



CUSTOMER CASE STUDY

A sea change with data: Royal IHC equips its vessels with AVEVA™ PI System™ to boost efficiency and customer trust

Company - Royal IHC
Partner - Rolloos
Industry - Transportation

Challenge

- Poor connectivity made monitoring marine engineering vessels difficult and increased the financial risks of dredging

Result

- Increased trust in customers by using data to improve vessel efficiency and future equipment design

Solution

- Real-time data visualization and advanced analytics in the cloud using AVEVA PI System

Royal IHC manufactures and sells marine engineering equipment like hopper and backhoe dredgers. Its vessels operate in wind-swept remote seascapes far beyond network range, making it hard to maintain oversight of operations and ensure overall equipment effectiveness (OEE). Because of the high cost of running such equipment in remote environments, Royal IHC needed a fleet-wide monitoring solution that would provide valuable data about how its vessels are operating to help its customers optimize equipment performance.

When Royal IHC found out that a customer was equipping their dredgers with data-analytics capabilities using AVEVA PI System, they saw an opportunity for a new data-driven service. “These technologies should be embedded in our products,” said Bhavik Thakker, a senior asset manager at Royal IHC. “We want our customer experience to be something new. We want to be connected to them. We want them to be connected to us.”

Original equipment manufacturer (OEM) embeds AVEVA PI System

As an original equipment manufacturer, Royal IHC sought to provide access to real-time data from its products so customers wouldn't have to do it themselves. Equipping its vessels with technologies like AVEVA PI System would help customers monitor their assets remotely. Royal IHC could, in turn, use the data to optimize equipment design in the future.

With the help of AVEVA's partner Rolloos, a system integrator that provides analytics solutions, Royal IHC launched a pilot for its Beaver dredger fleet with several goals:

- Connect to remote assets and structure data in a time-synchronized manner.
- Create data visualizations and customer individualized dashboards for vessel monitoring and remote support.
- Create a visible and auditable security protocol.
- Deploy everything in the cloud.

Royal IHC used AVEVA PI System to connect to its fleet of dredgers and establish remote data access. AVEVA™ PI Vision™ dashboards were up and running in only three weeks. “We concluded that PI System is the best solution to handle time-series data. Without a doubt. It was proven in the pilot,” said Martijn Handels, director of product development at Rolloos. With the potential for added value proven in the pilot, Royal IHC was ready to put AVEVA PI System to the test with a Minimum Viable Product (MVP) project.

Structuring data with scalable architecture

Working together with Rolloos, Royal IHC unrolled AVEVA PI System at 22 additional dredger vessels. Data was gathered from equipment and sent to AVEVA PI System in the cloud. From there it was fed to advanced analytics tools like Microsoft Power BI.

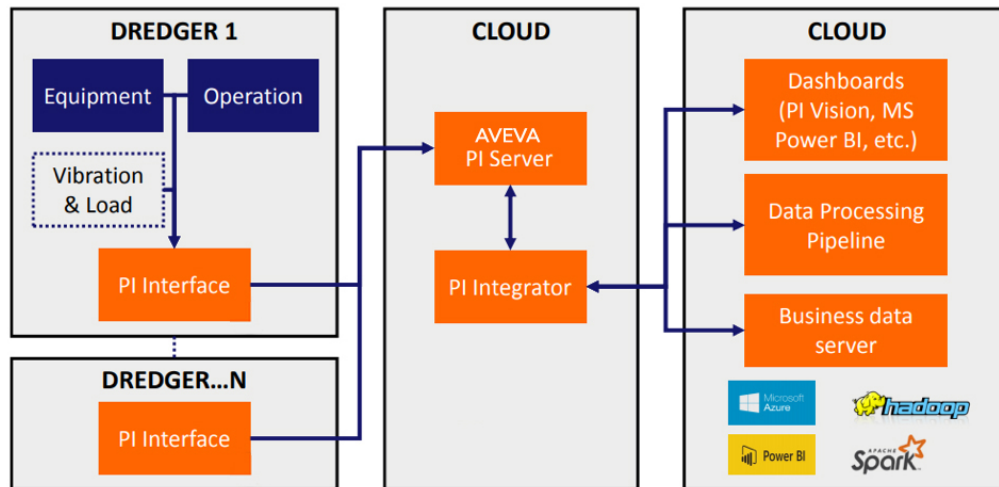
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Martijn Handels

Director of Product Development

Structuring data with scalable architecture



Customized dashboards running in no time



The cloud-based solution enabled real-time remote monitoring of 22 dredgers during initial MVP. AVEVA PI Integrator for Business Analytics prepared AVEVA PI System data for further analysis in the cloud.

The teams created a data model for the vessels in the asset framework, a contextualization layer of AVEVA™ PI Server. Relying on asset framework templates, engineers structured the vessel data using a coherent, standardized data model. The team also created 50 asset-framework-based calculations to allow customers to bring up relevant information when they create their own dashboards.

Once the asset framework was in place, Royal IHC built customized AVEVA PI Vision dashboards so customers could see and drill down into the power, dredge, fuel consumption, and alarm systems of the vessels as well as obtain a high-level overview of their fleet.

Moving forward, Royal IHC will be adding monitoring capabilities to more assets and is looking for partners to build out their analytics capabilities.

For more information about AVEVA PI System please [click here](#).