



## CASE STUDY

# ROWAN COMPANIES

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### Global Offshore Drilling Provider Rowan Companies Increases Efficiencies through IoT Solution

Rowan Companies (Rowan) is a global provider of offshore contract drilling services. Its fleet operates in the United States Gulf of Mexico, the United Kingdom and Norwegian sectors of the North Sea, the Middle East, and Trinidad and it includes four ultra-deepwater drillships and 25 jack-up rigs. For more than 90 years, Rowan has provided safe, reliable, and efficient drilling services to its clients.

#### THE CHALLENGE: MAINTAINING REMOTE DRILLING SERVICES WITHOUT A DISTRIBUTED, REAL-TIME DATA ARCHITECTURE

Rowan's offshore drillships can be located in remote parts of the world where intermittent satellite connectivity—along with network latency and bandwidth issues—make communication with onshore support very difficult. Without access to real-time data, offshore crews operate with a limited capacity for remote support.

Upcoming regulatory changes further emphasized the need for Rowan to implement a streaming strategy. In 2019, the Bureau of Safety and Environmental Enforcement (BSEE) will require offshore drillers to monitor safety-critical equipment in real-time and archive the data at an onshore facility—making it even more urgent that Rowan solve any connectivity challenges with a long-term, scalable solution.

“These new regulations certainly posed a challenge to our organization, but at the same time, they also presented a meaningful opportunity,” says Lhommet. “We realized that we would be able to use this data acquisition for advanced intelligence, including analytics and maintenance.”

## THE MISSION: AN IOT SOLUTION TO SEAMLESSLY CONNECT DATA FROM SEA TO SHORE

Recognizing the need for reliable offshore-to-onshore connectivity for global, near real-time data access and advanced scalability, the Rowan team worked to develop a competitive strategy that would capitalize on the Internet of Things (IoT). This initiative began with identifying fundamental technologies to fuel the IoT effort.

Rowan sought an all-encompassing solution that could easily and securely get information to shore and speak to various industrial control systems (ICS). Additionally, they needed a scalable solution to expand to other rigs in the near future.

"We're always looking for new ways to leverage insights to be even more efficient," says Lhommet. "We knew there had to be a better way to bring data to the onshore teams, which would allow us to increase the collective expertise available to support safer and more efficient operations."

After evaluating several offerings, Rowan found that many solutions were restricted in the amount of data they could pull from various pieces of equipment and/ or transfer to land. The company found a solution for its IoT strategy in [Hortonworks Data Platform \(HDP®\)](#), [Hortonworks DataFlow \(HDF™\)](#), and [Kepware's IoT Gateway](#) for KEPServerEX®. Used together, these software tools provide Rowan with a complete IoT solution which supplies seamless data connectivity for near real-time monitoring, troubleshooting, diagnostics, and performance measurement.

Rowan utilizes Kepware's Manufacturing Suite and WITS Suite for KEPServerEX to connect various ICS. These systems include the blowout preventer (BOP) control system, drilling systems, and power generation systems. By leveraging KEPServerEX's IoT Gateway advanced plug-in, Rowan reliably collects real-time industrial data from the multiple systems and instantly streams it into HDF, which Rowan has set up to prioritize, compress, and encrypt data before storing it locally.

"After seeing how well the Hortonworks tools worked with the IoT Gateway, it was easy to move forward with this decision," says Lhommet. "The offerings and expertise provided by Hortonworks have enabled us to efficiently accomplish our goals. The ability to seamlessly stream into HDF, and HDF's ability to get the information in the hands of those who need it most, allows us to focus on analyzing the data to make informed decisions."

## THE RESULTS: NEAR REAL-TIME TRANSMISSION WINDOWS

Rowan implemented the Hortonworks and Kepware solutions on its first drillship in less than 90 days, utilizing 3,200 tags and 50 kilobytes of bandwidth. Rowan plans to expand this implementation across 25 rigs within six months. When complete, the solution will utilize up to 10,000 tags and 150 kilobytes of bandwidth.

"The idea that we'd be able to deploy this solution on 25 rigs within six months seemed unfathomable to me," says Lhommet. "However, given the ease in our first deployment, we're confident that we'll be bearing the fruits of this larger implementation on the timeline we've proposed."

## CONCLUSION

Rowan can now remotely monitor certain conditions, some of them critical. With predictive analytics and maintenance forecasting, Rowan expects to reduce downtime and alleviate future troubleshooting trips to the rigs. In addition, Rowan will be able to comply with the important BSEE regulations going into effect in 2019.

## About Hortonworks

Hortonworks is an industry leading innovator that creates, distributes and supports enterprise-ready open and Connected Data Platforms and Modern Data Applications that deliver actionable intelligence from all data: data-in-motion and data-at-rest. Hortonworks is focused on driving innovation in open source communities such as Apache Hadoop, Apache NiFi and Apache Spark. Along with its 1,800+ partners, Hortonworks provides the expertise, training and services that allow customers to unlock transformational value for their organizations across any line of business.

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