



Distributed IoT device infrastructure with smart IoT box solution

Use Case

Distributed IoT device infrastructure with smart IoT box solution featuring hardware / software and cloud services

A locally distributed IoT device infrastructure forms the basis for sustainably reducing the service and support requirement of field devices such as machines, energy systems and utilities.

However, the route to establishing connectivity to existing infrastructure can present companies that have a significant number of field devices with several challenges. Neither the selection and implementation nor the subsequent maintenance of IoT devices is usually the core competence of internal engineering or service departments.

susietec is able to solve these challenges through the smart combination of various hardware and software elements. The KBox A-250 combines FabEagle®Connect with hardware and a low-code integration platform that has been field-proven for industrial applications to ensure fast time-to-market and secure connections. The roll-out and updates of the box are supported by K-PORT.

Each of the K-PORT features enables, among other things, device status monitoring, remote access, and software container management in a cloud-based ready-to-go setup.

The project

- ▶ Configuration of an IoT infrastructure
- ▶ Roll-out in the field
- ▶ Commissioning of a central service platform

The susietec products

- ▶ KBox A-250
- ▶ FabEagle®Connect
- ▶ K-PORT

The service

- ▶ Implementation of connectivity using FabEagle®Connect and configuration of cloud-based K-PORT

The challenge

- ▶ Local IoT integration at the field system
- ▶ Global roll-out of KBox A-250
- ▶ Carrying out updates and changes to the K-Boxes

The solution

- ▶ Setting up and configuring K-PORT (device configuration, visibility, access levels, etc.)
- ▶ Establishing an internal connection between the device and the IoT box by configuring and implementing FabEagle®Connect
- ▶ Setting up or optimizing the configuration for each field device
- ▶ Field devices are shipped with suppliers default settings, automatically load your assigned software images and configurations from K-PORT
- ▶ Automatic installation of K-PORT, monitoring and roll-out of updates using centralized K-PORT cloud services

The result

- ▶ Fast and flexible implementation of IoT connectivity
- ▶ Secure and hardened environment using combined IoT field devices and software solutions
- ▶ Reduction of spare parts thanks to uniform and standardized IoT field devices
- ▶ Central management environment that meets all operational requirements
- ▶ Fast and secure market launch



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Technical details of the project

The project is based on a smart IoT box solution consisting of hardware, software and cloud services that are used to create a distributed IoT device infrastructure. The K-BOX integrated for this purpose contains a software solution especially customized and pre-tested to the requirements of the project. FabEagle®Connect establishes reliable interfaces for Industry 4.0 and IoT applications.

The actual implementation of the process interface is limited to selecting the local interface (ProfiNet, OPC/UA, PLC direct, CAN, etc.) and preparing individual data channels to form an information model. This allows both a uniform model and an individual solution for each local field device to be applied. These models provide the possibility to unify higher-level cloud or control system interfaces. The interfaces are based on standards such as Rest, MQTT, APMQ and offer maximum information transmission security.

All devices can be managed by K-PORT, and the corresponding configurations can be assigned to each system using containers.

As soon as the IoT boxes are installed in the field and a secure connection to the Internet is established, the box independently contacts central K-PORT using a unidirectional standard call. Having then downloaded the specific software configuration, the box reboots itself - and establishes IoT connectivity.

Advantages for the customer

Adopting an IoT solution that combines software, hardware, and cloud services means less risk, less complexity, and less work for the customer. As a result, the customer does not have to worry about the installation or the distribution of the K-Boxes. The pre-tested and hardened packages offer maximum stability and security when they connect to the Internet. The market launch time is also significantly reduced.

In addition, the customer can use the central cloud environment to build a digital service portfolio - leveraging newly established IoT connectivity to create even more value for the company.

Customer key figures

- ▶ Management of many thousands of IoT devices
- ▶ Direct monitoring of all IoT devices using one platform
- ▶ Distribution of software remotely, securely and without delay (bulk updates)
- ▶ 100% saving on travel costs, 100% saving on USB drives

About susietec

We see digital transformation as a holistic approach. With the susietec toolset, we support companies in recognizing the potential of IoT and digitalization: The combination of software, hardware and know-how enables functional and smart solutions for equipment suppliers, providers and manufacturers. That is how we succeed in implementing purpose-driven changes effectively - with the aim of driving forward digitalization in the long term.

susietec solutions can be used in an existing environment and also provide a basis for the new development of machines, components and production plants.

In the association of Kontron companies we help you take the decisive steps towards digital transformation using our experience from numerous digitalization projects.

For more information, please visit: susietec.com

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