

Norway

Aker BP improves safety and efficiency with help of autonomous drilling platform

How Aker BP, Halliburton, and Noble Drilling transformed operations at the Fenris Field with the LOGIX™ site manager

CHALLENGE

Outdated systems created critical gaps in visibility and coordination because of:

- Fragmented systems
- Procedural gaps
- Manual safety monitoring

SOLUTION

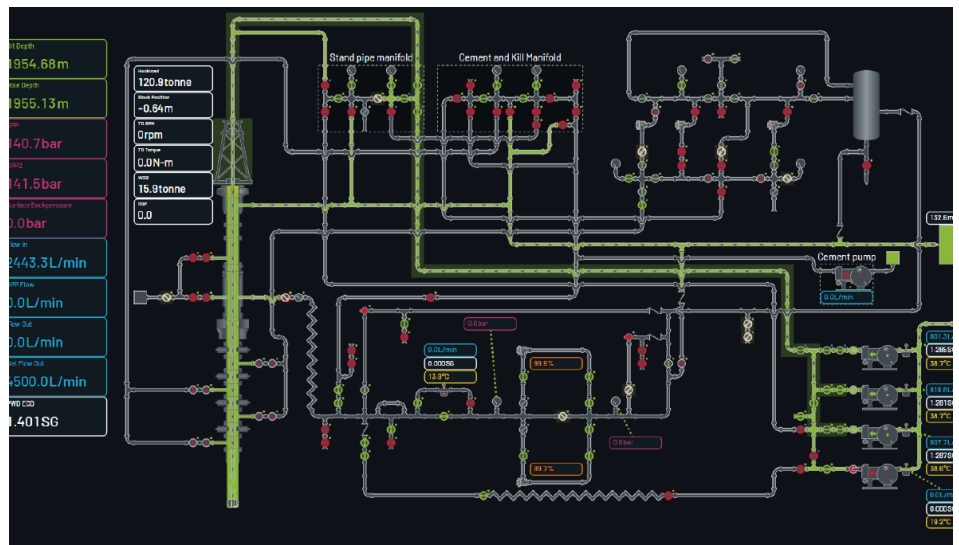
LOGIX™ site manager, a platform designed for real-time valve monitoring and control, was chosen to:

- Automate the system
- Improve safety
- Increase efficiency

RESULT

Integrating legacy systems with the LOGIX™ site manager advanced automation resulted in:

- Improved safety
- Reduced manual inspections
- Enabled remote monitoring
- Strengthened procedural compliance
- Avoided infrastructure upgrades



LOGIX™ site manager interface displaying real-time flow path and direction (in green), highlighting active flow sections in green and blocked-off areas for clear, automated pressure and flow monitoring on the Noble Integrator rig.

Overview

The Fenris gas and condensate field, operated by Aker BP in the North Sea, represents a complex environment for oil and gas operations. Drilling high-pressure/high-temperature (HP/HT) wells in the regulated region demands precision, safety, and efficiency.

To meet these challenges, Halliburton, Noble Drilling, and Aker BP (a strategic alliance established in 2017) applied their expertise in automation to tackle the project's operations. Advanced automation technologies were necessary to mitigate risks and maximize profitability.

The integration of the LOGIX™ site manager for real-time valve monitoring and control, enabled Aker BP to improve safety monitoring, facilitate procedural compliance, and boost operational efficiency. This approach not only addressed the project's complexities but played a critical role in the advancement of automation in this complex drilling environment.

Challenge

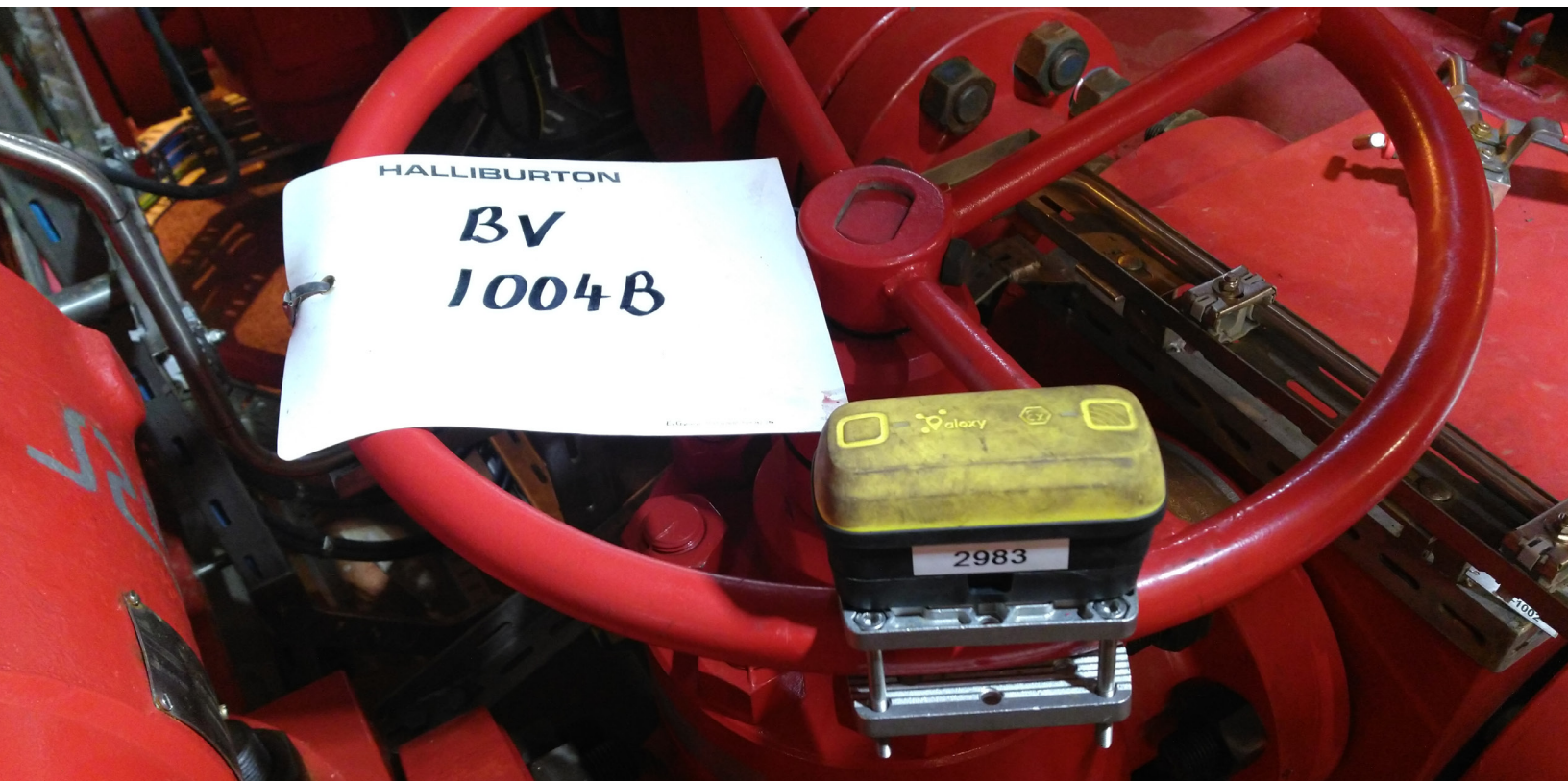
Outdated systems can lead to gaps in visibility and coordination. This can negatively affect safety and operational efficiency. Fragmented systems often include legacy sensors, manual workflows, and disconnected systems. This can lead to siloed data and misaligned processes. Procedural gaps often refer to paper-based procedures that lack live feedback. This increases the risk of flow-path misalignments or incidents caused by poor valve tracking. Without real-time monitoring of valve positions or flow paths, operators rely on reactive measures. This effort can result in errors, financial losses, or regulatory penalties. The consequences of disconnection can cause operational downtime and cost operators millions annually in nonproductive time.

Safety incidents, such as valve misalignments, can escalate into environmental spills or equipment failures. Additionally, regulatory scrutiny has tightened and made procedural compliance more critical than ever.

Solution

Faced with the demands of HP/HT wells and Norway's stringent regulations, Aker BP turned to the LOGIX™ site manager through its alliance with Halliburton and Noble Drilling. This solution modernized operations and unified fragmented legacy systems with advanced Internet of Things (IoT) capabilities. This approach helped Aker BP better manage safety risks and operational hurdles.

LOGIX™ site manager successfully integrated 26 existing valve sensors, along with rig-wide pressure and flow data



LOGIX™ site manager successfully integrated 26 existing valve sensors, along with rig-wide pressure and flow data, into a unified platform. This integration enabled seamless data aggregation from legacy systems and helped capture all critical signals without infrastructure upgrades.

Additionally, 96 wireless valve position sensors were installed across the Noble Integrator rig with a custom long-range wide area network (LoRaWAN). These sensors provided real-time visibility into valve positions and enabled operators to remotely monitor critical components to reduce manual inspections in hazardous zones. An automated flow path detection system continuously monitored valve alignments, pump states, and flow configurations to automatically detect any critical issues. Any misalignment or deviation from safe configurations triggered immediate alerts.

Using browser-based technology and edge computing, the LOGIX™ site manager synchronized human-machine interface (HMI) systems across onsite and remote teams. This allowed the operators to assign controller or viewer roles to confirm clarity and control while maintaining secure remote access via internet-connected devices.

Result

LOGIX™ site manager enabled Aker BP to deploy 96 sensors across the jackup rig and to integrate 26 existing valve sensors, as well as pressure and flow data, into a unified platform. These installations allowed automatic monitoring of flow paths across all critical configurations, while digitized workflows supported procedural compliance through real-time feedback.

Aker BP used the LOGIX™ site manager to improve operational alignment and provided all stakeholders with access to real-time system updates for faster, more informed decisions. This also improved safety, as automated flow path detection reduced the need for manual oversight in unmanned operations and helped ensure the system met critical safety parameters at all times.

Additionally, the system replaced paper-based procedures with digital workflows. This mitigated procedural gaps and improved team accountability. Bridging legacy systems with the LOGIX™ site manager and IoT technology allowed the operator to modernize operations and avoid infrastructure replacements.



Wireless valve position sensors installed across the Noble Integrator rig deliver real-time visibility, allowing Aker BP to monitor critical components remotely and reduce manual inspections in hazardous zones.

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H014998 07/25 © 2025 Halliburton. All Rights Reserved.

halliburton.com

HALLIBURTON