



# Digital Services

Hard- and Software Solutions



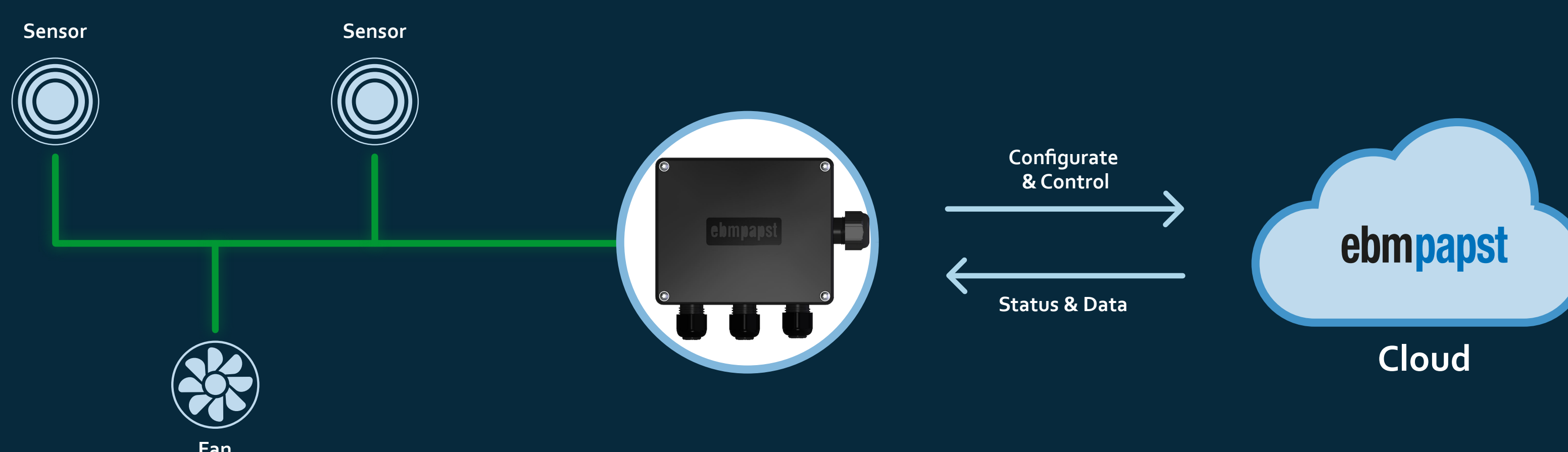
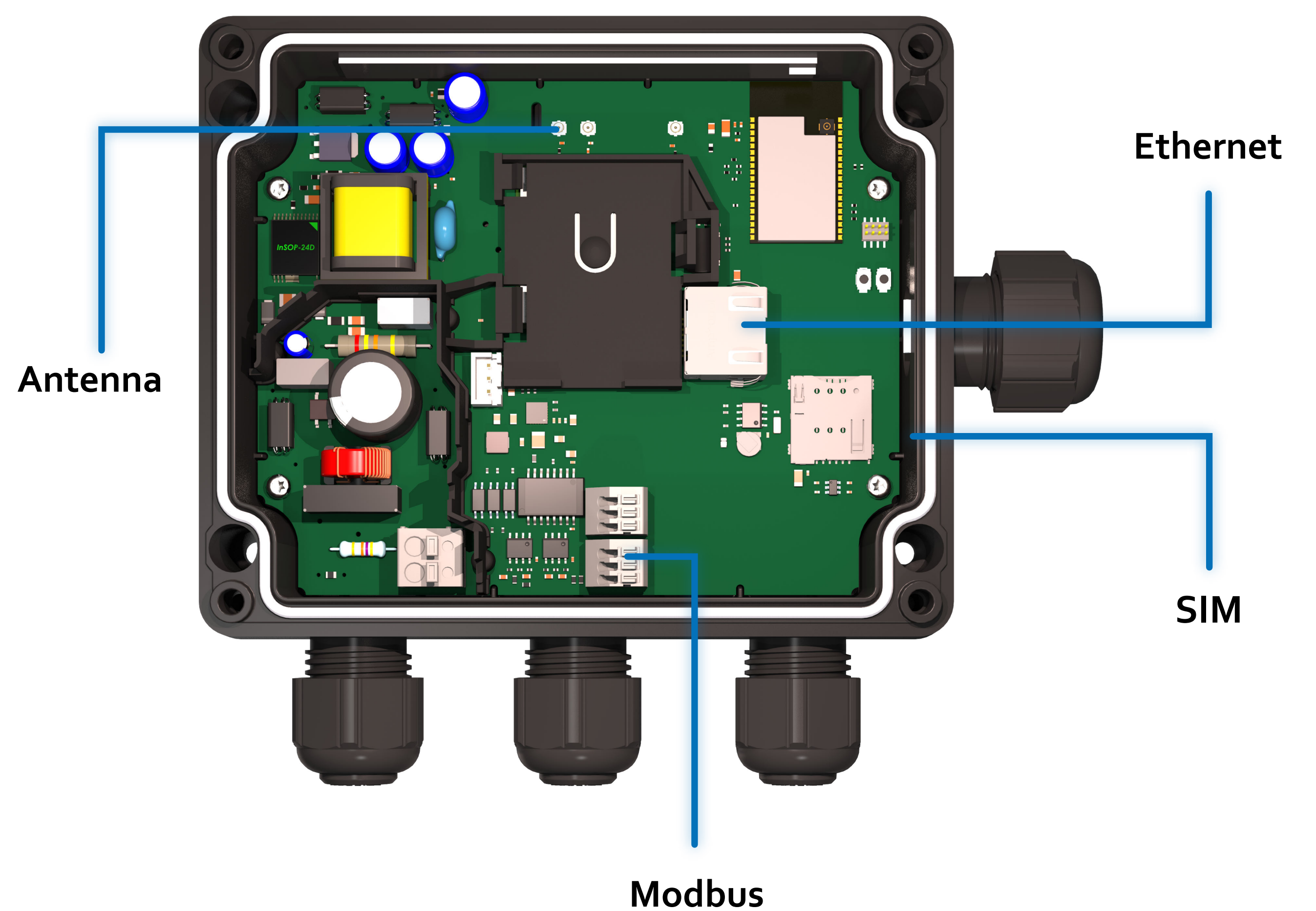
Hardware Solutions

## Connect IntelliGate LTE

The core of digitalisation is communication between sensors, devices, plants, machines, buildings and the internet. IntelliGate LTE takes on the central task of processing the collected data and sending it to the cloud. Via an integrated SIM card this works flexibly and autonomously for almost any system. Of course integration into local networks is also possible.

### Specifications

Link	Modbus, LAN, LTE, 3G, GSM
Supply	AC 220/110V, DC 24V DC
Temperature	-20 to 60°
Environment	IP65



### What is Modbus?

Modbus is the most common communication protocol in industry. It controls the exchange of data between a master and several slave devices. It was developed by Gould-Motion to enable programmable logic controllers to communicate with each other. Since it is an open protocol, it has become a quasi-official standard.

### Why IntelliGate LTE

- + Universal Connectivity
- + Real Time Control via epCloud
- + Robust
- + Deployable
- + Auto-addressing (Plug and Play)



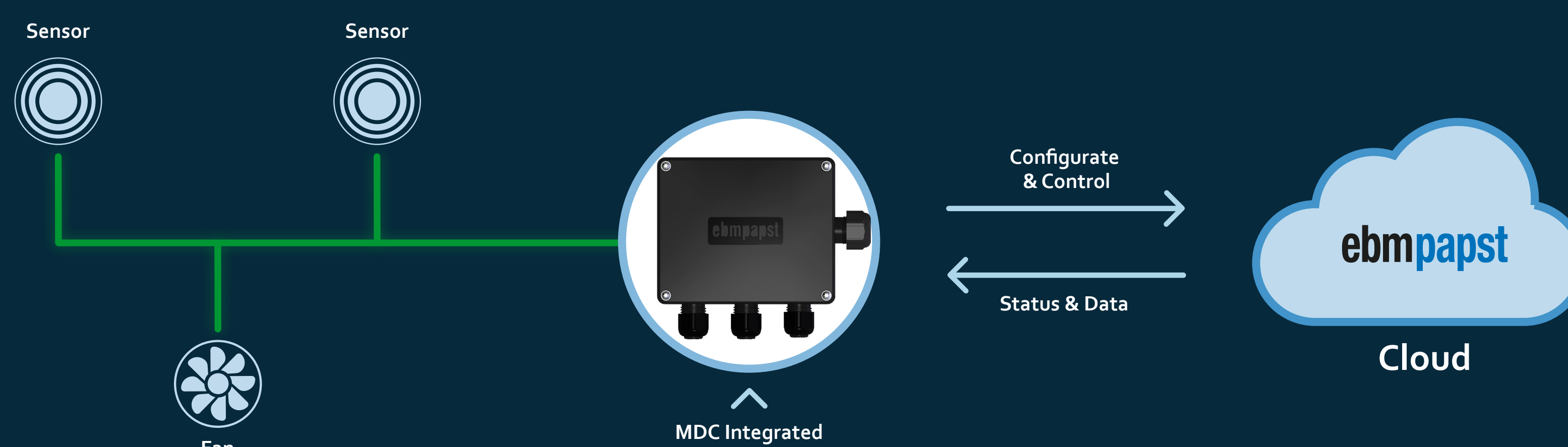
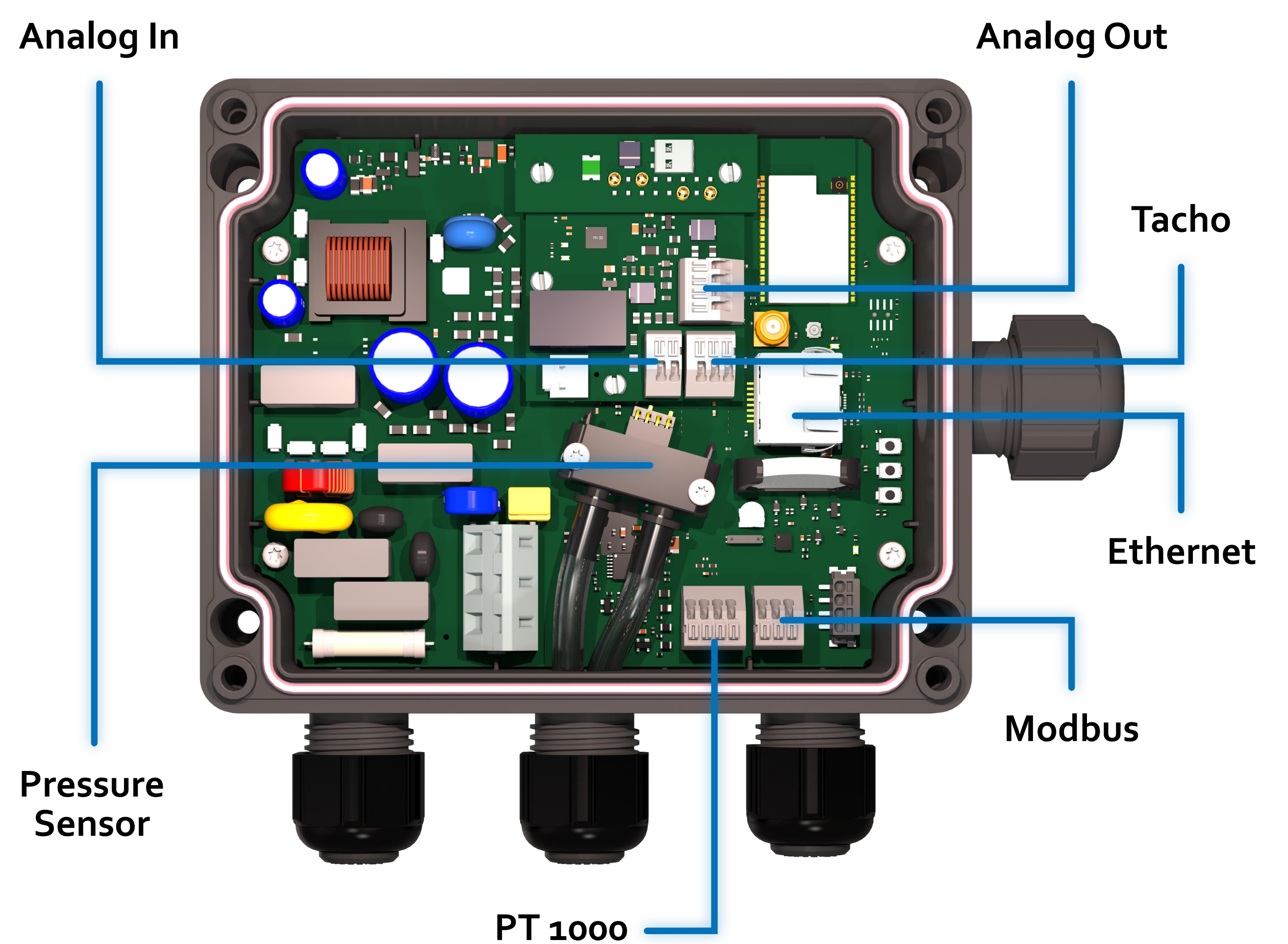
Hardware Solutions

## Connect & Control IntelliGate AIR

More than a Modbus controller! The basis of digitalisation is communication between sensors, devices, plants, machines, buildings and the internet. With its integrated differential pressure sensor, analogue inputs and outputs, WiFi and Ethernet interface, the IntelliGate AIR can be used both as a stand-alone controller and as a connector. We developed it with the aim of creating the most universal interface possible between reality and the virtual world.

### Specifications

Link	WiFi, LAN, Modbus, Analog
Supply	110 – 400 V AC
Temperature	-40 to 60°
Environment	IP66
Controller	6 Operation Modes
Features	Differential Pressure Sensor, 6 Analog Inputs



### What is Modbus?

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### Why IntelliGate AIR

- + Control your assets everywhere
- + Plug and Play Modbus ready
- + Robust
- + Integrated differential pressure sensor
- + Analogue and Modbus
- + Ethernet and WiFi



Hardware Solutions

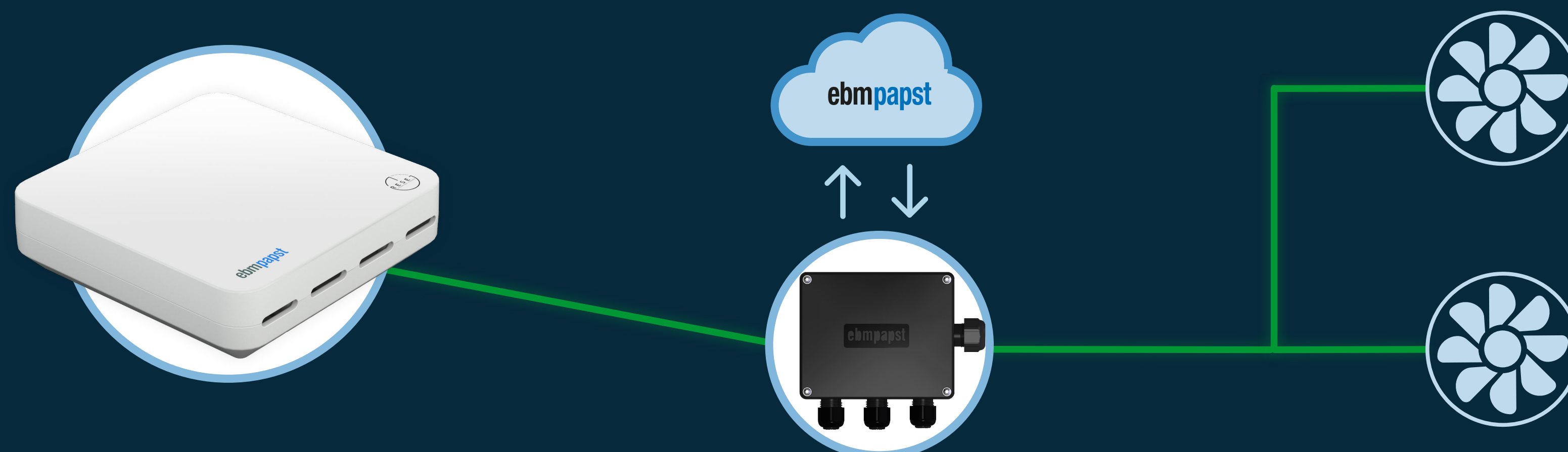
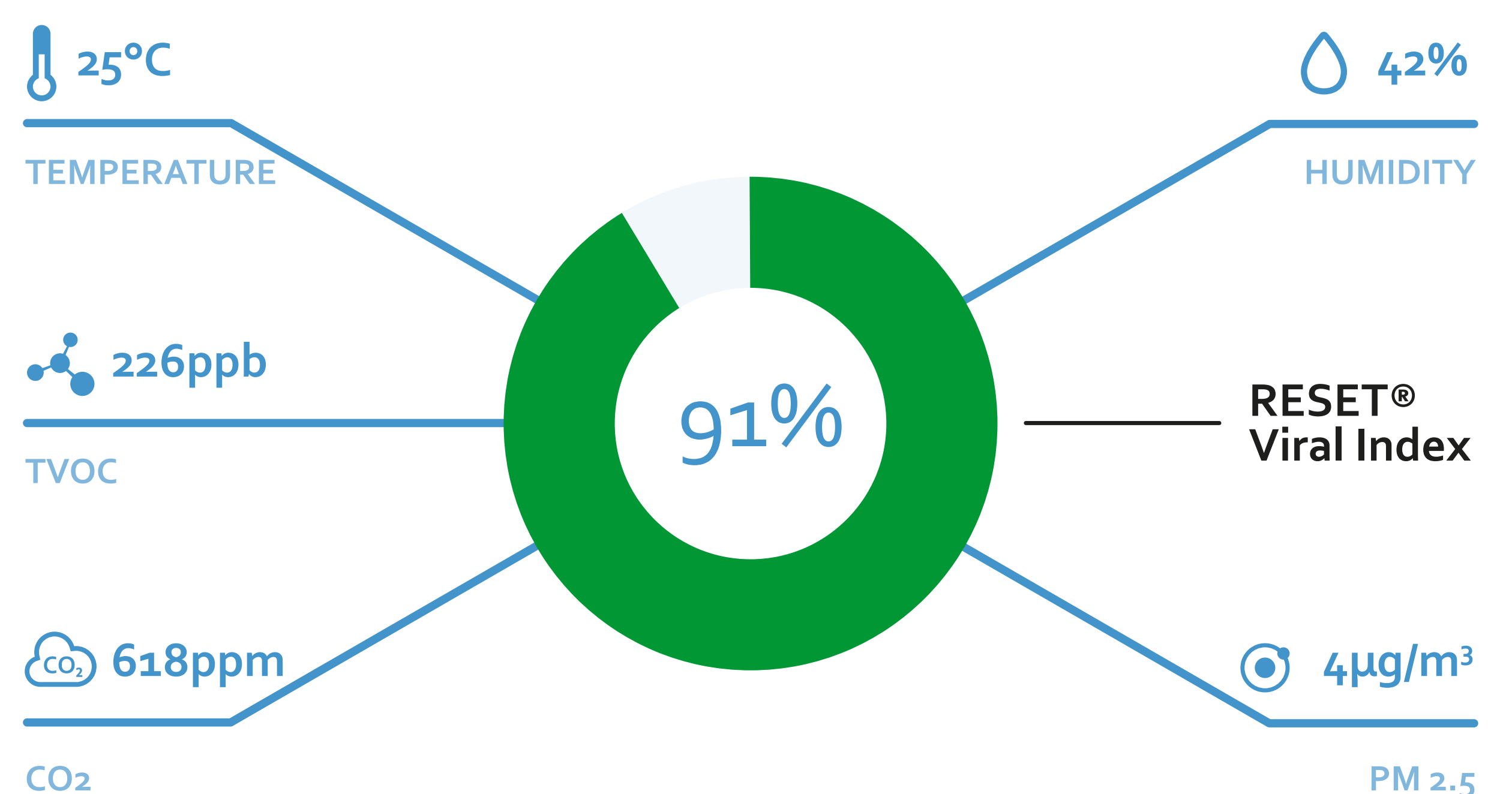
## Sensor IAQ Monitor

ebm-papst IAQ Monitor is a powerful air quality monitor measuring particulate matter carbon dioxide, volatile organic compounds, temperature and humidity including a customisable coloured LED bar. The ebm-papst IAQ Monitor is RESET® certified to meet the highest quality standards of highly reliable real time information.

### Specifications

Dimensions	130 x 130 x 36 mm
Weight	300 g
Connectivity	WiFi 2.4 GHz
Input	100 ~ 240 V AC, 50/60 Hz USB-C
Certifications	ESET® Air, FCC, CE, RoHS, WEEE

### Measured Data



### What is RESET®?

The RESET Standard is the world's first sensor-based and performance-driven program for the built environment. It is a data standard, a set of tools, and a certification program. The RESET Standard creates a structure for data quality, continuous performance assessment, and benchmarking.

For further information check: [www.reset.build](http://www.reset.build)



### Why IAQ Monitor

- + RESET certified
- + Constant IAQ awareness
- + Plug and Play
- + LED CO<sub>2</sub> scale
- + Modern, slimline Design
- + Modbus



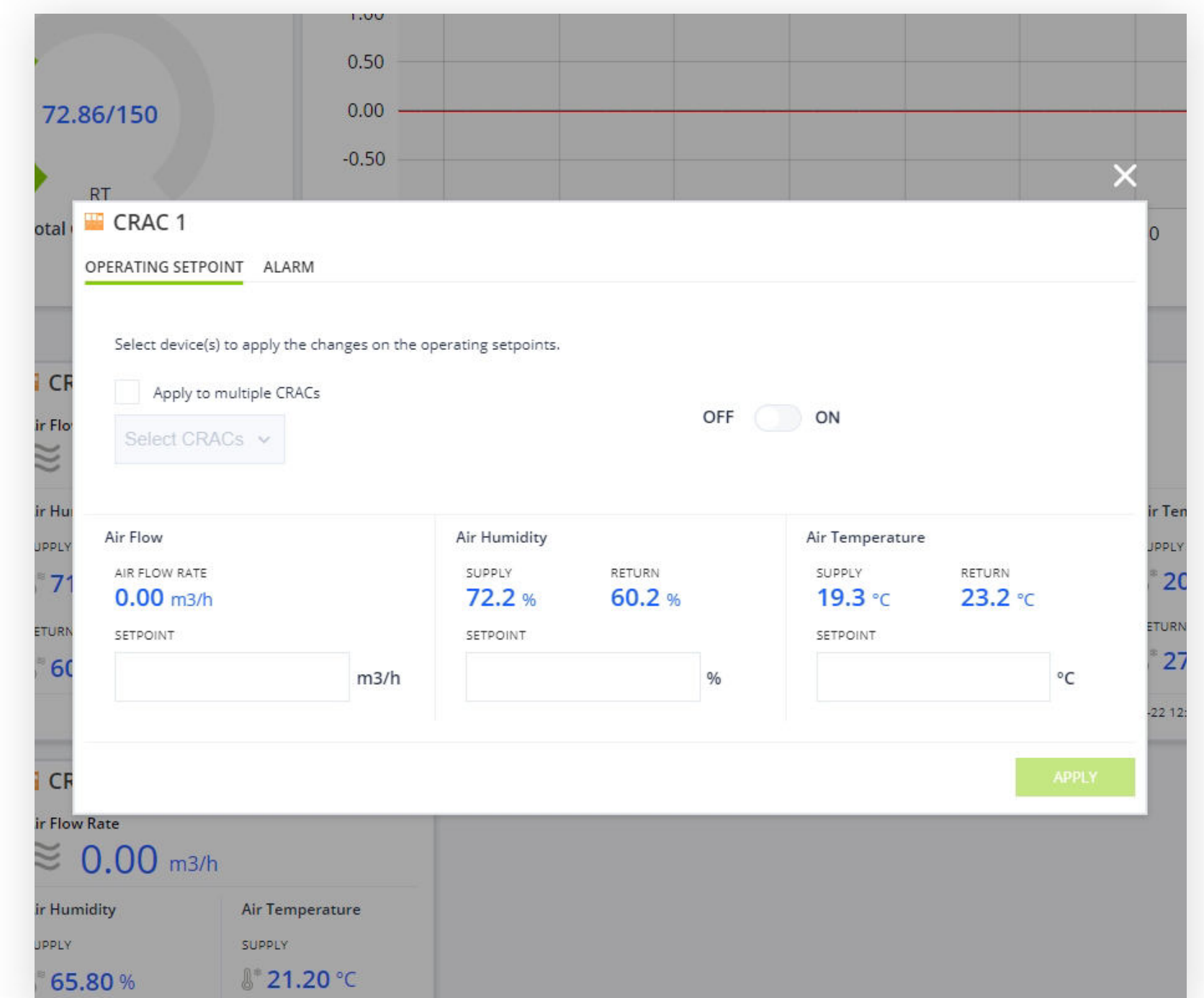
## Dashboard Real Estate Data Building Connect

At the hardware level, data is made up of electrical signals which can be translated, read and transmitted to our Cloud. But it is our dashboard that visualises this data, enables automation and alarms, and performs complex efficiency calculations. Building Connect is a user-friendly, web-based display designed specifically for buildings.

Building owners and operators can monitor assets' energy and water consumption, air quality, and occupancy density. Custom heatmaps leverage existing sensors and thermostats to keep track of specific areas. Building Connect enables service providers to perform remote maintenance of components, saving unnecessary trips.



Digital Floorplan with Heatmap



Alarms and Operating Setpoints

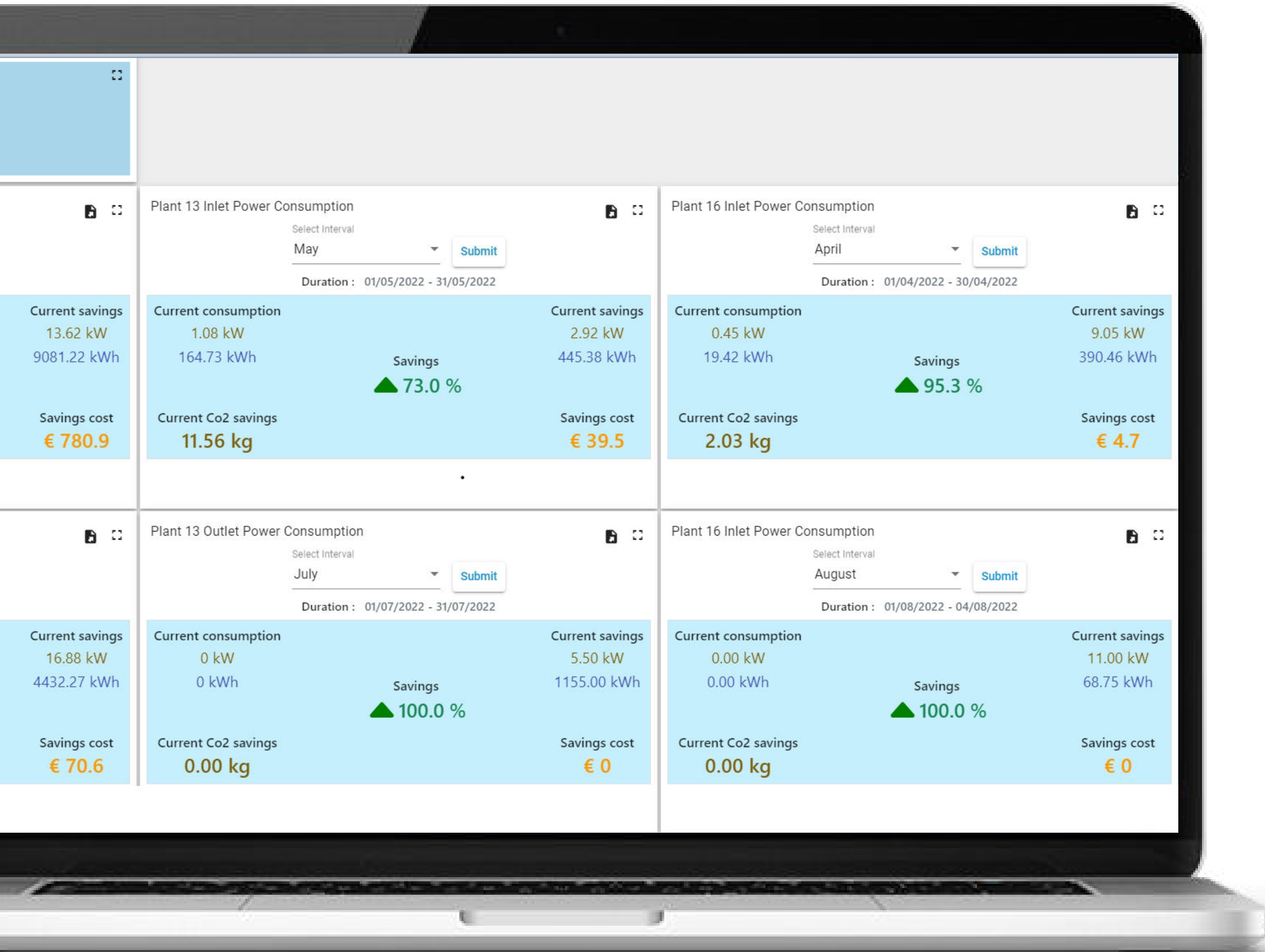


## What is the epCloud?

Our ebm-papst Cloud is an agnostic in-house development. This means we can install it with any cloud provider as well as in closed networks. We work with the highest security standards to protect your data and assets.

## Why Building Connect

- + Real-time building data
- + Building performance comparisons
- + Custom alarms and events
- + Demand-driven maintenance
- + Indoor air quality (IAQ) control
- + User-friendly interface
- + Application-specific deployments

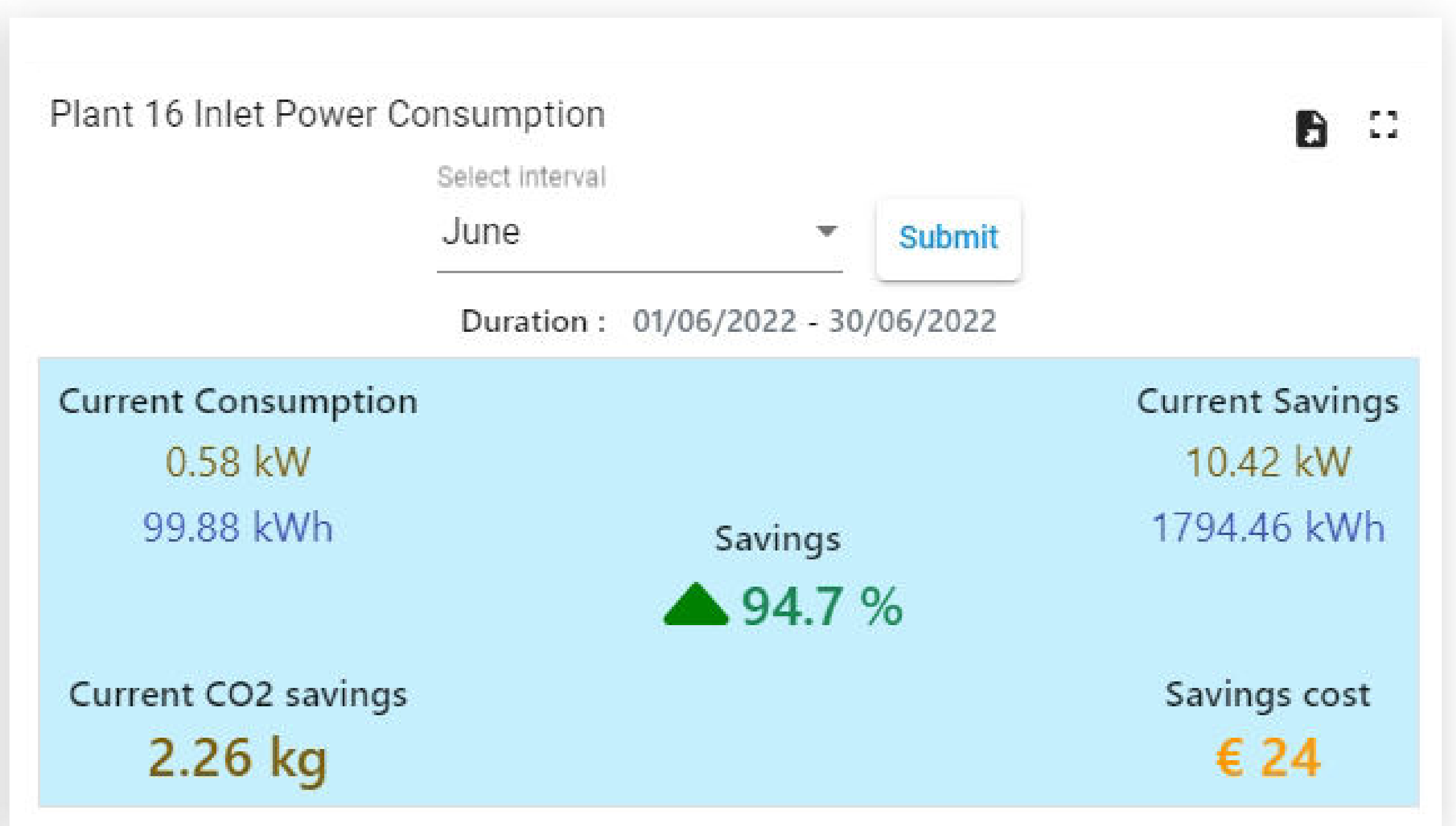
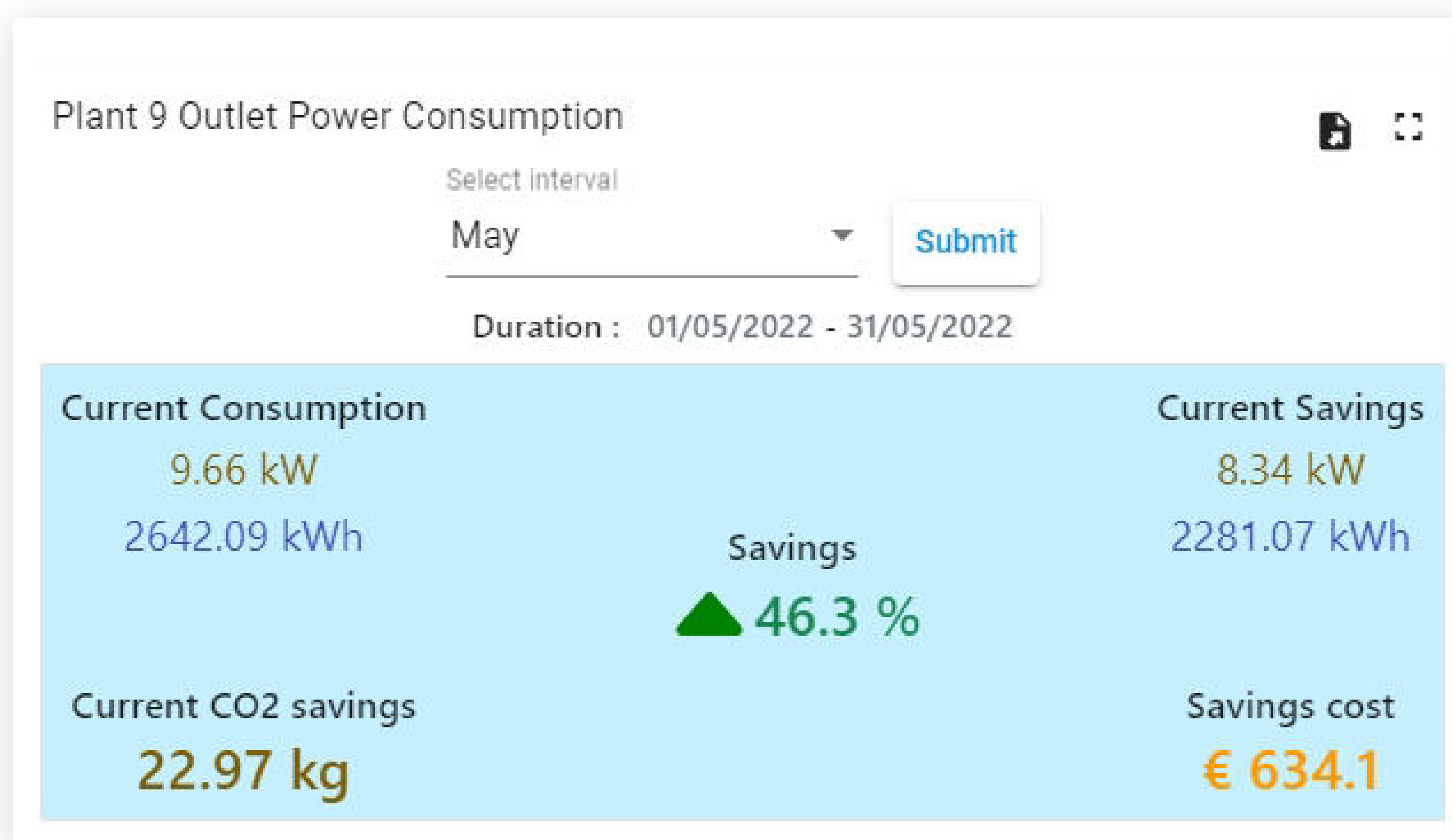


Dashboard

## OEM Solutions epCloud

Many ebm-papst customers already use our EC fans and motors. The vast majority of them are used as part of complex systems such as AHUs or air purifiers, which now run much more economically thanks to our technology. However, our components and IntelliGate Connector are capable of much more.

With epCloud, we not only read our fan data and optimise efficiency in real time. We also calculate the lifetime, detect anomalies, send status reports and alarms. Of course, epCloud can also take over the complete control of the entire system, which opens up completely new business models for you. Predictive maintenance thus becomes maintenance on real time demand, the investment business of an AHU thus becomes an air supply service.



Sustainability Calculator



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## Why epCloud?

- + Become digital with epCloud
- + Real time asset data
- + Carbon footprint calculator and optimiser
- + Decentralised Control
- + Automated alarms
- + Demand driven maintenance
- + User-friendly



Software Solution

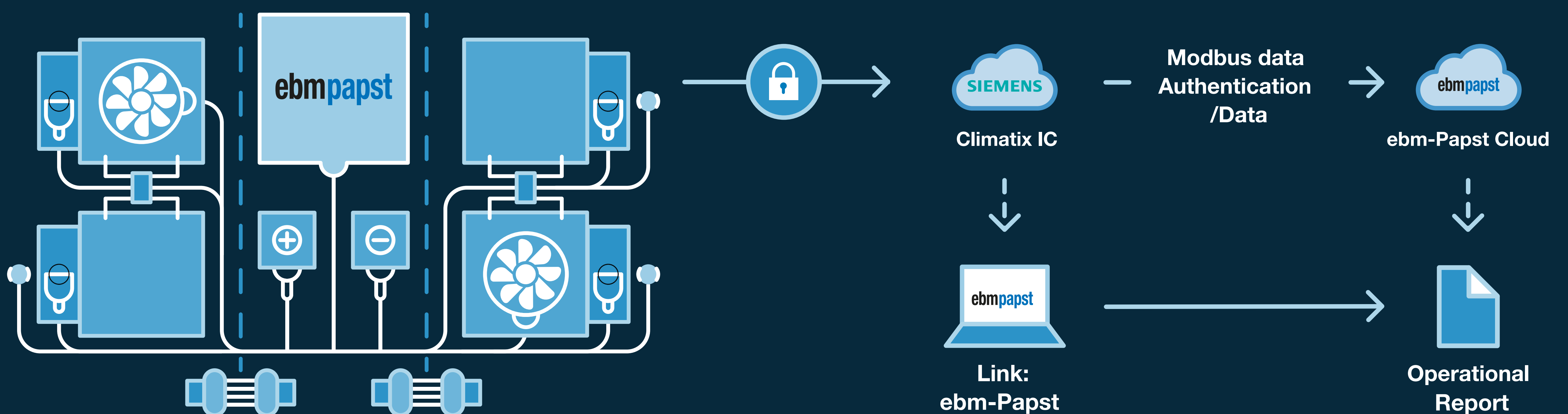
## OEM Solutions Computation Cloud

In cooperation with:

Regular monitoring of system operation can prevent malfunctions of air handling units and system downtime due to component failures. Evaluation and analysis of performance and runtime of components can identify abnormal operation that potentially leads to failure well in advance. Two major HVAC equipment suppliers, SIEMENS and ebm-papst, join forces to offer fan analytics, helping to deliver your fans' optimum performance.

The ebm-papst Computation Cloud receives a constant stream of fan-data from the *Siemens Climatix IC* cloud and due to the hyper-scalable architecture, it can apply real-time analytics on the data stream to derive information such as:

- + Calculation of the actual operating point of the fan
- + Filter Clogging detection
- + Heat Exchanger Icing detection
- + Optimisation of Fan Grid Control strategy
- + Vibration Monitoring and Analysis
- + Anomaly Detection
- + Remaining Component Life
- + Efficiency analysis of the fan operation



» Cloud connected components provide an almost limitless stream of useful data which can provide real-time feedback about component operation, component condition and potential component failure «

Brendan Dow  
Sales Director of ebm-papst neo

### Why epCloud?

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- + Automated alarms
- + Demand driven maintenance
- + User-friendly



## Digital Solutions captured your interest?



We are looking forward to getting in contact with *you*.

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