



## VIVAVIS IoT hub

### The foundation for smart cities

The internet of things (IoT) provides processes to interconnect everyday physical objects with the internet. Such objects are among others common household appliances (eg light bulbs), products used for environment monitoring (eg sensors for temperature or CO<sub>2</sub>), status indicators in general and means for event monitoring.

Besides such everyday objects, you may also place specific sensors that offer information about temperatures of power units used in local area substations or about levels of above ground tanks used for water supply. You may integrate parking occupancy monitoring to control traffic flows of heavily frequented areas or observe switching states to forecast possible downtimes.

Our **IoT hub** interconnects different sensors, protocols and transmission networks and provides data collected in a standardized format to downstream specialist applications. The **VIVAVIS dashboard** offers initial and quick overview on this data by means of maps, tables, time series and log entries.

### In detail

- Reception of data provided by manifold sensors and protocols
- Quick overview on data points measured
- Forwarding of data to downstream specialist systems

## Our challenge

The internet of things grows at an incredible speed due to an ever-increasing number of network-compatible sensors and higher bandwidth for data transmission. New use cases and more options to install and read specific devices are created every day, which should actually help to acquire new knowledge. However, far too often newly collected data is not available where it may be needed or there is no option to create a consolidated view.

At the end of the day, it becomes more and more necessary to make decisions based on this digital information, but keeping information in the respective system is not enough. Instead, it is required to combine IoT data with process data of specialist applications and create meaningful results.

## Our solution

The **unique selling proposition of VIVAVIS AG** is our rich portfolio of numerous expert systems suitable for manifold applications. With **VIVAVIS IoT hub**, you are able to provide standardized sensor data of IoT devices to these VIVAVIS systems as well as third-party systems. Furthermore, **VIVAVIS** firmly drives the integration of new sensors and protocols into the overall system.

**VIVAVIS IoT hub** reads data of sensors by various manufacturers via LoRa® and NB-IoT technologies. The IoT hub thereby automatically configures administrative components of the respective protocol layers. Thus, users only have to concentrate on the integration of new sensors into the device management of the **IoT hub**. The **VIVAVIS dashboard** features widgets that are easy to configure and offer a quick overview on data captured.

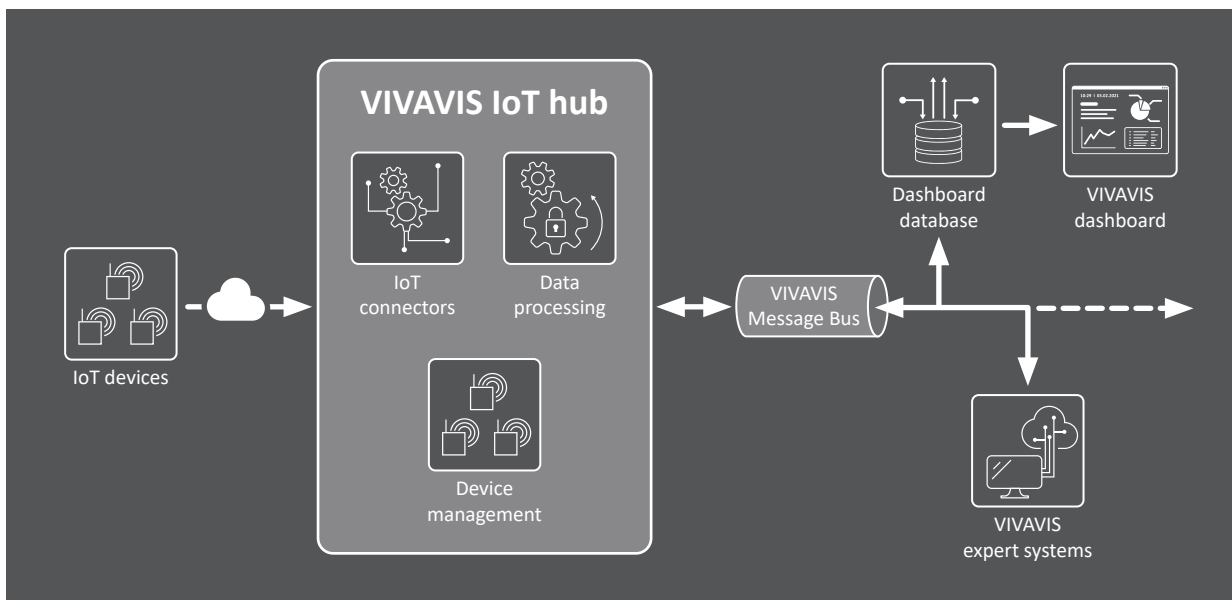
Information is provided clearly in maps, tables, time series and log entries. This enables competent decisions.

## Our product

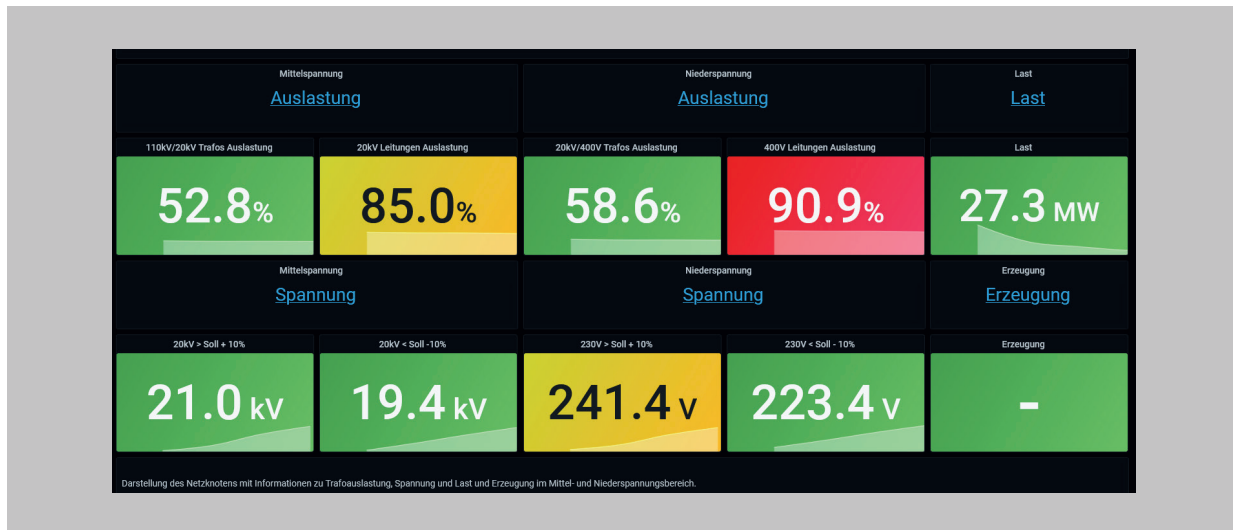
**VIVAVIS IoT hub** links specialist applications and the internet of things as it receives data of manifold sensors and various protocols. The IoT hub standardizes this data and provides it via the integrated message bus.

The functions of **VIVAVIS IoT hub** are implemented in two components – a back end with **data aggregation** and a **dashboard** to visualize IoT sensor data.

You can provide all the information recorded by the **IoT hub** to upstream specialist applications via the message bus.

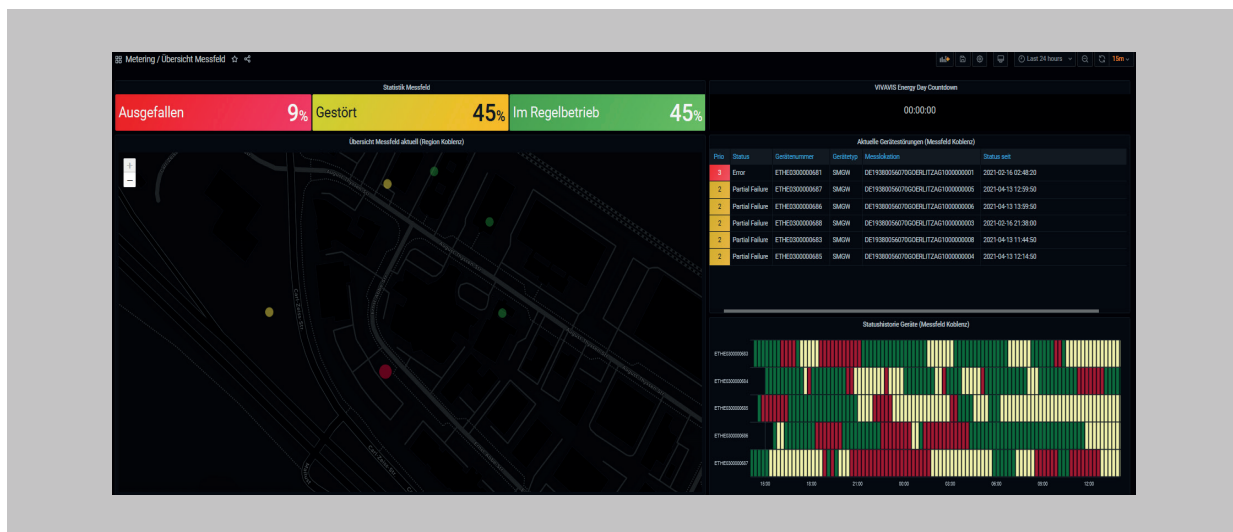


## Benefits for grid operators



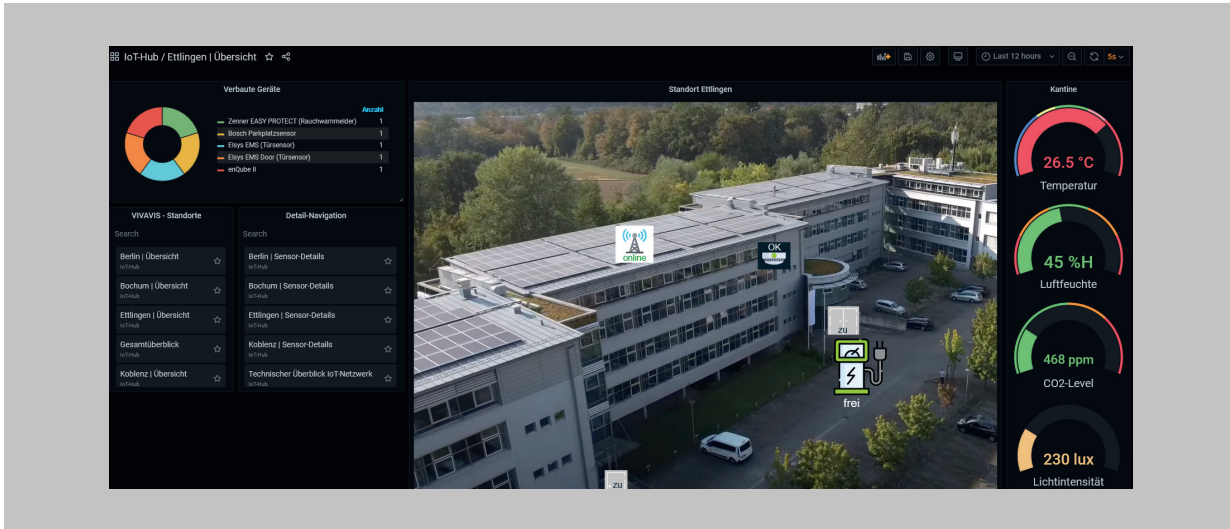
The ever-increasing share of volatile energy causes high loads on transformers in local area substations at peak times. These loads can be detected by monitoring the temperature of components installed. The installation of IoT-capable temperature sensors in stations concerned may indicate bottlenecks in good time and thus enable grid control systems to impose countermeasures that prevent sudden breakdowns.

## Benefits for meter operators



VIVAVIS IoT hub is the perfect complement to the MDM system IDSpeccto.DAYOS by means of which you are able to offer additional services in the field of metering that differ from sheer current and gas measurement.

## Benefits for districts



Especially in districts, generation and consumption data of accommodation units can be combined with information about individual heating and airing habits and thus improve air quality to prevent mould and optimize the use of resources.

## Benefits for water industries



Above ground tanks, water retention facilities or pumping stations – IoT data provides a quick overview on all parts of your plants and enables fast localization of possible leaks.

### VIVAVIS IoT hub is your link between specialist applications and IoT

VIVAVIS IoT hub enhances the view on existing processes and adds new pieces of information that could not be gathered so far. You are thus able to collect data in locations you could not reach in the past and determine costs for its acquisition.

Exploring new locations and data bases casts new light on existing processes and enables new application cases and service offers.