



Township of Barsbüttel

Data monitoring for best energy efficiency

Optimal energy efficiency in public buildings is a top priority for the township of Barsbüttel. To take one step closer to this goal, Fujitsu has captured a wide range of room data in real time using sensors, and evaluated it with the IoT Operations Cockpit analysis platform.

Challenge

The township of Barsbüttel planned to check the energy consumption in municipal buildings.

The municipality therefore went looking for innovative options to obtain and evaluate data.

Solution

Fujitsu used sensors to capture temperature, humidity, light intensity, and CO₂ data in real time. The data was then consolidated and visualized with the IoT Operations Cockpit analysis platform.

Outcomes

- Established transparency of actual air quality
- Identified ways to save energy
- Improved learning and work environments as well as energy footprint

„Fujitsu's data analysis made us aware of the fact that we'd massively exceeded limit values that negatively impact the learning process.“

Thorsten SchöB-Marquardt, Principal Erich Kästner Comprehensive School



Checking energy consumption and determining savings potential

The township of Barsbüttel in Schleswig-Holstein, Germany, has always been a strong advocate for sustainability, climate protection, and a livable environment for its residents. At the same time, the municipality has to deal with a steep rise in energy costs.

The administration therefore launched an initiative to put the energy consumed in public buildings to the test. The goal was to identify savings potential and improve energy management practices. Another important objective was to keep an eye on the air quality in municipal buildings, especially in the comprehensive school. After all, a healthy room climate must be maintained at all times for teachers and pupils. Continuously monitoring the humidity also established a foundation for preventing mold growth in order to protect human health and keep the buildings in good condition.

Capturing and evaluation of room data

To meet these requirements, the township's representatives and the building management team went looking for innovative technical solutions to obtain and evaluate data on the room air and energy consumption in municipal buildings. Working closely with its partner, Dataport.Kommunal, Fujitsu implemented a suitable solution. During a six-month pilot project, the experts initially installed multiple sensors in the local comprehensive school for capturing temperature, humidity, light intensity, and CO₂ data in real time. The data was then consolidated in Fujitsu's IoT Operations Cockpit data analysis platform and evaluated by Fujitsu's experts in the context of sustainability and energy efficiency.

This gave Barsbüttel a precise overview of the current conditions in the school, including the measured values for room air quality and the exceeding of related limit values. To obtain further findings, the project managers also added the town hall and local swimming pool to the test setup. In a co-design workshop, Fujitsu's experts together with the township's representatives and partner Dataport.Kommunal additionally developed success factors and solution approaches for specific measures to improve the conditions.

Data analyses demonstrated high temperature and CO₂ levels

The analyzed data showed that the temperature and CO₂ levels in the examined Barsbüttel buildings were excessively high during the heating period. This was particularly true of the school classrooms, where critical CO₂ levels of more than 6,000 ppm (parts per million) were temporarily measured.

Industry: **Administration**
Inhabitants: **approx. 13,000**
Location: **Germany**
Website: **barsbuettel.de**

About the customer

The township of Barsbüttel is situated in the German State of Schleswig-Holstein, belongs to the Stormarn District, and is part of the Hamburg metropolitan area. It also belongs to Sieker Land Saxony Forest Active Region. The municipality consists of the four districts of Barsbüttel, Stemwarde, Stellau, and Willinghusen. It has a population of around 13,000 and occupies a total space of 2,468 hectares. Barsbüttel attracts a strong influx of new residents.



6,366 ppm

was the highest CO₂ level
measured in the classrooms

According to the German Federal Environmental Agency, the safe limit value is 1,000 ppm. In summer, the classrooms also reach temperatures of more than 30 degrees Celsius, which limits the ability of students and teachers to concentrate.

The results show not only potential for saving energy but also that better ventilation and technical options for optimizing air quality are needed. „Fujitsu's data analysis made us aware of the fact that we'd massively exceeded limit values that negatively impact the learning process," explains Thorsten Schöß-Marquardt, Principal of the Erich Kästner Comprehensive School in Barsbüttel. The measures that Fujitsu has taken will ultimately help lower the township's costs, improve its energy footprint, and simultaneously optimize working and learning conditions for people in the buildings over the long term.

Customer:



Fujitsu

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