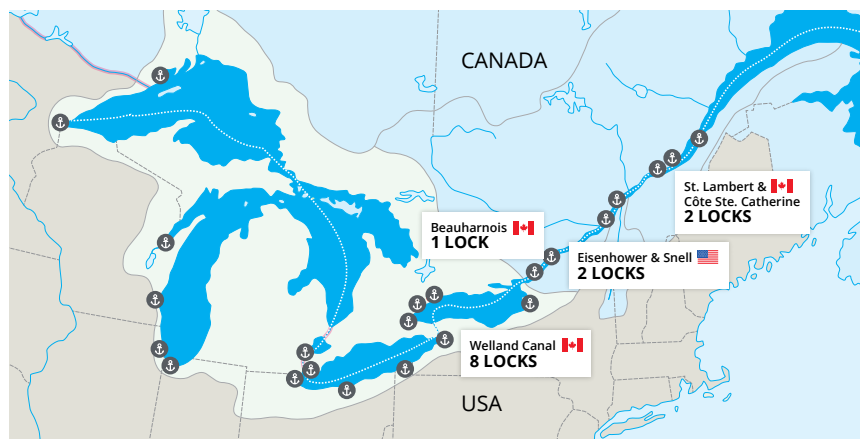






CUSTOMER SUCCESS STORY

STRENGTHENING RELIABILITY THROUGH REAL-TIME OIL CONDITION MONITORING

A Real-world Deployment of Gastops FluidSIGHT™ with Algoma Central Corporation

Algoma Central Corporation is a global provider of marine transportation, owning and operating dry and liquid bulk carriers that serve critical industries throughout the Great Lakes-St. Lawrence Region and internationally. With a history spanning more than a century and deep roots across the region, Algoma delivers safe, reliable operations and continues to invest in fleet modernization. In doing so, Algoma drives productivity, supports economic growth, and strengthens communities, delivering on its commitment as Your Marine Carrier of Choice™.



-  Administered by the St. Lawrence Seaway Management Corporation
-  Administered by the Great Lakes St. Lawrence Seaway Management Corporation
-  Major Ports
-  The Great Lakes - Seaway System extends 3,700 kilometres from the Atlantic Ocean to the head of Lake Superior

In line with this commitment to operational excellence and innovation, Algoma partnered with Gastops to evaluate **FluidSIGHT**, an online oil-condition monitoring system designed to provide real-time visibility into lubricant health and early indicators of potential engine issues.

FluidSIGHT, developed by Gastops, leverages the company's proven MetalSCAN technology, combining fluorescence spectroscopy and inductive sensing to continuously monitor oil condition, contamination, and wear debris. The system is designed to support condition-based maintenance strategies by reducing uncertainty and enabling informed, timely maintenance decisions.

Established in 1979, Gastops is a global leader in condition-based maintenance solutions, supporting leading aviation, power generation, and marine operators worldwide through a combination of online, at-line, and offline products and services.

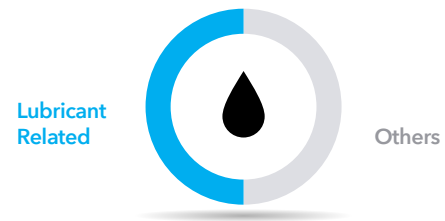
Maintaining Reliability in Marine Operations

The Great Lakes–St. Lawrence Seaway is a vital marine corridor connecting the Atlantic Ocean to the North American industrial heartland. Supporting the movement of more than 160 million tonnes of bulk cargo annually, the region underpins an economic ecosystem with a combined GDP exceeding CAD \$6 trillion – comparable to the world’s largest national economies. Specialized lake carriers, commonly known as “lakers,” play a critical role in transporting iron ore, coal, limestone, and other essential raw materials that sustain industrial activity across the continent.

For fleet operators, maintaining high asset availability and on-time performance is essential. Engine lubrication plays a central role in reliable operation, as changes in oil condition – whether due to oxidation, additive depletion, or contamination – can affect engine efficiency, component protection, and maintenance planning. While traditional oil sampling programs remain an important part of maintenance strategies, their periodic nature and the delay between sampling and results can limit their usefulness for day-to-day operational decision-making.

50% of marine diesel engine maintenance costs are lubricant related*

*The Swedish Club



Recognizing the value of continuous insight into lubricant condition, Gastops developed FluidSIGHT as a real-time oil-condition monitoring platform that complements established maintenance practices. Refined over many years through deployment across a range of operating environments, FluidSIGHT provides immediate visibility into oil health and trends, helping operators confirm normal operation, reduce uncertainty, and respond proactively when conditions change.



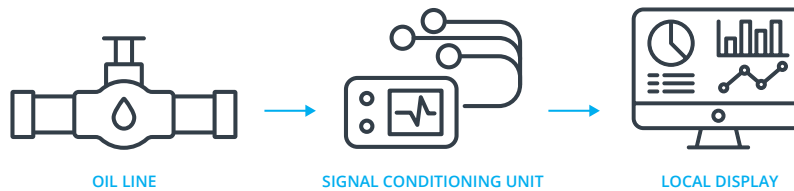
Real-world Deployment in Marine Operations

In the highly competitive bulk carrier market, Algoma differentiates itself through fleet modernization, reliability, and the thoughtful adoption of technologies that enhance operational performance. With ownership interests in more than 100 vessels globally, Algoma's modern fleet and interest in real-time condition-based maintenance made it a strong partner for evaluating FluidSIGHT in a live operating environment.

The *Algoma Equinox* and *Algoma Harvester* were selected for the deployment, with one FluidSIGHT system installed on the main engine of each vessel. Installation was completed while the vessels were in port, using standard fittings and ports on the lubrication system. Sensors monitoring oil condition, contamination, and metal debris feed real-time data to a centralized signal conditioning unit, with information displayed locally in the engine control room for crew awareness.



Operator training was conducted onboard, supported by additional remote sessions throughout the deployment period. The FluidSIGHT interface provided clear visual trends, warnings, and alarms, allowing both onboard crews and shore-based teams to understand oil condition at a glance. This shared, real-time visibility provided peace of mind and represented a meaningful improvement over traditional oil sampling workflows, where insights are often delayed by days or weeks due to offsite analysis.

A large photograph of a bulk carrier ship at sea at night, with its lights reflecting on the water. In the foreground, there is a circular inset image of a man in a white shirt and glasses looking at a computer monitor in an engine control room.

What this deployment enabled

- Real-time visibility into oil condition
- Shared insight for onboard and shore teams
- Increased confidence in day-to-day operation

Outcomes and Operational Insight

Throughout the deployment, Algoma personnel actively monitored system outputs and engaged with Gastops' engineering and support teams, sharing operational feedback and observations. Routine operational events were clearly reflected in the real-time data, reinforcing confidence in the system's responsiveness and accuracy.

Feedback from vessel operators informed refinements to alarm thresholds, displays, and reporting logic to better align the system with operational preferences and decision-making needs. These adjustments ensured that alerts and trends remained relevant, timely, and easy to interpret in a live engine control room environment.

After over eight months of continuous monitoring, oil condition on both vessels remained stable and within expected limits. Antioxidant depletion and gradual viscosity changes were consistent with normal oil aging, with no evidence of oil contamination or abnormal engine wear. The deployment provided Algoma with ongoing assurance of lubricant and engine health, while validating the value of continuous monitoring as a complement to established maintenance practices.



Robin Waldie
Assistant Vice President,
Technical Operations, Algoma

“FluidSIGHT gives us confidence and peace of mind by providing real-time visibility into oil condition and, in turn, the health of our main engines. Delivered by a dedicated team at Gastops, FluidSIGHT aligns well with our focus on reliable operations and supports our ongoing efforts to adopt technologies that strengthen fleet performance.”

This collaboration highlights how real-time oil-condition monitoring can be effectively integrated into day-to-day operations, supporting confidence, consistency, and long-term asset stewardship across modern marine fleets.

Contact us at sales@gastops.com to discover more about Gastops tailored services and solutions for your marine fleets.



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