Using the Internet of Things and the Cloud to Disrupt the Hygiene Business
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Hagleitner: **Technology and Transformation**

Working with SAP, Hagleitner Hygiene International embarked on a digital business transformation that helped it make the **leap from a commodity product–based business model to a service-based model**. This innovative, analytics-enabled approach has brought new recurring revenue streams, closer customer relationships, and access to new markets.
Hagleitner Hygiene International GmbH  
Zell am See, Austria  
www.hagleitner.com/en

Products and services  
Innovative hygiene management

Business goals  
Implementation of Internet of Things (IoT) technology to increase revenue and business value for customers

Digital innovations  
Cloud, IoT, and Big Data technology

Why SAP  
Single source for required technologies as well as guidance for development, deployment, and monetization

Outcome  
Introduction of hygiene as a service using the senseMANAGEMENT solution, resulting in a move from a product-based to a service-based business model

SAP® solutions  
SAP HANA® database, SAP® Cloud Platform, SAP SQL Anywhere® database, MobiLink, and SAP Analytics Cloud solution

For any company like ours making a major business-model transition from product to services, SAP technology can provide a solid foundation.

Manuel Huick, Project Manager, Hagleitner Hygiene International GmbH
Based in Austria, Hagleitner Hygiene International provides hygiene solutions to a variety of clients. To leap ahead in the highly competitive washroom-hygiene market, the €112 million company wanted to move beyond commodity product-based offerings and significantly elevate the value it delivers to customers.

Digital technology is having an impact on virtually every industry. With that in mind, Hagleitner embarked on a digital transformation initiative with SAP to reinvent the management of the soap, disinfectant, towel, and paper dispensers used by its large-facility customers. The goal was to use cloud and Internet of Things (IoT) technology combined with advanced analytics to modernize washroom facilities and help customers increase efficiency, boost customer satisfaction, and strengthen compliance with health regulations. The result was the introduction of the senseMANAGEMENT solution, which would transform Hagleitner’s business model and enable the company to differentiate itself from the competition.

“We wanted to use IoT technology to give our customers tools, analytics, and data intelligence they could use to generate value in their businesses and comply with strict European Union healthcare requirements,” says Manuel Huick, project manager for senseMANAGEMENT at Hagleitner.

“Digital innovation is the way forward for Hagleitner.”
Manuel Huick, Project Manager, Hagleitner Hygiene International GmbH
Real-Time Monitoring, Just-in-Time Action

Built using SAP® technology, Hagleitner’s senseMANAGEMENT is a complete “intelligent hygiene” solution that automates the monitoring of dispensers in the field – a groundbreaking innovation for the industry. The sophisticated solution is based on IoT technology, SAP Cloud Platform, and the SAP Analytics Cloud solution.

With senseMANAGEMENT, Hagleitner customers can see the real-time status of dispensers so they know precisely when each dispenser needs refilling, when batteries need changing, and so forth – allowing personnel to respond within minutes. In addition, analytics-based reports can be used to better predict usage and maintenance needs to enable just-in-time deliveries and data-driven decision-making.

The breadth of integrated software offered by SAP and the opportunity to embed that software into its senseMANAGEMENT offering was key to Hagleitner’s choice of SAP as a partner. “It was important for us to have a single software supplier for all software components, and that those components be tightly integrated and available on an OEM basis,” says Huick. “SAP had the right solutions for everything from local database management designed for the IoT to real-time analysis in the cloud.”

Hagleitner’s decision to partner with SAP was also based on SAP’s global reach and reputation for quality.

But the SAP technology itself was just part of the picture. Hagleitner’s decision to partner with SAP was also based on SAP’s global reach and reputation for quality, its willingness to collaborate on an innovative solution, and its ability to provide guidance on using the technology to shape new ways of doing business. “We knew the senseMANAGEMENT offering required innovation in terms of both the technology and our business,” says Huick, “and we saw SAP as a good partner to accompany us on that journey.”

BETTER DATA MEANS BETTER COMPLIANCE

At a 370-bed Austrian hospital, senseMANAGEMENT:

- Is used to track more than 900 hand-disinfectant dispensers
- Enables the hospital – for the first time – to quickly and easily comply with a European Union healthcare regulation requiring hospital staff to use at least 3 ml of disinfectant after washroom use
- Has helped increase disinfectant usage by 20%
A Total Solution – From Development to Deployment in Just Six Months

For the creation of senseMANAGEMENT, SAP provided software development kits, software licenses, and technical documentation. SAP experts also provided Hagleitner with technical advice about everything from connecting IoT devices to using cloud-based technology to aggregate and analyze data.

To support deployment of the solution, SAP provided training, consulting, and 24x7 technical support for priority incidents. It also provided the expertise needed to get the sophisticated SAP HANA® database and SAP Analytics Cloud in place on SAP Cloud Platform – all of which was essentially uncharted territory for Hagleitner. In addition, because of the platform-as-a-service approach used for the solution’s back end, Hagleitner was able to move forward without incurring the time and expense associated with an entire on-premise solution implementation – a key factor in the speedy deployment.

Overall, Hagleitner was able to create its cloud-enabled IoT solution and new service in just six months.

Hagleitner also developed marketing and sales plans as well as a new business model for the solution. This included the creation of a flexible pricing plan that offers several levels of service, from basic monitoring to full analytics reporting, as well as customized pricing. This approach has enabled Hagleitner to offer senseMANAGEMENT to a wide range of customers. Overall, Hagleitner was able to create its cloud-enabled IoT solution and new service in just six months – and transform its traditional product into a hygiene-as-a-service offering.

SAP: ENABLING BUSINESS INNOVATION

The Hagleitner senseMANAGEMENT solution relies on:

- **SAP® SQL Anywhere® database and MobiLink:** Small, flexible, stable database that is simple to configure and modify and protects against lost data even after connection loss
- **SAP Cloud Platform:** Open platform as a service that connects to on-premise and cloud-based systems running SAP or third-party software
- **SAP HANA® database:** Fast, secure, anytime handling of hundreds of millions of data points
- **SAP Analytics Cloud solution:** Connection to a constant flow of Internet of Things device data, including a real-time connection to mobile devices in the field
Increased Efficiency, Improved Compliance, and a Better Experience

Hagleitner’s senseMANAGEMENT solution quickly found success in the market. The company has enabled its customers to focus on managing hygiene in their facilities – bringing solid business benefits.

For example, with a real-time view of the status of dispensers, maintenance efforts no longer rely on in-person inspections to determine when refills are needed. The resulting increase in efficiency is dramatic, with customers generally seeing a reduction in maintenance time of about 80%. At the same time, customers are better able to track washroom activity, helping to strengthen compliance with health regulations – something that can be especially challenging with traditional washroom dispensers. And Hagleitner’s customers are able to provide their own customers with a better experience, because the hygiene products they need are always available.

More broadly, the ability to rapidly gather and analyze data from across a facility gives Hagleitner customers increased visibility into costs, materials, and processes. With a better understanding of frequently shifting demand, senseMANAGEMENT gives them the opportunity to institute consumption-based ordering and logistics. That, in turn, opens the door to optimizing supply inventories and deploying personnel more efficiently.

HANDLING THE CROWDS

In a major Viennese soccer stadium, senseMANAGEMENT is used to:

- Connect more than 700 washroom sensors
- Constantly feed data to the on-premise SAP® SQL Anywhere® database and then to the SAP Analytics Cloud solution

On a typical game day, the system handles:

- About 625,000 data entries
- Peak rates of about 100,000 entries per hour
How It Works: The Architecture

As demonstrated in the figure below, senseMANAGEMENT makes it possible for sensors in washroom dispensers to constantly track usage as well as fluid and paper levels, while other sensors monitor the number of people coming in and out of washrooms. This data is transmitted via radio-frequency link to a local IoT gateway – an on-premise server running the SAP SQL Anywhere® database, which aggregates data from a number of washrooms in a given facility.

SAP SQL Anywhere and MobiLink are then used to send this data to SAP Cloud Platform, a platform-as-a-service offering that enables cloud-based applications. SAP HANA and SAP Analytics Cloud, running on SAP Cloud Platform, are used to analyze data and send alerts and reports out to dashboards on any customer Web-enabled device, from computers to tablets and smartphones.

“SAP SQL Anywhere is excellent for running from a remote location because it’s small, flexible, and stable.”

SAP software is especially suited to this comprehensive, end-to-end approach. “SAP SQL Anywhere is excellent for running from a remote location because it’s small, flexible, and stable,” says Huick. “SAP SQL Anywhere and MobiLink are simple to configure and modify, and there’s no data loss after a connection loss. And SAP Cloud Platform is not only extremely fast – it’s also secure and reachable from anywhere.”

Figure: Hagleitner senseMANAGEMENT Internet of Things Architecture Diagram
Opening Doors: New Revenue and New Customers

For Hagleitner, the senseMANAGEMENT solution has enabled a significant new stream of recurring revenue. There are currently about 40 senseMANAGEMENT customers relying on Hagleitner’s SAP HANA database, which easily accommodates the hundreds of millions of data entries this workload entails. And the lineup of customers is varied and growing.

The solution has helped Hagleitner move away from its traditional commodity product–based model and compete on more than just low costs. It has increased customer “stickiness,” as customers using senseMANAGEMENT work with Hagleitner on an ongoing basis. And it has enhanced the company’s brand, positioning Hagleitner as an industry leader in the innovative use of technology.

Altogether, this transformation has helped Hagleitner differentiate itself in a competitive market – and prepared it for continuing innovation going forward. For example, with senseMANAGEMENT, the company now has a platform it can use to create new data-driven services for customers. It also has a repeatable and scalable offering – with flexible, attractive pricing – that can be used across a variety of clients and industries. As a result, says Huick, “The solution is already opening new market opportunities in areas such as restaurants, schools, lodging, tourism, and travel.”

As those opportunities unfold, the central infrastructure based on SAP Cloud Platform can provide the agility and scalability needed to quickly enable enhancements and new services. Huick notes, “As our business evolves, our SAP-based solution can evolve along with it.”
Find Out More

To find out more about how SAP technology can help you enhance your products and services, please visit us [online](https://www.sap.com) or contact your SAP representative.