Smart Company Project

JAGA

Jaga is an international company specialized in **innovative heating and cooling solutions**. Jaga supplies a wide range of radiators and indoor climate solutions for cooling, heating and ventilation.

WHAT WAS NEEDED?

Jaga is currently developing a **cloud-based IoT data platform to enable remote management of cooling and heating systems**. This data platform will empower Jaga and its installers to remotely control and monitor these climate systems.

Requirements

- **Dashboard displaying live data**
  Data from the radiators should be processed by the IoT platform and made available on a real-time dashboard, making it easy to consult all relevant information about the devices (location, customer, etc.).
- **Automatic alerts**
  The platform should send alerts if a predefined threshold is exceeded. For example, when the temperature is too high.
- **Registration of new devices**
  A manufacturer must be able to register a new device.
- **User management for administrators, installers and customers**
  An installer must be able to manage customers via a web application: create, modify or delete customer data. An installer may only manage customers created by him.
  An installer must also be able to link one or more devices to a particular customer via a web application.
  An internal user must be able to manage installers, their clients and their devices.
- **Remote maintenance**
  Remotely upgrading the business logic modules.
- **Firmware upgrades**
  An internal user must have an overview of installed firmware per device via a web application.
  An internal user must be able to activate a trigger for a new installation (per device or for all devices) through the web application.

WHAT SIRUS PROVIDED

Sirus guided Jaga to work out **an Azure-based IoT architecture and build an end-to-end data platform**, including a dashboard for the reporting and management of the IoT devices.

In the first phase, Sirus was responsible for developing a web portal utilizing Azure IoT technology. This portal offers real-time status information as well as graphical historical data for cooling and heating systems. It gives Jaga administrators the capability to **remotely configure system settings and perform firmware updates**. Furthermore, the platform enables installers to manage IoT devices and link them to a specific customer. Sirus successfully guided Jaga to work out an Azure-based IoT architecture and build a dashboard for IoT device reporting and management.

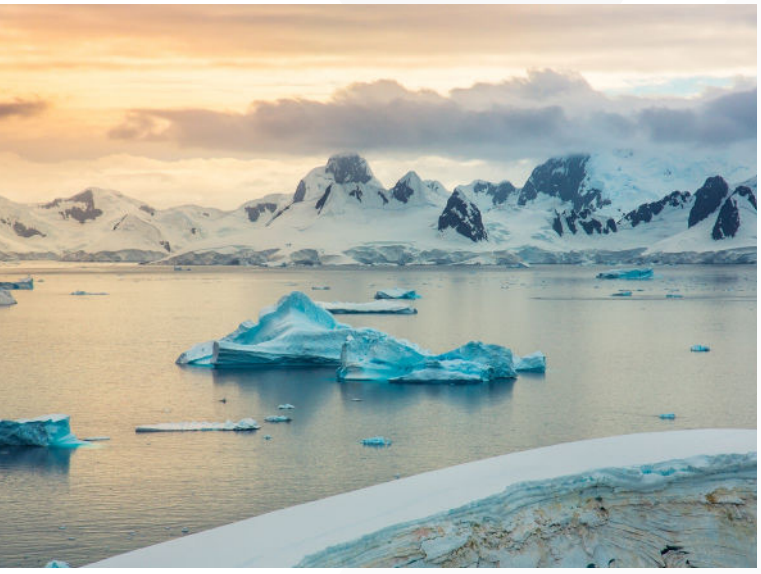
TECHNICALITIES OF THE PROJECT

The IoT-data platform is built on Azure, using several Azure services, including the following:

- **Device provisioning:**
  - Azure IoT Device Provisioning service
  - X.509 certificates
- **Data processing**
  - Azure Stream Analytics
  - Azure Event Hub
  - Azure SQL server
  - Azure Logic App
  - Azure data lake
  - Azure functions
- **User interface**
  - .NET Core Web API
  - Blazor web framework

WHAT'S NEXT?

Originally designed as a Proof of Concept, the platform quickly evolved to a platform that proved to be very valuable for Jaga. In the next phase, Jaga's ambition is to gradually roll it out into **a full production environment**, while also capturing new ideas and implementing new functionalities based on feedback from the POC and its users.



WHAT SIRUS' MEMBERS THINK ABOUT THE CASE

"A project like this required a lot of effort. We were able to work together in a team, in very close cooperation with the customer. Even though there were different (technical) challenges to overcome, there was a concrete outcome that we could work towards with a clear benefit for the end-users. Combined with the innovative and state-of-the-art tools that we could use, this project was a very fun one to be a part of and motivated us to strive for more and even better solutions. "

Jens Rappé
Project Manager

WHAT THE CLIENT THINKS ABOUT THE CASE

"The IoT Data Platform is a very handy tool to analyze a range of problems that might occur e.g. Wi-Fi connection problems, broken temperature sensor, broken CO2 sensor... This will enable our after-sales team to provide good support to our customers and even be proactive in solving the issue without troubling the customer. With the platform we are also able to update all the devices to the latest firmware. We are very happy with the collaboration with Sirus."

David Bos
Research and development engineer at Jaga

SIRUS

jaga
CLIMATE DESIGNERS