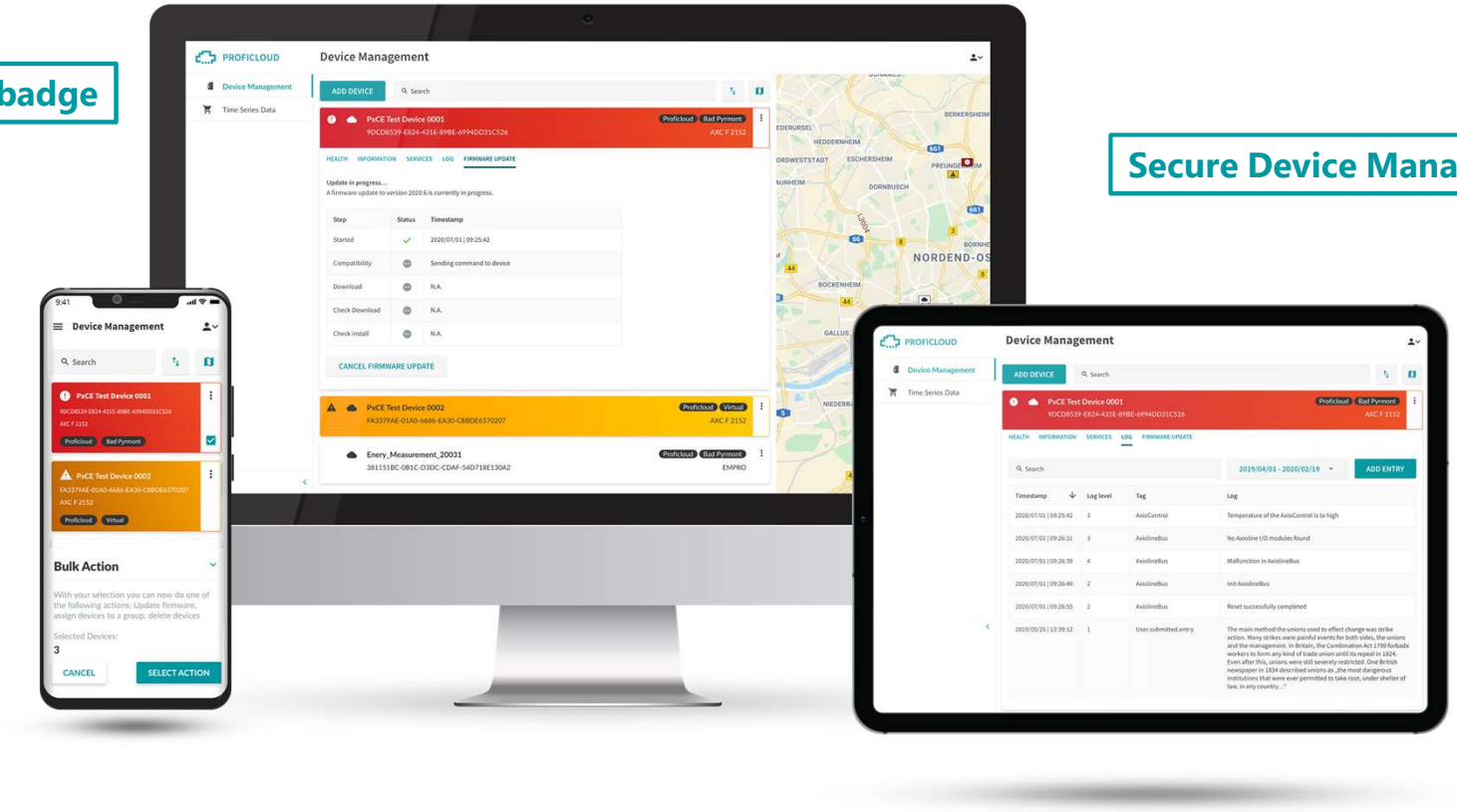
Proficloud.io - Device Management Service

Digital identification badge

State Of Health



Secure Device Management

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Proficloud.io - Device Management Service

Device Management Service - minimal standard for all Proficloud-compatible devices

The Device Management Service for Phoenix Contact devices offers a standardized, application-independent device information in real time on Proficloud. In the digital age for industrial products this is the fulfillment of minimum requirements for smart devices.
In this way, health statuses and general information can be called up from anywhere in the world.

No more wasting time having to visit your facilities with personnel to assess the health status of the facility. A quick look into the Device Management of the Proficloud is enough. Each status message of each hardware device is translated into plain text, so you don't need expert knowledge to understand it. Save resources, time and nerves.

Furthermore, Device Management allows you to keep your hardware up to date, so you can be sure that the devices are always provided with the latest firmware security updates. You can quickly and easily get an overview of several locations and plan measures based on Device Management.

The Device Management Service within the Proficloud is free of charge and thus offers a perfect cost/benefit calculation.

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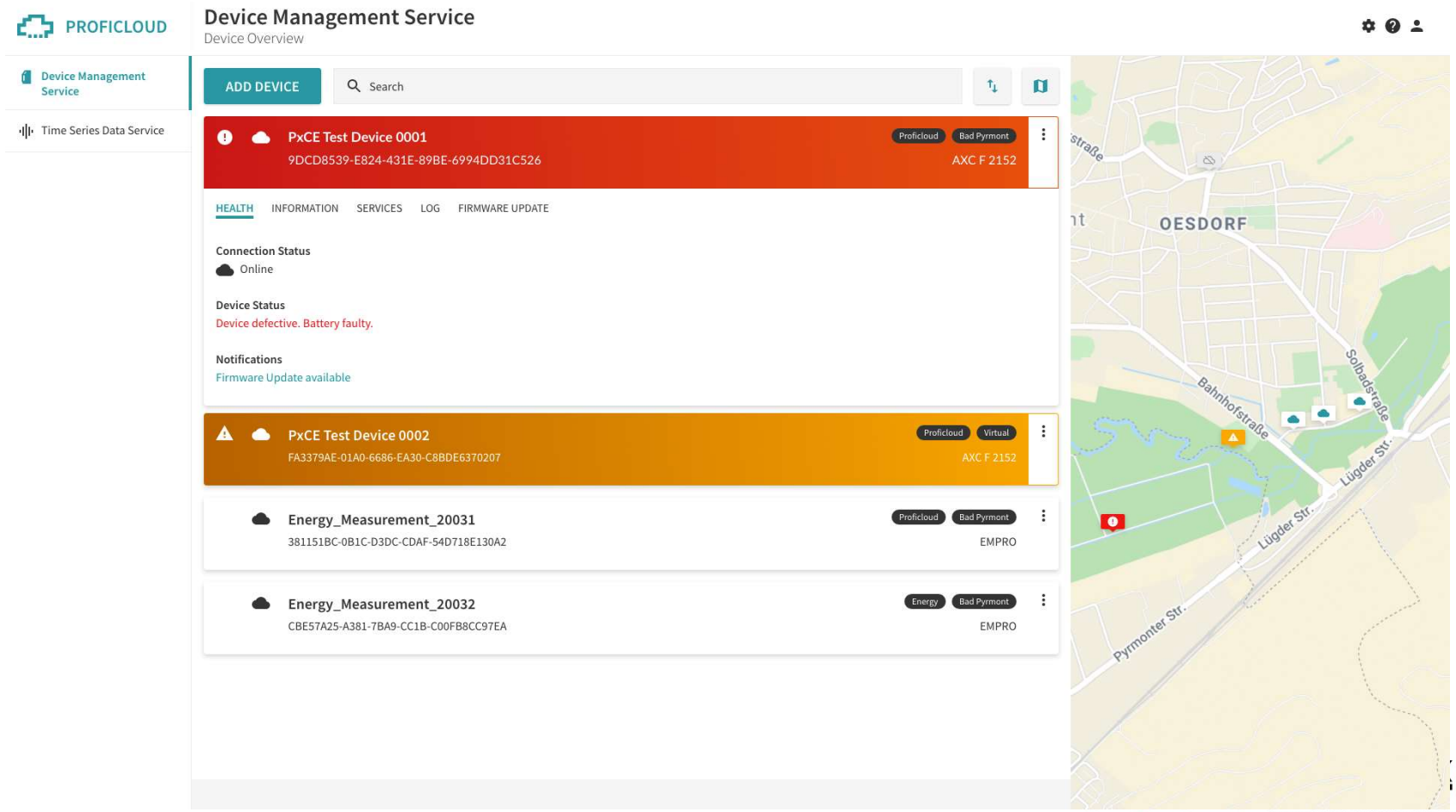
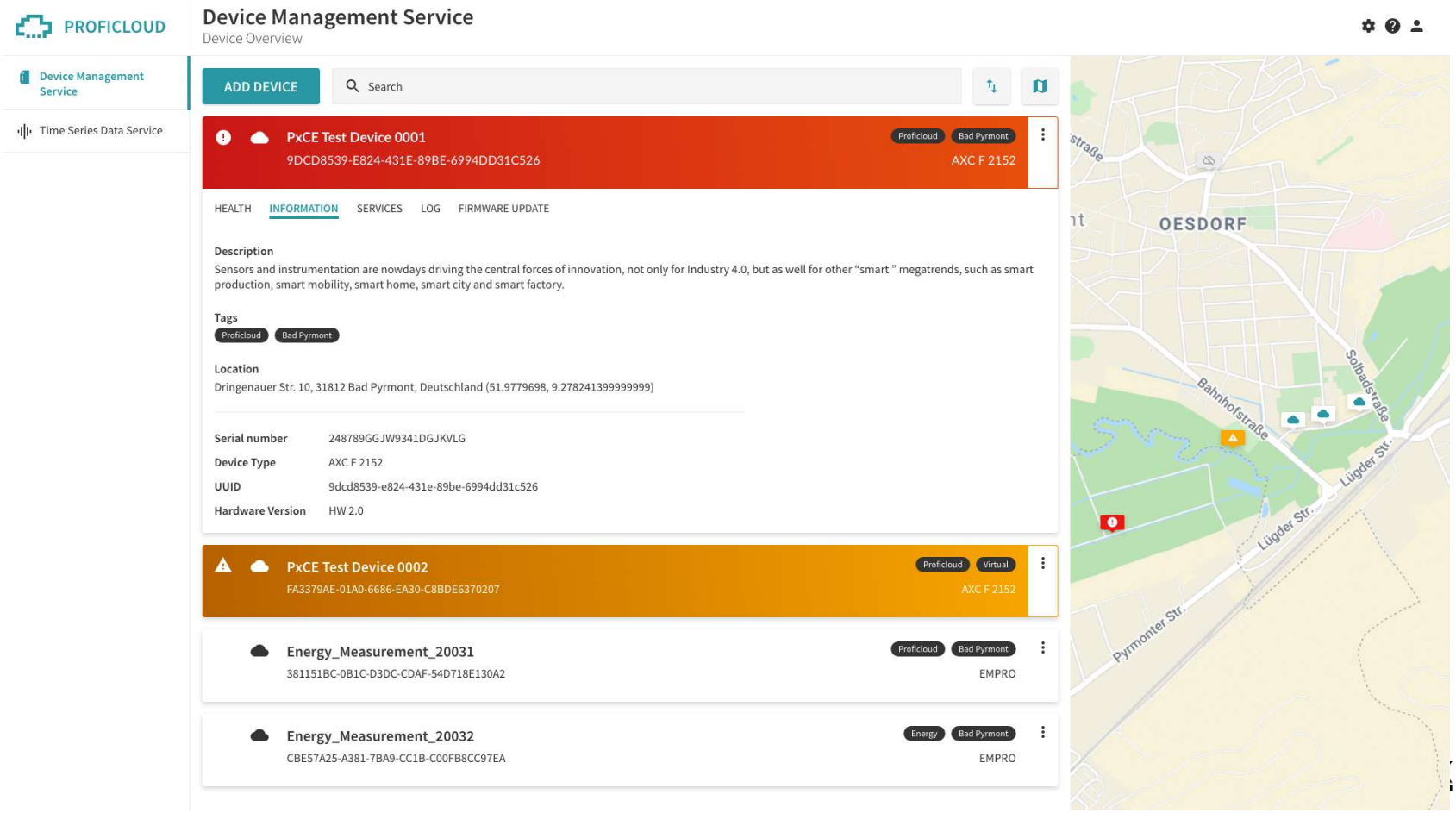
Proficloud.io - Device Management Service I HEALTH



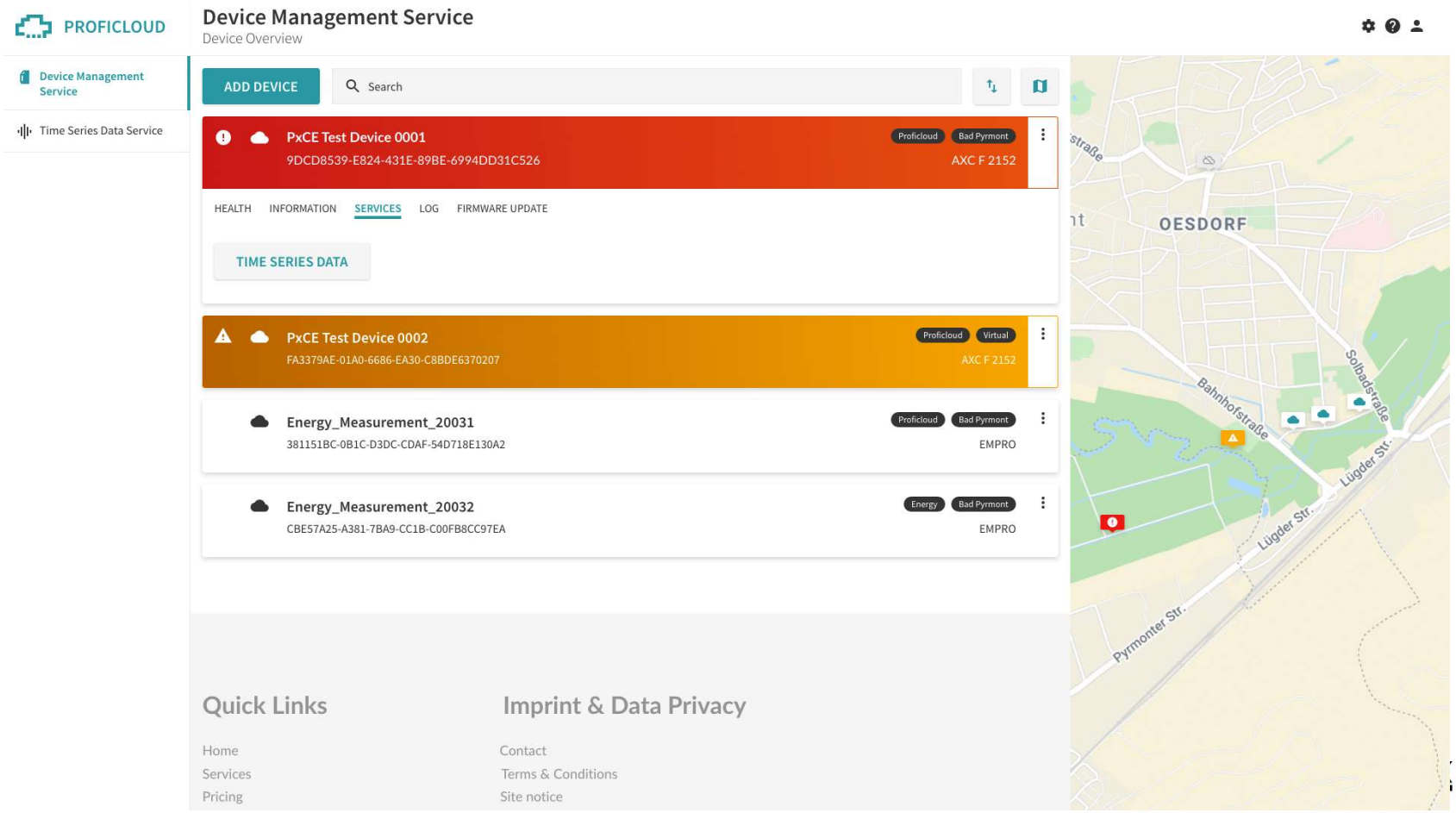
INSPIRING INNOVATIONS

Proficloud.io - Device Management Service I INFORMATION

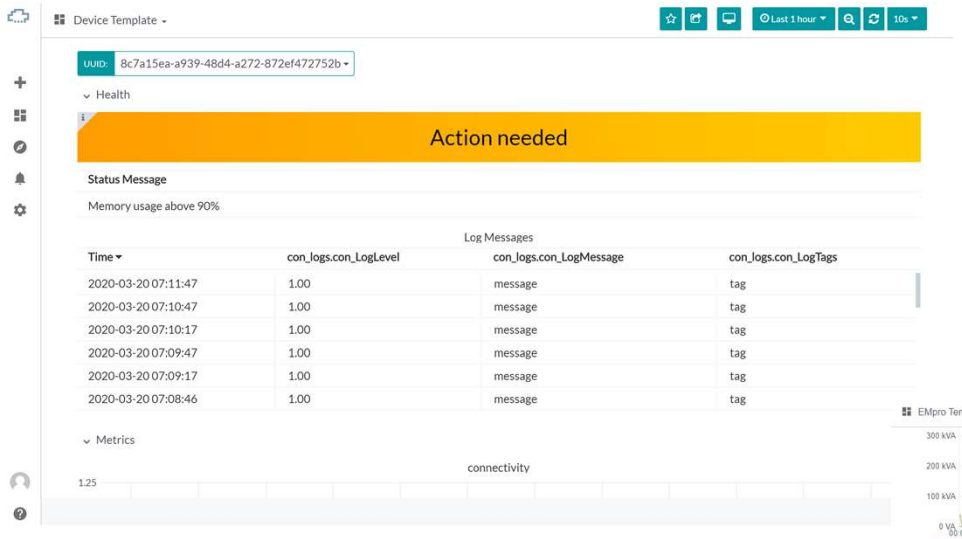


INSPIRING INNOVATIONS

Proficloud.io - Device Management Service I SERVICES



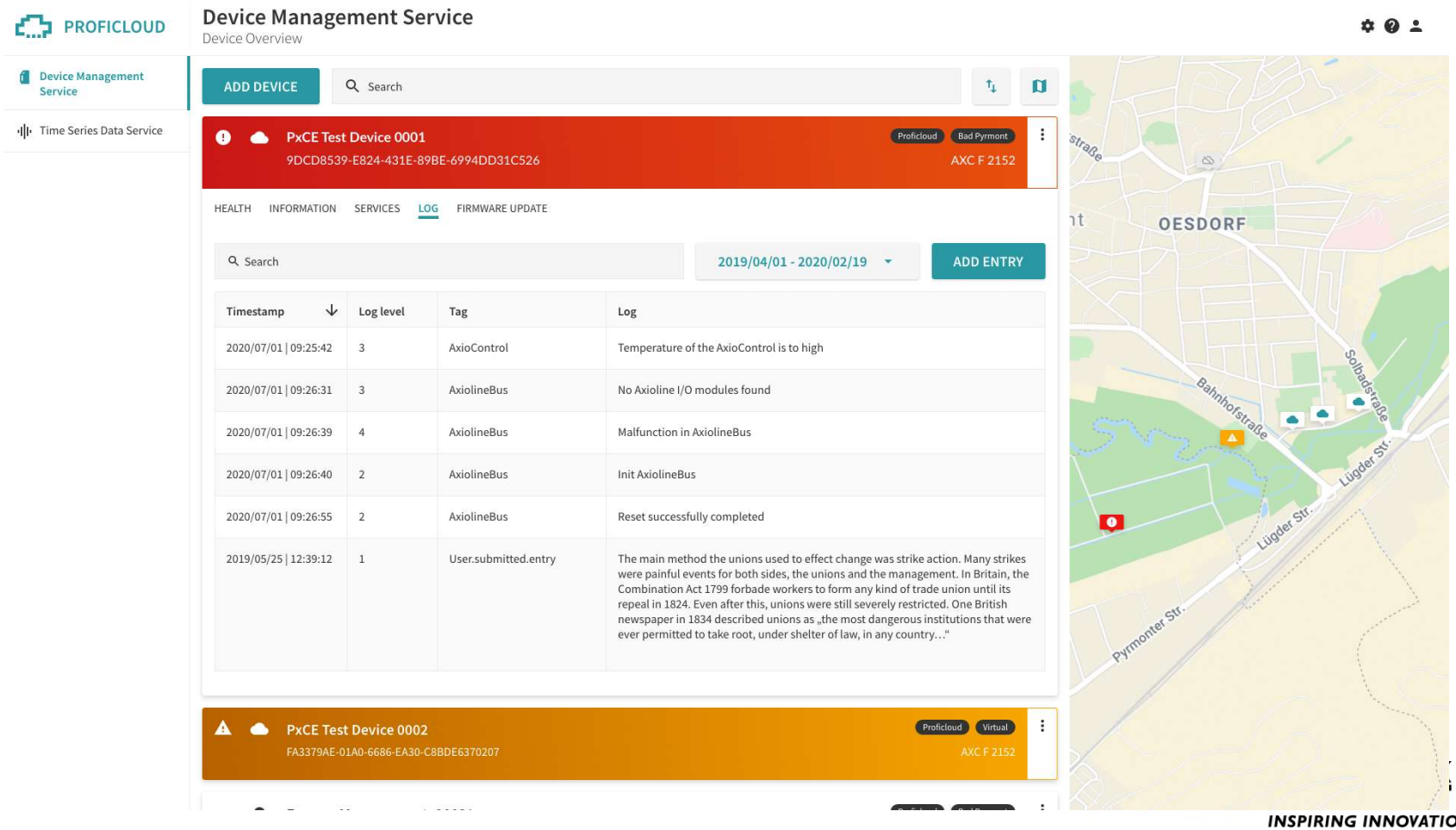
Proficloud.io - Time Series Data



Automatic Generated Dashboard

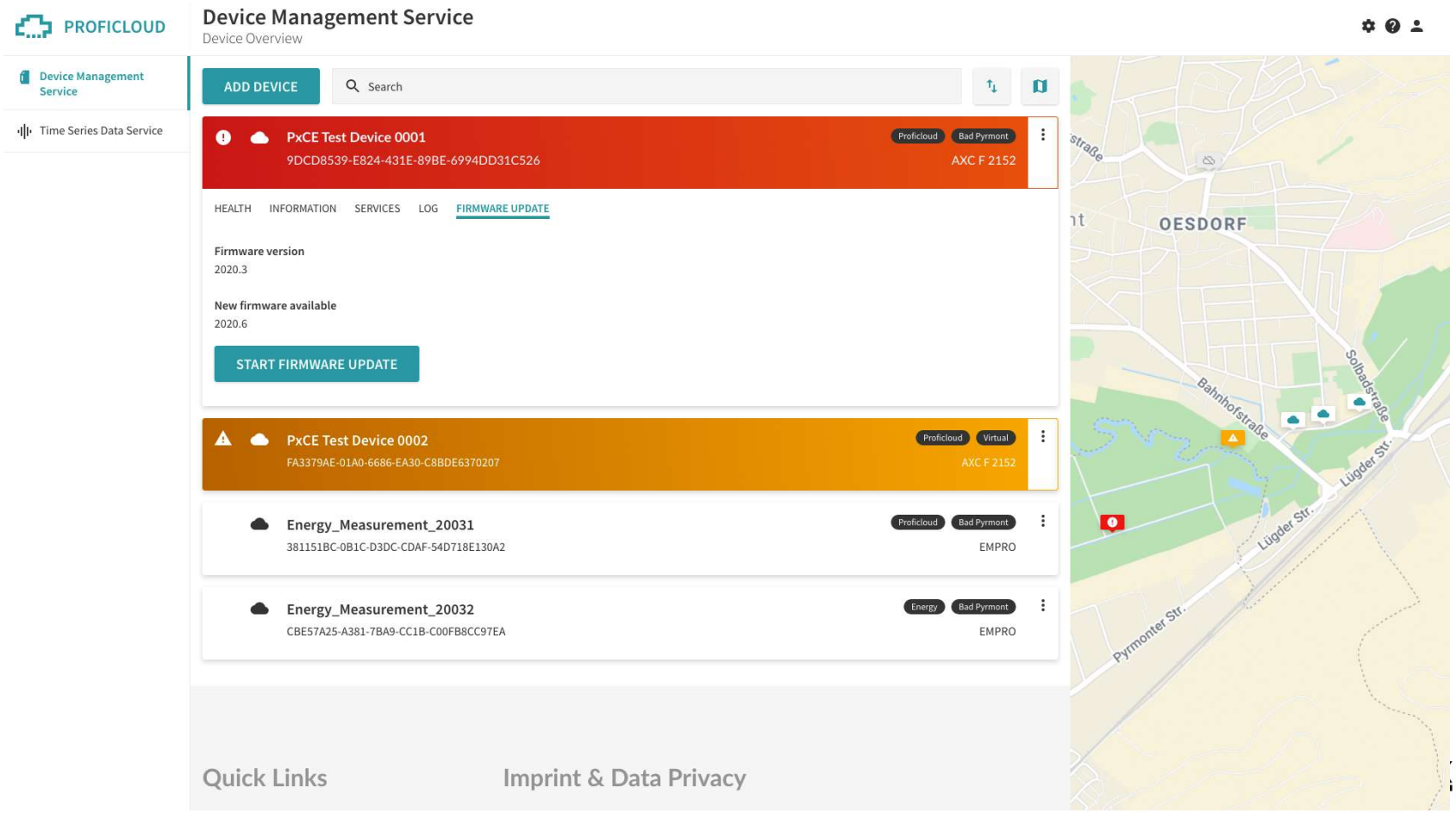
INSPIRING INNOVATIONS

Proficloud.io - Device Management Service I LOG



INSPIRING INNOVATIONS

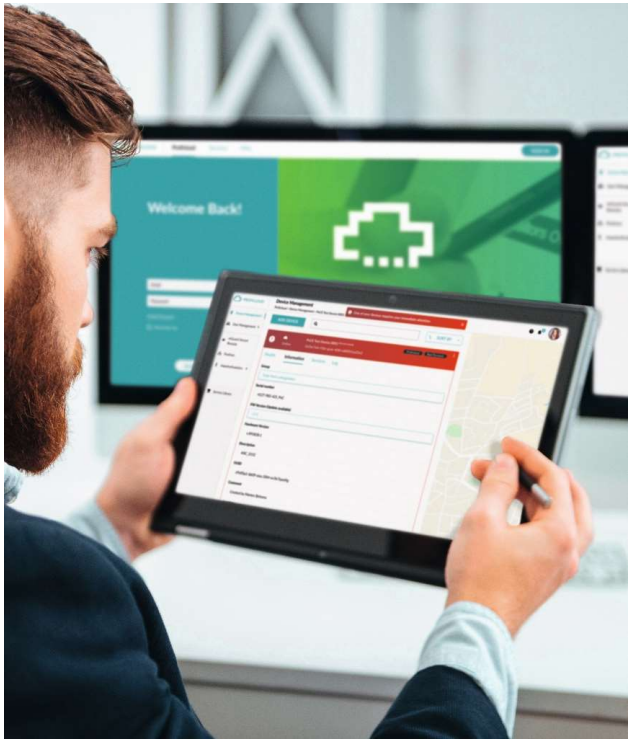
Proficloud.io - Device Management Service I UPDATE



INSPIRING INNOVATIONS

Smart Services@Phoenix Contact

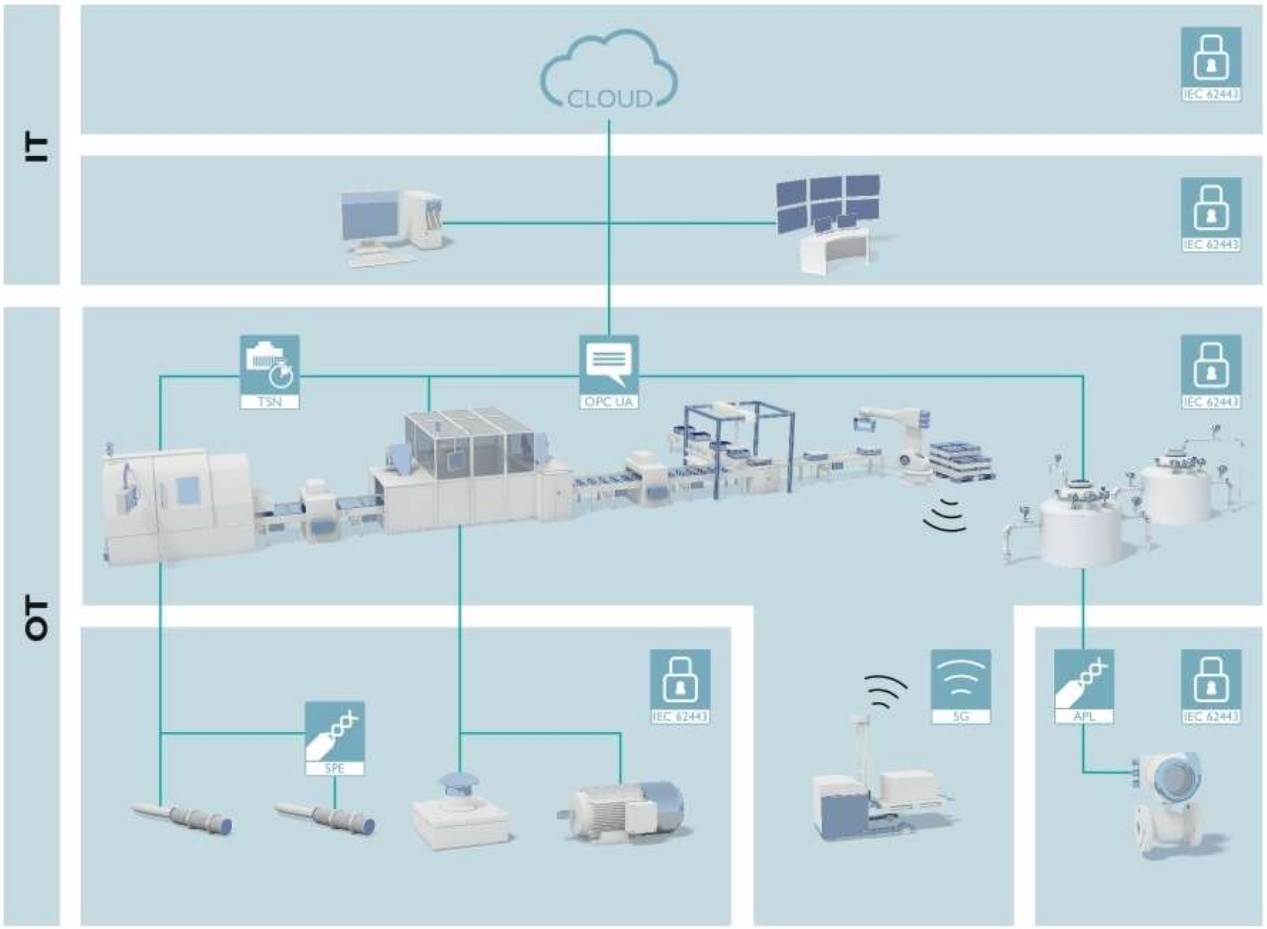
Agenda



- About Us
- IoT-Plattform Proficloud
- Smart Services for Smart Devices
- **Applications**

PHOENIX CONTACT
INSPIRING INNOVATIONS

From the sensor to the cloud



Added Value

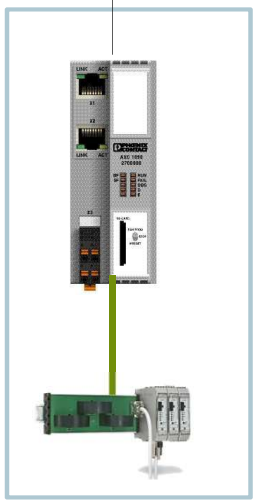
- IEC-62443
- OPC UA
- TSN
- SPE I APL
- 5G

INSPIRING INNOVATIONS

Proficloud.io enables state of the art Smart Services

Applications - Energy data monitoring and analytics

PROFICLOUD



Target

Optimization energy consumption of injection molding machines

Detection of wear due to higher current consumption

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INSPIRING INNOVATIONS

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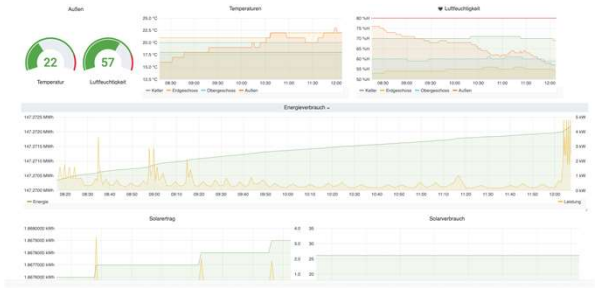
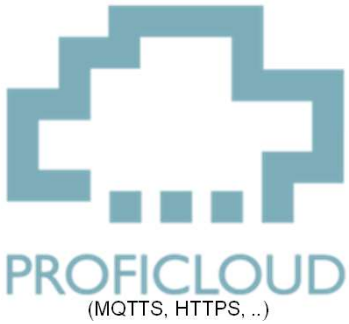
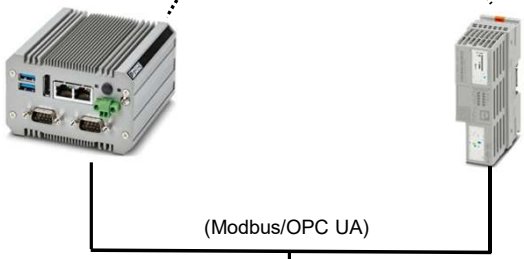
How to Connect?

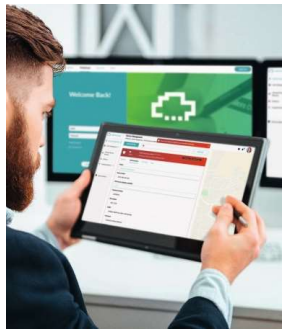






PLCnext

(Modbus/OPC UA)



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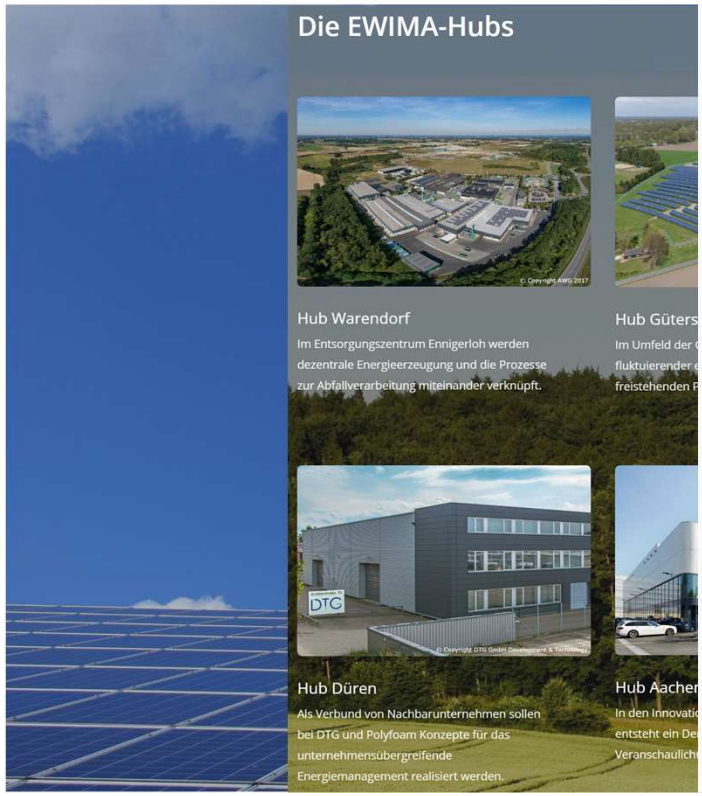
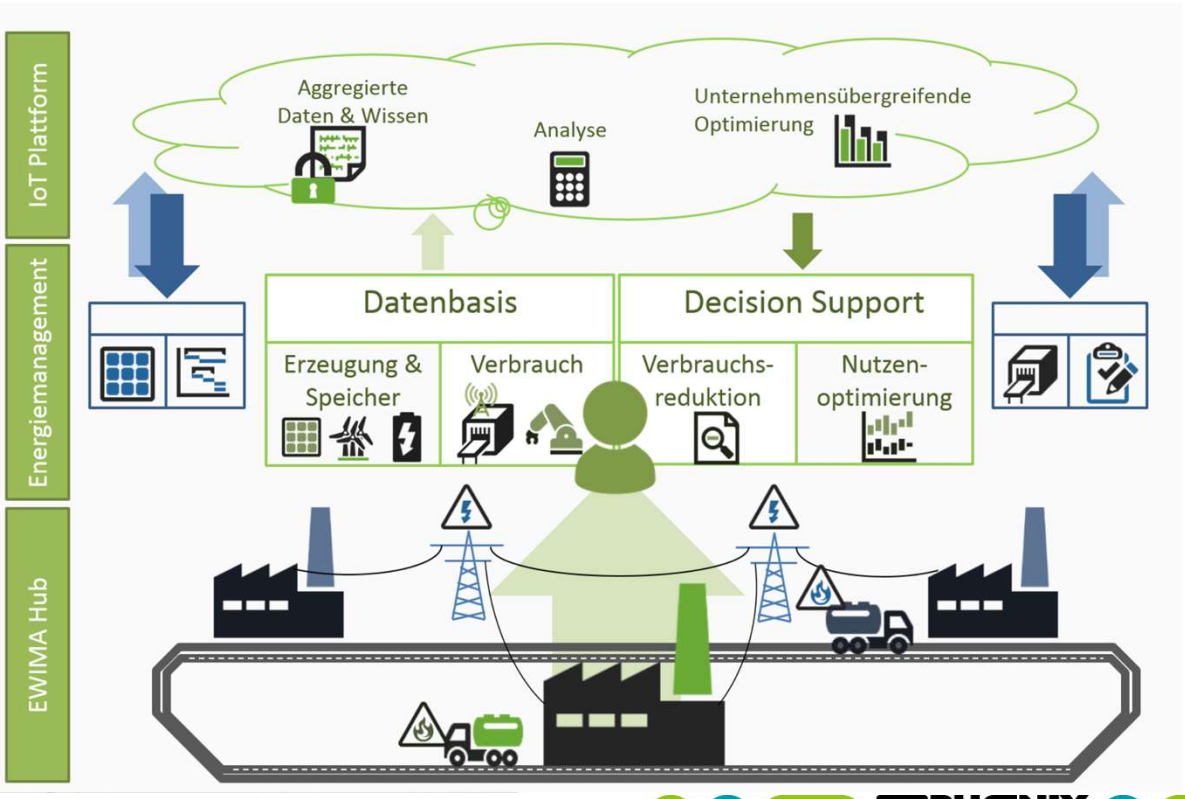
Applications - ewima





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Applications - Predictive maintenance

Benefits:

- Reduction of critical downtimes
- Avoid unplanned service costs
- Increase productivity
- Reduction of the cost of spare parts provision

Data analysis

Correlation between operation, configuration and setting of the production plant and the downtime.

Determination of the factors leading to a standstill. Derivation of algorithms, with which also short disturbances can be predicted.

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Smart Services@Phoenix Contact
Thank You!

Webinar IMA 2020

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