



CASE STUDY

# BOOSTING HYDROPOWER

MODERNIZING A PUMPED STORAGE PLANT

# POWERING THE FUTURE

For the energy supply company RWE Generation SE, Voith Hydro modernized the Herdecke pumped storage power plant. A two-digit million sum was invested to make the power plant ready for the future ensuring reliable and economical operation in the decades to come.

**„During the revision of the pumped storage power plant in Herdecke, Insite LMS greatly facilitated project management. For me as site manager, Insite LMS has so many advantages in my day-to-day business.“**

**MATHIAS WIRTH**  
Site Manager – Voith Hydro

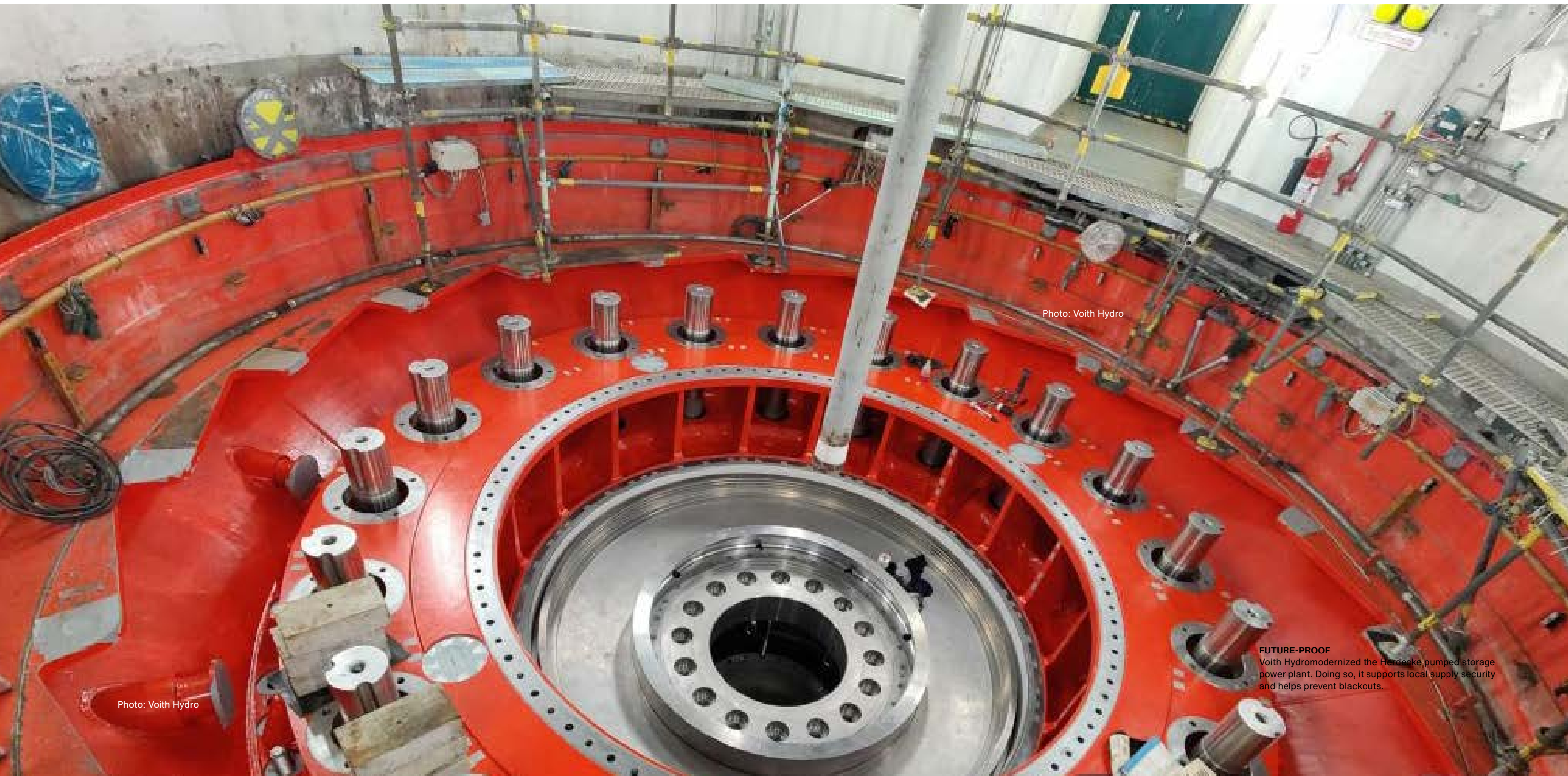


Photo: Voith Hydro

Photo: Voith Hydro

**FUTURE-PROOF**  
Voith Hydromodernized the Herdecke pumped storage power plant. Doing so, it supports local supply security and helps prevent blackouts.



# LOCAL SUPPLY SECURITY

Hydropower plants typically have an average life cycle of 50-100 years. The Herdecke pumped storage power plant was commissioned in 1989 on Lake Hengstey. It is the largest of its kind in North Rhine-Westphalia. Whenever demand requires, it releases electric power within just one minute. In this way, it supports local supply security and helps prevent blackouts.



Photo: Voith Hydro

## EFFICIENT MODERNIZATION

Voith Hydro managed to modernize the pumped storage plant within a tight schedule. For this purpose, Insite LMS was used to efficiently handle all construction site processes.

## VOITH HYDRO

Voith Hydro stands for sustainable, high-quality solutions for the equipment and operation of hydropower plants.

## 1 CHALLENGE

Being a complex project with a tight schedule, the challenge was to manage disassembly, transport and assembly in a way that downtimes were avoided and project costs remained within reasonable limits.

By fall 2022, several major components had to be revised and installed again in the pumped storage plant Herdecke. The 170-ton ball valve or the pump turbine, the 163-megawatt heart of the plant, had to be dismantled, for example.

## 2 SOLUTION

Insite LMS was chosen for digitalizing the construction site processes. The platform was used for managing the efficient handling of returns, materials management and site management. The solution ensured that project managers and site managers could manage the project smoothly and that all participants could collaborate transparently and efficiently.

## 3 RESULT

Insite LMS made everyday project work much easier. Teams on site used Insite LMS to create and handle returns, document deliveries, defects, assessments and progress. Real-time data was available where needed. Convenient dashboards indicated project progress briefly. Furthermore, Insite LMS Time App was used for time tracking. Thus, all components could efficiently be transported to the respective specialist workshops, were overhauled there and then were transported to the construction site again. Together with new components, the revised components were installed and commissioned.

# INTELLIGENT HYDROPOWER

## DIGITAL DISMANTLING DOCUMENTATION

Insite LMS was, among other areas of application, used for documenting the dismantling and creating the photo documentation of packages. As soon as the transfer was prepared, the respective data was transmitted to the Voith SAP system. In addition, reports such as daily logs and weekly reports were automatically pre-filled. With Insite LMS, Voith Hydro was one step ahead: While Excel lists and paper documentation are still in use for other complex projects of this kind, the planning in this project was precise and both the time and effort necessary were reduced.

## ASSESSMENTS

In this project, Voith Hydro also used Insite LMS for the assessment of the components. In this way, they were digitally available for further use.

„Digitalizing our processes and the documentation was beneficial for us – and for our customers.“

**MATHIAS WIRTH**  
Site Manager – Voith Hydro



## TRANSPORT HANDLING

In addition, the software was used for smoothly handling the transfers of components to the respective specialist workshops: The solution made it possible to quickly capture the required data digitally and generate documents needed for packing and shipping in a matter of seconds.

## DIGITAL MATERIALS HANDLING

With Insite LMS, project managers gained better control over the project's materials. They knew what would arrive when, where materials were located, and what was needed where. This reduced downtimes and enabled professional project management.

## HERDECKE PUMPED STORAGE PLANT

**1,6** **mio.**  
million cubic meters of water in the reservoir

**170** **tons**  
the weight of the ball valve regulating the turbine's water flow

**70** **sec**  
time it takes for the turbine to ramp up from zero to full load

**144** **meters**  
height difference between the lower and upper basins.



Photo: Voith Hydro

Large components are transported, overhauled in specialist workshops and reinstalled.



**Precision work! Together with new components, the revised components were installed and commissioned.**



Photo: Voith Hydro

Photo: Voith Hydro

# BUILT TO BUILD BIG SIZE

## INSTALLATION TRACKING

Using Insite LMS, installation progress was efficiently tracked and documented during the modernization project. All information was automatically available for reports.

## DIGITALIZING INDUSTRIAL CONSTRUCTION SITES

In this project, Voith Hydro relied on Insite LMS for

- documentation of disassembly
- assessment of components
- handling of transfers: data acquisition, packing, shipping
- materials management
- installation & progress evaluation
- task management
- reporting - daily logs and weekly reports

Insite LMS ensured that Voith Hydro can handle projects even more efficiently and that materials, logistics and site management are well under control.



## INSITE LMS

1. Documentation and reports at the push of a button.
2. Simple handling of dismantling, reporting, transportation, production monitoring and reassembly.
3. Optimized materials management.



Photo: Voith Hydro

## HAPPY END IN SITE!

**Voith Hydro modernized the Herdecke pumped storage power plant – especially its large components. Doing so, local supply security was supported helping prevent blackouts.**

**Digitizing the project using Insite LMS was worth the effort: The teams on site were satisfied and could spend more time and energy for improving project quality!**

### About Voith Hydro

The Group Division Voith Hydro is part of the Voith Group and a leading full-line supplier as well as trusted partner for equipping hydropowerplants.



**Insite LMS is the platform for industrial construction sites. Project managers, site supervisors, site managers, logisticians, and project teams worldwide value the software as a practical solution for supply chain management and the entire construction site.**

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