



SAP
Innovation
Awards 2019



SAP Innovation Awards 2019 Entry Pitch Deck

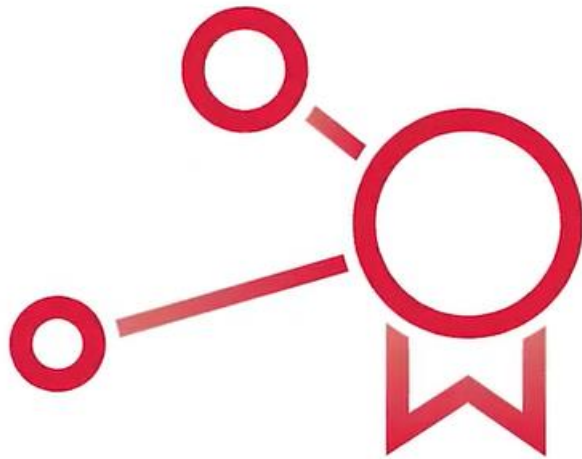
Locating corrugating rolls to increase customer value and
optimize existing production resources using IoT Technology
intelligence AG

THE BEST RUN





https://www.youtube.com/watch?v=a_Zunjfspoo



intelligence of Things Initiative

Locating corrugating rolls to increase customer value and optimize existing production resources using IoT Technology

itelligence AG

itelligence NTT DATA Business Solutions

“Quote”

“We Transform.
Trust into Value”

Norbert Rotter, CEO
itelligence AG

Challenge

The corrugating rolls from BHS can be reprocessed several times. Locating the corrugating rolls allows for transparency throughout the reprocessing process. The positioning and the current status of the corrugating rolls (for example, in productive use at the customer or return to reprocessing) will be displayed on the dashboard.

Solution

The finished NICE® corrugating rolls are located as soon as they leave the factory premises in Weiherhammer and are transported to the external warehouse of the logistics service provider. The complete locating from the external warehouse to the customers all over the world is ensured by IoT sensor device. The positioning data & environmental data as like shock and humidity detection are stored in the SAP Cloud Platform and provided to the customer first by e-mail and later by C/4HANA. The data provided by the manufacturer of IoT sensor devices is transferred to the SAP Cloud Platform via REST API and visualized in the role-specific dashboard for the customer and for BHS.

Outcome

BHS and the customers benefit from this approach. BHS recognizes in advance that a corrugating rolls will arrive for reprocessing and can plan its resources. The customer learns exactly in which process step his corrugating roll is and when he can plan with her again.

10% fewer coordination effort
with the customers and at the
same time increased service
quality

Significantly improved quality
management

Improvement of the
production planning about
10%



Business Challenge & Objectives

Business Challenge:

Construction of a stable system for the worldwide detection of corrugating rolls. In a further expansion stage, indoor tracking should also be possible.

The manufacturer of IoT sensor devices must be thoroughly evaluated regarding the functionality and rugged design of the trackers.

In addition, a smooth integration into the existing ERP system must be guaranteed.

Business Objectives:

NICE® corrugating rolls are tracked using a IoT sensor device and can thus be located in-house and worldwide.

The following findings can be obtained:

Customer: The roll is stored or productive in use (installed on machine)?

BHS: The roll is stored or in the reprocessing? In which production step is the roll located?

The service level to the customer is increased because the customer receives all required data automatically via e-mail and later via C/4HANA.



Project / Use Case Details

The finished NICE® corrugating rolls are located as soon as they leave the factory and are transported to the external warehouse of the logistics service provider. The complete locating from the external warehouse to the customers all over the world is ensured by IoT sensor device.

On the return delivery, the locating is determined from the time when the worn NICE® corrugating rolls leave the factory site of the BHS customer and reach the external warehouse of the logistics service provider. The transport from the external warehouse to the BHS factory premises is also tracked.

Customer Dashboard within the SAP Cloud Platform:

- Visualization of outdoor locating in a map from and to external warehouse of the logistics service provider
- Display of environmental parameters such as temperature, light, acceleration, humidity, etc. provided by the manufacturer of IoT sensor devices is transferred to the SAP Cloud Platform via REST API
- Visualization of the predicted delivery time

BHS Dashboard within the SAP Cloud Platform:

- Same options as on the customer dashboard
- Display of indoor location in the layout plan of the external warehouse of the logistics service provider

The positioning data & environmental data are provided to the customer first by e-mail and later by C/4HANA.



Benefits and Outcomes

Business / Social

- ROI within 1-2 years
- Improvement of the production planning about 10%
- Decreased stock by 5 %
- Reduced search times for Assets
- Revenue opportunities commercializing the IoT solution with external customers
- Improved reporting of loss and damage

IT

- Reduced time to deliver use cases from months to weeks (sprint) with development methodology supported by the SAP Cloud Platform Services
- Reduced IT services workload

Human Empowerment

- Logistics and Sales department benefits from real-time transparency into decentralized stock enabling them to forecast demand more accurately and quickly detect material theft or damage
- Reduced inventory management workload for BHS and its logistics service provider
- 10% fewer coordination effort with the customers and at the same time increased service quality



Architecture

Solution Components ERP
Business Rules for SAP Process
Management (BRF+)
Automatic processing based on
event, as:

- Posting of goods movements
- Posting of shopfloor and other events

Solution Components SCP

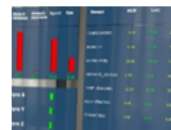
- Technical Services
- Business Services
- Data Management
- Data Distribution with SCP PI
- Business Rules
- Customer/User Management
- UX (Fiori)
- Data Aggregation

SAP ECC



SAP S/4 HANA
On-premise Edition

SAP S/4 HANA
Cloud Edition



SCP/Cloud Foundry

Events Cloud connector

Cloud
Manufacturer of IoT sensor devices

Solution Components AE

- Time Series (Locations, Temperature, Telemetry)
- Data Ingestion
- Routing
- Map Services
- Alerts
- Integration to other IoT applications based on time series



Inbound
Transport



Incoming
Goods



Intra
Logistics



Outgoing
Goods



Outbound
Transport ...
Last Mile
Delivery



Deployment

Date of Deployment or POC: End of May 2019

Number of live users: 20 User in Europe (stage of expansion: Europe 300 IoT Devices and Worldwide 900 IoT Devices)

SAP Technologies Used:

| | |
|--------------------------------|---------------|
| | |
| SAP Cloud Platform IoT | in production |
| SAP IoT Application Enablement | in production |
| SAP Cloud Platform Integration | in production |
| SAP Web EDI | in production |
| | |

Server Processor: -

Linux Distribution: -



Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

| | Technology or Use Case | Yes/No | Contribution to Project |
|----|---|---|--|
| 1. | Machine Learning / Artificial Intelligence | No | |
| 2. | IoT | Yes | IoT sensor devices (Track & Trace) |
| 3. | 3D printing | No | |
| 4. | Blockchain | No (possible as a further stage of expansion) | |
| 5. | API Economy / Integrate the Intelligent Enterprise | Yes | Connection to the cloud of the manufacturer of IoT sensor devices via REST API |
| 6. | Cloud Native / Event Based Architectures | No | |
| 7. | Extending the digital core with SAP CP / ABAP in SAP CP | No | |
| 8. | SAP Leonardo Application (extending SAP application, using Industry Innovation Kits or result of Design Thinking workshop) | No | |