DIGIMONDO

USE CASE

HOW IOT MAKES
SCHOOLS SMARTER

Schulbau Hamburg optimizes Facility Management Processes and Learning Surroundings with E2E Software Solutions powered by DIGIMONDO
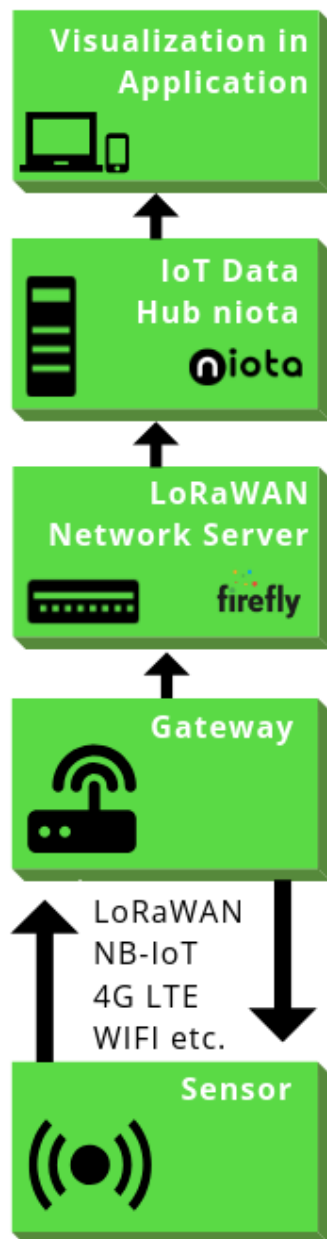
> ‘Our slogan is „Good rooms for good education". With Digimondo we can have intelligent rooms. We optimize our processes through digitization: The school janitor monitors all processes in real-time and reacts immediately to an alarm. We are able to reduce our energy consumption, costs as well as our CO_2 emissions.'
>
> Thomas Sies, Manager Central Facility Management at Schulbau Hamburg

SBH | Schulbau Hamburg is the organization responsible for the complete management of 350 Schools in the city of Hamburg. Headquartered in Hamburg and with a service staff of approximately 1.000, Schulbau Hamburg controls the planning, building, operations and renovation of the total building portfolio. Public organizations operate under strict budget constraint; facility management costs runs at 41% of the budget and energy costs at 35%. The operations team of Schulbau Hamburg constantly strives to improve the quality, user experience as well as reducing the total carbon footprint of the schools with improved yearly targets.

To achieve these goals, Schulbau Hamburg has set its sights on optimizing the facility management processes and energy consumption across the buildings under its management. DIGIMONDO's software niota enables Schulbau Hamburg to get real time insight on the main drivers of cost, service quality and carbon production in the school buildings. niota can support feedback based on these insights. Schulbau Hamburg wants to be leading in this area, acting as a role model for other public administration entities in increasing sustainability in the operations of their building portfolio.

Visualization in Application

IoT Data Hub niota

niota

LoRaWAN Network Server

firefly

Gateway
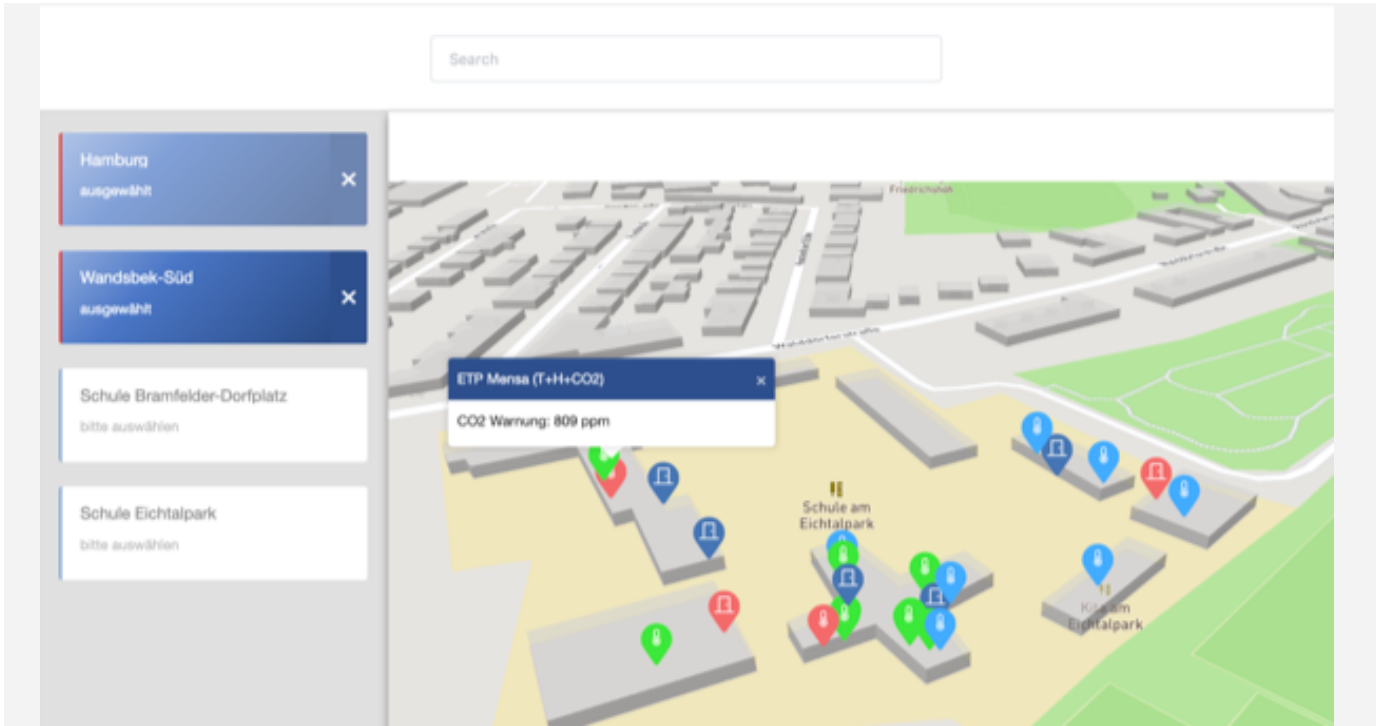
LoRaWAN
NB-IoT
4G LTE
WIFI etc.

Sensor

To bring its vision to life, SBH partnered with Digimondo to create a digital-ready foundation for its initiative.
The solution employs the niota platform connected to a network of sensors to help make the facility management processes more agile and the operations more sustainable. The entire solution is based on a DIGIMONDO network and application layer, using data capture automation to simplify facility management, analytics to provide insights, and embedded security everywhere. Digimondo's wireless LoRaWAN solutions support an IoT (Internet of Things) network delivering connectivity to a network of sensors.
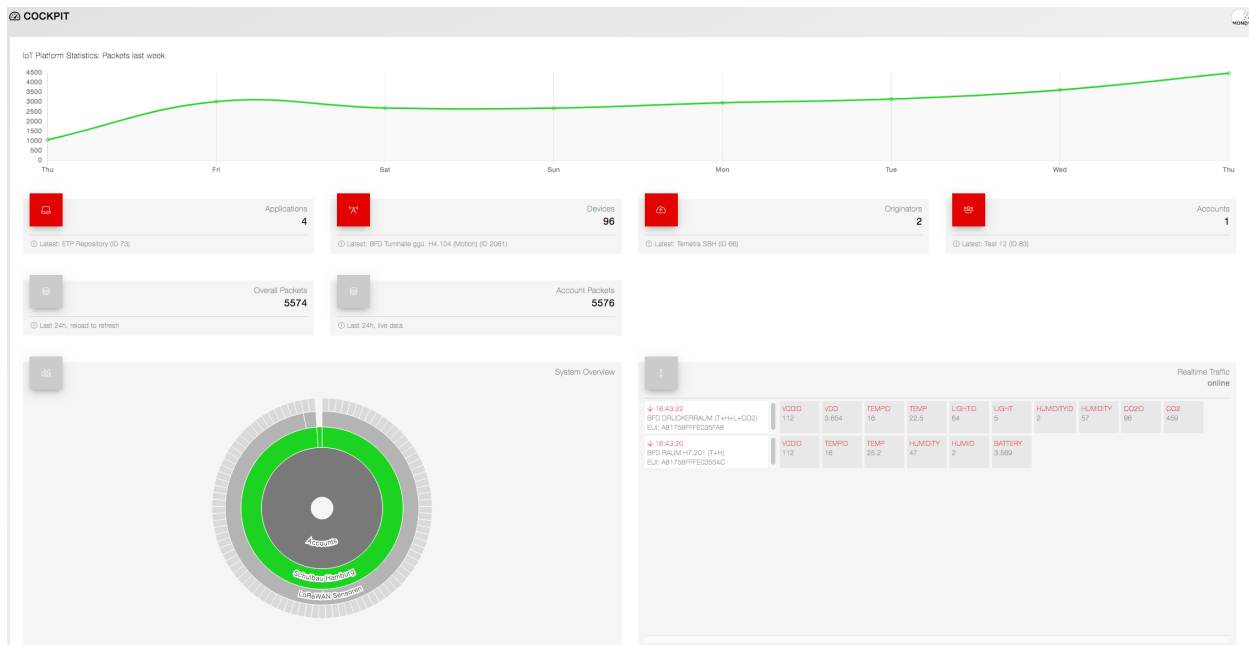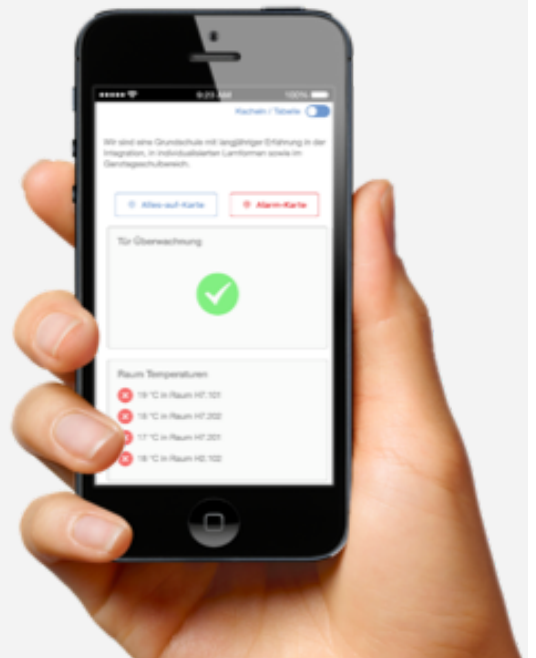
LoRaWAN is a leading IoT Protocol, ideal for connecting objects off the electricity grid with sensors running with a long life battery of 5 - 10 years. The facility management environment is ideal for LoRa implementation as it supports implementing an overlay solution with minimal operations and maintenance costs.
Data from the LoRaWAN network is collected and visualized to suit the school maintenance staff.
Also data from other IoT networks such as SigFox and WiFi are aggregated in the niota platform offering a single application interface for all data generated in the IoT Network.

Advantages of IoT for public buildings

- Digitization of real estate
- Ease of network deployments
- Real time reporting
- KPI of complete property portfolio
- Actionable insights to reduce carbon footprint

Dashboarding and Live Insights allow the facility management team to respond in real time to events taking place in the building. These can range from security breaches (doors opening), emergency exits being blocked by vehicles (parking sensors), water leaks (humidity sensors and water meters), electricity consumption (submetering) and more. Providing remote access to service personnel for entry to buildings where urgent maintenance tasks can be carried out quickly is easily facilitated with the IoT deployment.

FACITILIES CENTRIC SERVICES

The process of service partner management

SERIVCE REQUEST

Service partner receives service request and installs Application

PLANNING/TICKETING

- Ad hoc Service Request (Mobile)
- Planned Maintenance (Portal)

ACCESS TO FACILITY

Service partner arrives at facility, is granted access to building/relevant areas

PUSH NOTIFICATION

Information related to Floorplan, Error Report, Ticket Info, Contact Info, Inhouse

ACCESS TO ASSET

Service partner has access to asset

COMPLETION

After completion, service partner closes ticket

Ticket 1
Ticket 2
Ticket 3
Ticket 4

By using the Digimondo E2E Facility Management Solution, Schulbau Hamburg has been able to raise the quality of the service they deliver to the schools. They can now respond quicker to disruptive events, offer cleaner classrooms with good indoor climate and overall run more sustainable operations by avoiding resource wastage and streamline maintenance more efficiently with real time responses (e.g. truck rolls and energy leaks).

The next step for Schulbau Hamburg on their digitization journey is monitoring of gyms with sensors and installation of a digital door lock system.

DIGIMONDO IoT Components:

- NIOTA Platform with Security Layer
- FIREFLY LoraWAN Network Server
- Gateway Technology Supplier X
- Doors and windows open/close sensors
- Temperature and air humidity sensors
- CArbon (CO2) sensors
- Shaft monitoring sensors

'We will continue our digitization project with Digimondo: We plan to monitor gyms which are used by schools as well as sport clubs with energy consumption and activity sensors and install a digital door lock system. This simplifies access to all authorised users during their allocated training periods.'

Thomas Sies, Manager Central Facility Management at Schulbau Hamburg