mimaCOM
Digital. Innovation. Engineers.

mimacom enables intelligent hygiene management at CWS with IoT web portal and real-time reporting

PROJECT DETAILS

Industry: Hygiene

Users: Facility managers, cleaning staff, CWS employees in Customer Advisory and Maintenance

Team: 2 digital consultants (product owner and concept & design), 1 software architect, 7 software engineers (frontend, backend, DevOps).

Development Period:

- 10/2018 – 03/2020   Portal adoption & technical "makeover"
- 03/2020 – 12/2020   Mobile App
- 03/2020 – 12/2021   Portal Relaunch

PRODUCTS / TECHNOLOGIES

- Azure Functions
- Angular, Azure IoT Hub
- Elastic, Microsoft Azure, REST
- Spring Boot, Terraform

CWS smartMate, a web portal with an associated app, provides real-time insights into restrooms and in this way revolutionizes hygiene management in public sanitary facilities.

CWS

The aggregation of visitor numbers and filling levels of restroom dispensers in a single, uniform view that can be evaluated dynamically ensures innovative resource and personnel planning and improves customer experience at CWS.

> *CWS and mimacom are very proud to have jointly developed such a solid, customer-oriented web portal as CWS smartMate. It uses IoT data to provide customers in the cleaning and hygiene industry with valuable information in a dynamic configuration.*
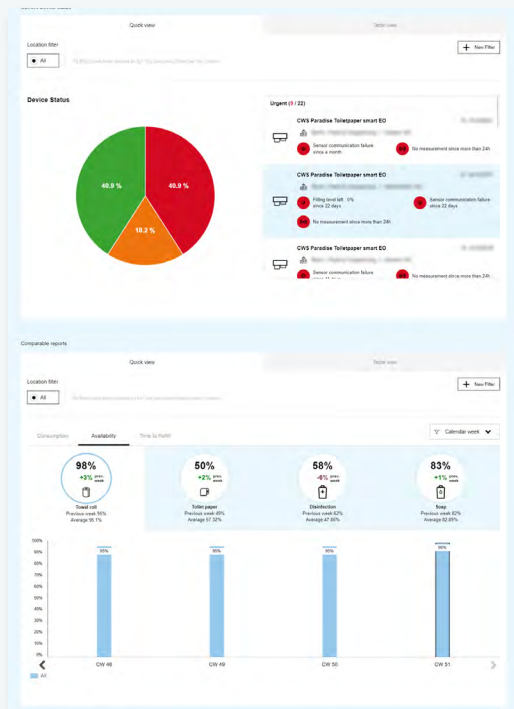>
> **Annetta Lust,** Head of Digital Business Solutions Hygiene, CWS International

smartMate portal from end user perspective showing all connected devices such as soap, toilet paper, towel and desinfection dispenser

Background → CWS is a full-range provider of high-quality solutions for products and services in the hygiene, mat, work clothing, fire protection, cleanroom and health and personal care areas. Since its foundation in 1899, CWS has repeatedly proven its innovative spirit and, with over 100,000 customer contacts at 130 international locations, it is currently well on track towards becoming the market leader in Europe.
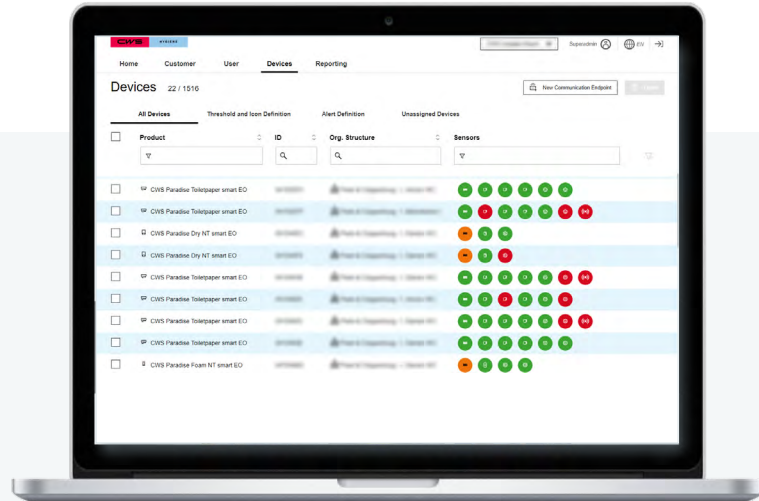
The challenge:
Optimizing resource planning, reducing costs and improving customer experience

To be able to continue to provide its large number of international customers with state-of-the-art products, CWS decided to transform hygiene management in public sanitary facilities. The focus is placed on enabling a better assessment of the individual consumption of soap, hand towels, toilet paper and disinfection agents, as well as the varying need for personnel. The ultimate objective: To improve the level of hygiene in restrooms and boost the efficiency of operators.

CWS recognized the potential of digital hygiene management very early. However, restroom products at the time did not offer the required functionality for the quick and easy retrieval of data on the current status of hygiene items such as soap, etc., or the provision of real-time insights into the hygiene situation of sanitary facilities at offices, industrial enterprises, airports or train stations. Consequently, CWS decided to cooperate with mimacom in order to bring digital hygiene management to the next level.

smartMate webportal dashboard

Solution →
An IoT system that aggregates visitor flows and filling levels and makes this information available to restroom operators in real time

Since the visitor figures for sanitary facilities tend to fluctuate, it was previously very difficult for operators to manage their resources and personnel in a targeted manner, which had a negative impact on building management efficiency and made maintaining a consistent hygiene level a hit-and-miss affair. Therefore, mimacom and CWS worked together to collect the requirements on the basis of the agile and user-centric Digital Accelerator Program and developed smartMate in iterative cycles to create a dynamic tool for hygiene management.

Requirements for smartMate

A web portal for general hygiene management, including

→ Digital acquisition of restroom traffic data

→ Online information overview on the consumption of hygiene products

→ Real-time information on the current status of all hygiene dispensers

→ Automatic notification in the event of device malfunctions or empty dispensers

→ Dynamic reports on devices, consumption, availability and refilling times over configurable periods of time

An associated app for mobile use and the identification of urgent need for action, including

→ Overview of all connected hygiene dispensers

→ Interactive use of the portal

→ Overview of pending actions (to-do list), e. g. maintenance of devices

→ Representation of the necessary resources

→ Predictions on future maintenance activities and suggestion of the most efficient maintenance routes

→ Video tutorials on the filling of hygiene dispensers for cleaning personnel

Currently smartMate records the number of visitors to sanitary facilities and the filling levels of soap, hand towel and toilet paper dispensers almost in real time. With the new solution, CWS intends to offer its customers more predictability and an enhanced user and customer experience. Restroom operators will be able to use the new functionality to make their management more efficient while visitors will benefit from improved hygiene.

A solution based on IoT technology

The digital acquisition of data is enabled by an IoT system, which monitors the filling levels of hygiene dispensers and restroom traffic via radio signals. A gateway collects all of this information and sends it to the Cloud, where it is processed and made accessible by the operators via the app and the web portal. This data not only lets building managers and restroom operators monitor the current situation, but also provides them with access to important indicators, such as peak times and dispenser usage values. In this way, for example, alarms can be triggered if the filling levels are too low and reports can be generated on the amounts of hand towels and hygiene products used within a certain period of time.
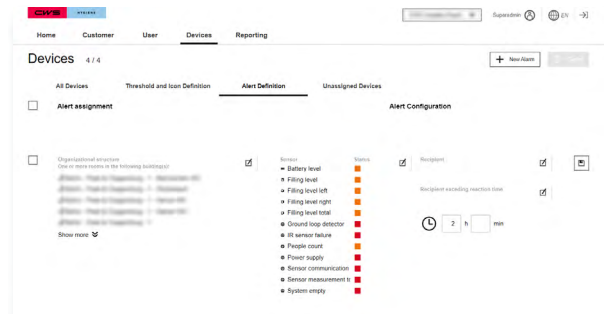
smartMate's customizable alert definitions ensure that empty dispensers are being refilled and damaged devices exchanged in time

> ❞
> *Working together with mimacom's team of experts was highly beneficial for us. The elements of the web portal were developed according to the Design Thinking principle and many new methods were applied.*
>
> **Annetta Lust,** Head of Digital Business Solutions Hygiene, CWS International

CWS smartMate is a pioneering
web application and app
for innovative hygiene management

Dynamic reports enable more predictability for restroom managers

In a further step, mimacom developed a uniform and clearly structured reporting system for CWS, which replaces the previous e-mail reports and visualizes all data in a user-friendly interface. Four distinct categories offer extensive information:

Devices: Displays a list of all hygiene dispensers and provides information on their availability/ filling status – for example, which soap dispensers must be refilled?

Consumption: Provides insights into the consumption within a certain time period – for example, X liters of soap were needed for this restroom last week.

Availability: Provides information on the availability of hygiene resources in the past – for example, 5% of hygiene dispensers were unavailable at some point during the last month. This can be used to identify empty or broken devices.

Time for refill: Documents the time spent on refilling the dispensers – for example, the devices were unavailable for 15 minutes on average during the last year until they were refilled.

The system provides many options for the flexible evaluation of data in any given time period, from the graphic representation of individual days all the way to table-based compilations for entire years.

mimacom and CWS work together to achieve a high level of innovation

As an expert in user-centric design and software development, mimacom worked together with CWS, a specialist in the hygiene industry, to create an innovative product based on the latest technologies and intelligent data systems. A Cloud-native application provides a reliable end-to-end solution whose easy integration makes it an innovative hygiene software. In this way, smartMate represents both a decisive breakthrough in addressing current challenges and simultaneously a future-oriented solution for public hygiene facilities.

> *The consistently friendly support that we received from mimacom was characterized by profound professional competence and excellent customer service. You can always count on this team!*
>
> **Annetta Lust,** Head of Digital Business Solutions Hygiene, CWS International