CONCLUSION

Azure IoT Smart Energy Grid

Continuous processing of bi-directional messages in a large-scale energy network.. This enables the user to gain almost real-time insight into the state, health, and condition of the energy network and automatically steer the network when needed. The solution supports district heating, solar, wind, and battery, electrical boilers, EV Charging poles, and domestic heating systems.

This solution offers fast, highly scalable, and secure data exchange between all devices in the energy network, using Microsoft Azure PaaS components. It enables the user to connect to a variety of sensors using Zwave, Modbus, MBus RTU, OPC, MQTT, Opentherm, proprietary bus protocols, mbus, and P1. The solution not only reads data from these sensors but is also able to steer energy devices by sending messages back to energy assets. The solution can process data with a sampling frequency of every minute and a roundtrip data processing latency of fewer than 3 seconds. On top of this, the solution offers logic to detect anomalies and automatically create and resolve service tickets in the asset maintenance system.

The smart energy grid solution is offered as a SaaS service and integrated into your Azure subscription. The service has a proven track record of processing high-frequency sensor data from a large-scale energy network and can scale up hundreds of thousands of devices and process hundreds of millions of messages a day. The smart energy grid realized a significant reduction in CO2 emission, large-scale savings in energy leakage, and increased the usage of sustainable energy significantly by fast switching between different energy sources. This contributed to the goals set in the energy transition and added to the financial bottom line of the businesses using this solution.

The outcome of this service a professional Smart Energy Grid linking the data stream of many different types of devices to your backend systems. Making the usage and control of these components more cost efficient and more reliable. Deliverables of this implementation:

- connected sensors to an Azure IoT hub and a time-series database
- connect sensor data with logic in azure functions.
- analysis report on the major anomalies and notifications.
- configure alerts and notifications to energy management systems.
- processing steering messages back towards the energy devices

Pricing is €96.000.- for the standard package and can be extended with additional devices, backend systems and data solutions.

Why customers use Conclusion Azure IoT Smart Energy Grid

Usage: a data connector and transportation layer between physical devices and any backend system in the energy domain. The smart energy grid is designed for maximum security, flexibility, scalability and ease of management. Making the management of your remote data sources easy and cost effective.

Markets: Energy, Utilities,

Competences: IoT, data cloud, application development, data & AI.