

## EquipmentCloud® for DB Netz AG



"With the EquipmentCloud® we are now in the position to monitor our equipment quickly and easily and make systems more comparable. It also offers initial starting points for AI."

Daniel Mairing, DB Netz AG,  
District manager control and  
safety engineering, Seddin



### EquipmentCloud®

**DB Netz AG**  
Operating site Seddin

**Project:**  
Integration of the Seddin North-South marshalling yard into EquipmentCloud®

**Platform:**  
EquipmentCloud®,  
IoT gateway, REST

**Kontron AIS services:**  
Consulting, conceptual design of an IoT solution, integration EquipmentCloud®, support



#### Challenge

- Collect data from all sensors for analyzing
- Electronic documentation and performance of maintenance
- Prediction of deadlines, achievement of thresholds as well as the detection of trends



#### Solution

- Integration of the systems and components
- Evaluation of the data via EquipmentCloud®
- Installation and integration IoT gateway into existing infrastructure



#### Result

- Documentation and execution of maintenance
- Evaluations are available to authorized maintenance staff and employees worldwide
- Comparability of systems
- Data basis for artificial intelligence (AI) approaches

Kontron AIS has successfully integrated the train formation yard Seddin North-South into the digital transformation solution EquipmentCloud®. In addition to alarms from shunting equipment, process values and load statistics of the rail brakes, the EquipmentCloud® is also deployed to execute and document maintenance.

The integration of the train formation yard Seddin North-South into the EquipmentCloud® is done via an IoT gateway. The Linux-based gateway serves as a link between the brake control database and the REST interface of the EquipmentCloud®. This linking is realized via the graphical visualization tool Node-Red. Using Node-Red, various protocols can already be read via the available physical interfaces and processed with minimum programming knowledge. Thus, it is also possible for the end customer to make changes or extensions to the system independently. The end customer is freed from the linking to the EquipmentCloud® thanks to Node-Red, developed by Kontron AIS.

The node handles all authentication and buffering of data in case of temporary loss of Internet connection. The collected data can now be used to compare systems or parts of systems, to generate load statistics and to document alarm frequencies for rail track and system boundaries. The integrated maintenance module is used for realization and documentation and guides the user and maintainer through the maintenance process by using multiple checklists. A constant access to the relevant documents and maintenance instructions from DB Netz or the respective manufacturer is ensured at any times. Due to the responsive view, the checklists can easily be processed on any smartphone or tablet directly at the system.

The common goal of the cooperation is to integrate further equipment and the department of marshalling yards and train formation facilities. The secure data transfer is implemented via the IoT gateway of Kontron AIS. The foundation for further integrations is now in place. Especially the department for shunting technology in Munich of the DB Netz AG is aiming to push the integration of additional systems as soon as possible.



Overview of load statistics, process value monitoring and alarm frequencies.



„We want to use the EquipmentCloud® to make systems comparable, e.g. to identify faults in systems as early as possible, to detect recurring errors in cross-location components and thus improve the availability and shunting quality of our train formation systems.“

Dr. Martin Scheuch, Shunting Technology Department, DB Netz AG

## About DB Netz AG

DB Netz AG is the railway infrastructure manager of Deutsche Bahn AG. With around 46,000 employees, it is responsible for the approximately 33,400-kilometer-long rail network, including all operationally necessary installations. An average of 23,500 trains are using DB Netz AG's infrastructure per day. Thus, DB Netz AG was able to generate revenues in the 2019 business year of EUR 5,651m.

The main task is to make available to the around 420 RUs a high-quality, high-availability and non-discriminatory infrastructure and to manage the operation of said infrastructure. This includes the compilation of timetables in close cooperation with our customers and the repair and maintenance of the rail network. In addition, investment in the existing network, in modern command and control technology and in plans for building new lines and upgrading old ones ensures the further development of the rail infrastructure.

DB Netze Fahrweg is the number one European railroad infrastructure provider. Every year, more than 1 billion track kilometers are driven on the tracks in Germany. Most important sources of income are revenues from train paths, which account for over 90% of total sales. Train path prices are transparent thanks to a train path pricing system regulated by the Federal Network Agency. Besides the permanent backup of a high infrastructure quality and availability and non-discriminatory access to train paths and service facilities, DB Netze Fahrweg is also responsible for the management of infrastructure operations. This includes timetable preparation in close cooperation with customers, operations management, construction management and maintenance.

For more information please visit: [www.dbnetze.com](http://www.dbnetze.com)

## About Kontron AIS GmbH

We set the benchmark in industrial software – for more than 30 years and with an experienced team of over 200 employees. Our proven software products and customized digitalization solutions enable machine and equipment builders as well as factory operators to break new ground in automation and secure long-term competitive advantages. Together with our customers we implement worldwide cross-industry, intelligent digitalization strategies and solutions for the smart manufacturing of tomorrow.

As a subsidiary of the Kontron AG, we offer integrated, end-to-end IoT concepts consisting of hardware and software as well as worldwide project management, service, and support thanks to a global network.

For more informationen please visit: [www.kontron-ais.com](http://www.kontron-ais.com)