



SAP  
Innovation  
Awards 2019



# SAP Innovation Awards 2019 Entry Pitch Deck

Building Smart Warehouses to drive customer satisfaction and  
unlock new revenue streams

GEBHARDT Fördertechnik GmbH

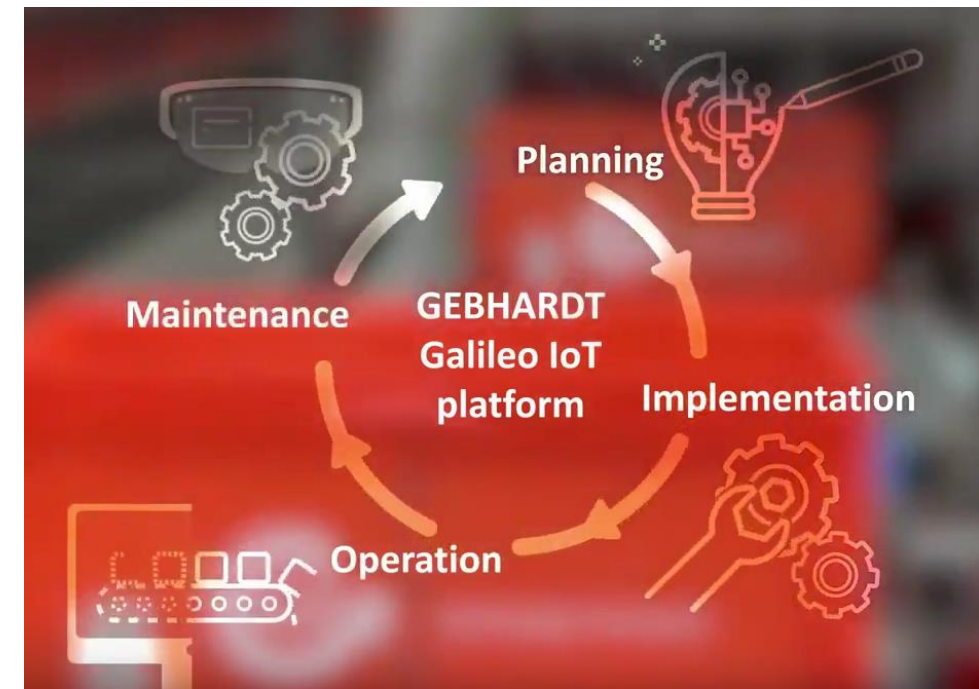
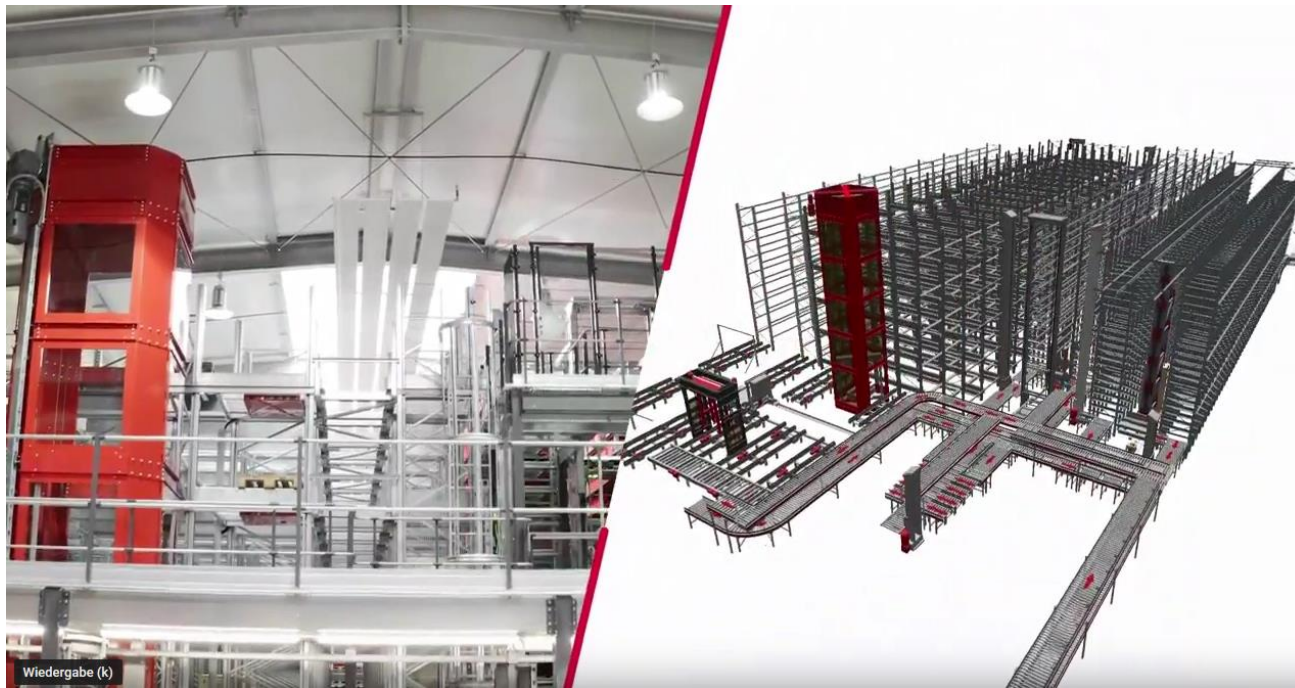
THE BEST RUN



# Industry 4.0 in intralogistics with GEBHARDT Galileo IoT



<https://www.youtube.com/watch?v=1G8FebTEBoM>





# Building Smart Warehouses to drive customer satisfaction and unlock new revenue streams

## GEBHARDT Fördertechnik GmbH



### “Quote”

“With our Galileo IoT platform based on SAP, we bring our customers’ logistics equipment up to date with the latest standard of technology.”

Stephan  
Riemensperger,

Head of Business IT,  
GEBHARDT  
Fördertechnik GmbH

### Challenge

GEBHARDT’s customers highly depend on a functioning intralogistics solution. In the connected world of intralogistics unexpected downtimes due to required maintenance or system failures immediately translate to delayed production and possibly even losses in revenue. To ensure smooth operations, GEBHARDT aimed to reduce maintenance to a bare minimum and provide full transparency over their plant’s condition to identify and replace faulty parts as soon as possible.

### Solution

The modular solution Galileo IoT combines all data from a plant’s machines and sensors and provides real-time condition monitoring of all components in a centralized cockpit based on SAP Leonardo. GEBHARDT’s integrated customer portal serves as a central digital point of contact for customers, providing details on each component. Complemented by a digital twin of the plant, predictive maintenance scenarios and holographic maintenance animations, every plant can be turned into a smart factory.

### Outcome

Fully digitized and connected components offer unparalleled transparency and control, enabling customers to avoid failures, plan maintenance better, and save costs. By aligning their services throughout the whole product lifecycle to the customer journey, GEBHARDT deepened customer relationships, changed their role from a supplier to a comprehensive service provider for intralogistics and unlocked new revenue streams.

> 2500 individual parts of the conveyor system can be integrated into the smart factory

6 weeks implementation period

Real-time management of the entire production line and warehousing



## Partner Information

### Sybit Implementation Partner



„Together with our partner Sybit we were excited to employ the brand new technology SAP Leonardo. We learned a lot during the process – and now we are even more thrilled to offer our customers maximum service.“

**Marco Gebhardt**, CEO, GEBHARDT Group



## Business Challenge & Objectives

GEBHARDT's customers highly depend on a functioning intralogistics solution. In the connected world of intralogistics unexpected downtimes due to required maintenance or system failures immediately translate to delayed production and possibly even losses in revenue. To ensure smooth operations GEBHARDT aimed to reduce maintenance to a bare minimum and provide full transparency over their plant's condition to identify and replace faulty parts as soon as possible.

However, previously after installing or providing an intralogistics solution the common contact points with customers were constricted to maintenance and selling replacement parts. Hence, GEBHARDT only had restricted data on their customers and the usage of their machines, especially when machines were being sold by intermediaries.

Therefore, digitalizing their systems from A to Z posed an opportunity for GEBHARDT. Primarily, to acquire more information about their machines and customers, while simultaneously strengthening their customer relationships and secondarily, to transform their business model from solely being a supplier to a full service provider.

GEBHARDT recognized that the IoT would be the key to creating a smart warehouse. They were convinced that a solution interlinking both production and logistic processes, bolstered by intelligent monitoring and controlling functionalities would lead to efficient operation of their systems. Because innovative solutions are in the company's DNA, the software solution should be as effective and future-oriented as possible.

Thus, SAP Leonardo constituted the perfect gateway to unlock the Intelligent Technologies necessary for GEBHARDT's use cases and set them on the path for future growth.

The main goal was to build a centralized cockpit with state-of-the-art visualization options, which combined all data from their plant's sensors and machines and provided continuous information on the condition of all components in real-time. Moreover, to increase convenience, transparency and reliability of their systems for their customers GEBHARDT strived to complement their solution by offering digital twins of customers' plants, predictive maintenance scenarios and an array of other features.





## Project / Use Case Details

The idea was born within one of GEBHARDT's frequent company meetings where every employee, no matter the hierarchy level, has a voice and is encouraged to bring forth his or her ideas. Instead of spending excessive time on planning, which would have impeded their progress, GEBHARDT's Business IT team adopted a practical approach and tried to create a proof of concept after conducting brief market research. Within only three months, whilst closely communicating with SAP, the team had built a solution with select GEBHARDT products and sensors interlinked via SAP IoT Application Enablement on SAP's Cloud Platform infrastructure.

As planned GEBHARDT presented their POC at the Logimat 2018 fair in Stuttgart. The POC comprised a measuring system with predictive maintenance scenarios, real-time condition monitoring and a customer portal - all showcased in a live demo plant. After the very positive reception, GEBHARDT decided to offer Galileo IoT as a complementary product to their core business.

The now full-grown solution covers each customer's individual need thanks to its modular structure. Customers can combine different service packages to compose their desired solution and purchase each of the licenses similar to a mobile plan. By perfectly interlocking business processes and IT, Galileo IoT offers a whole host of advantages throughout the plant's lifecycle:

- **Direct access to GEBHARDT's customer portal:** Customers can seamlessly connect to GEBHARDT's customer portal, based on SAP Asset Intelligence Network and hosted on the SAP Cloud Platform, through a distinct URL and user name. It serves as a central digital point of contact for customers to view their individual solution's technical documentation, parts lists, components, and spare parts.
- **Condition Monitoring:** With all system components digital and connected dashboards provide continuous information on the condition of all components, enabling real-time situation awareness. Performance data (acceleration, temperature, amperage etc.) is delivered by sensors fitted on every machine as well as the warehouse management system GEBHARDT Storeware.
- **Digital Twin:** A 3D-model of the plant is deposited with all the necessary data, serving as a single source of truth. Throughout the plant's lifecycle the digital twin allows customers to track any configurations and changes at any time, test planned plant extensions on the digital model beforehand, and visualize current plant status on dashboards to constantly monitor operations in real-time.
- **Predictive maintenance:** Sensor and process data is analyzed by the system and if an anomaly is detected, based on the customer's choice, a report via E-Mail, an on-screen notification or an automatic service order in GEBHARDT's CRM system is triggered. Hence, customers can anticipate and schedule maintenance and service work early on, without having to stop ongoing production.
- **Augmented reality and maintenance animations:** Apart from access to demonstrative maintenance videos and animations in CAD, engineers can use Augmented Reality glasses (HoloLens) to view a component's technical data in a holographic 3D model, which greatly alleviates their work. The engineer is guided through the process with textual, visual or audio information on how to fix the faulty part, which is automatically highlighted. If more support is required, engineers can contact the Gebhardt service desk, share what they see in a video call and get interactive advice shown onscreen.

To reach GEBHARDT's goal of acquiring 100 customers in the next 2.5 years, further use cases for Galileo IoT are being developed. These especially aim at delivering even deeper insight into the plants' treasure trove of data and making the solution even more convenient for customers. For instance, GEBHARDT is testing SAP Smart Business to visualize KPIs from different perspectives. Also, by adding additional visualization in form of a 3D-camera view to the condition monitoring, users will be able to easily navigate through an accurate map of their plant and pinpoint anomalies even quicker. Lastly, to reduce the time and effort of ordering replacement parts and to facilitate the process altogether, customers will be able to create a shopping cart and order parts directly inside GEBHARDT's customer portal.



# Benefits and Outcomes

## Business / Social

- The combination of a large centrally controlled conveyor solution with the smart use of virtualization and simulation in a centralized cockpit provides both customers and GEBHARDT a high degree of plant and process understanding.
- Real-time management of the entire production line and warehousing, with all information perceivable at a glance, offers unprecedented control and transparency.
- Predictive maintenance and scheduled service greatly increase system reliability, significantly reduce unplanned downtime and eliminate costs that usually arise from multiple service appointments.
- Building IoT-expertise bolsters the company's innovative image and allows GEBHARDT to engage in information exchange with players from other industries and develop further partnerships.
- By aligning their services throughout the whole product lifecycle to the customer journey GEBHARDT deepened customer relationships and changed their role from a supplier to a full service provider.
- Galileo IoT unlocked revenue streams previously inaccessible through GEBHARDT's traditional business model.

## IT

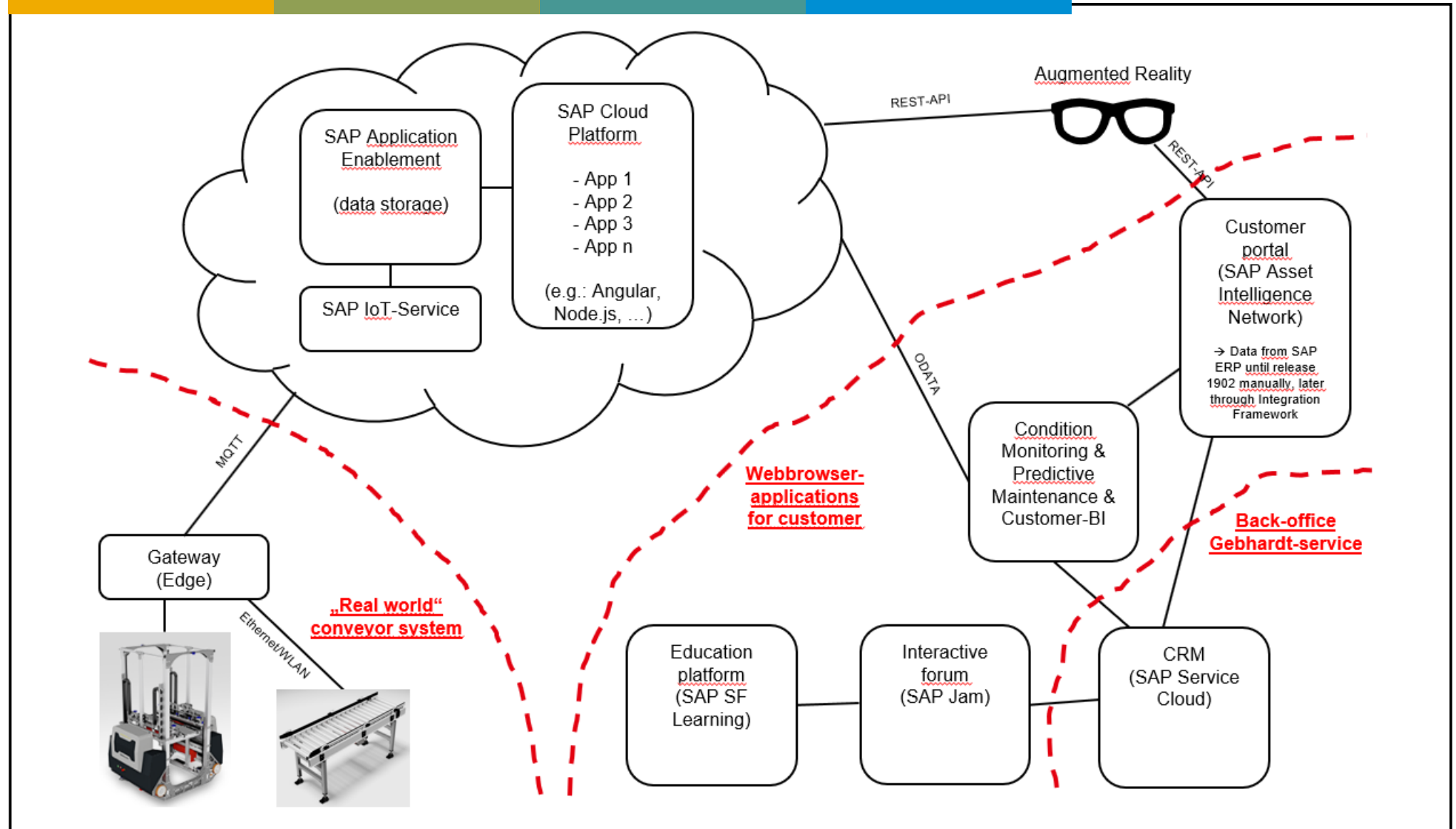
- Many lessons learned in the field of web development.
- Planned: A distribution of firmware updates to control modules.

## Human Empowerment

- Using SAP Jam, customers can book collaboration groups to closely and interactively work together with GEBHARDT.
- Replacing parts has never been easier for engineers, due to visual guidance from holographic 3D-models and optional interactive advice from the GEBHARDT service desk.



# Architecture







## Deployment

Date of Deployment or POC: October 2018, GEBHARDT's own factory hall 9 were their first customer

Number of live users: 20 company logins with multiple users

### SAP Technologies Used:

SAP IoT Service	✓
SAP IoT Application Enablement	✓
SAP Cloud Platform	✓
SAP Asset Intelligence Network	✓
SAP JAM	✓
SAP SuccessFactors Learning	✓
SAP Service Cloud	✓

Server Processor: n.a. – Cloud Platform

Linux Distribution: n.a. – Cloud Platform