Marine operators have known for some time that oil analysis is a critical part of a good maintenance program for quite some time, and they practice it with combinations of onboard test kits and shore-based laboratories commonly provided by the lubricant supplier.

Slow streaming, long component lead times, constant switchovers from EFO to low-sulfur fuel, and high and low BNI lubricants mean that an effective oil analysis program must monitor these fluctuations in a timely manner. The challenge to asset maintainers is unlocking the value of oil analysis to maintain or improve ship performance while lowering the costs of maintenance.

Portable oil analysis solutions have been developed to unlock the value of oil analysis on board, enabling maintenance personnel to take action as soon as the issue is discovered, thereby eliminating the wait for results, or the need for extra tests to understand the issue.

Current challenges

Vessels use a combination of oil analysis methods, including daily onboard testing (using wet chemistry kits) and periodically sending samples to an offshore laboratory to analyze wear debris. Wet chemistry kits have a number of challenges: the cost can be up to $121.32 per test when you factor in the cost of all-life limited chemicals, storage, and training, and frequent recalibration of instruments. Results may not be repeatable and it can take a long time to do one test – valuable time a maintainer can put to good use somewhere else on board. Shore-based labs adequately analyze for trending oil, but they are too distant for immediate onboard analysis. If an issue is discovered, the ship may be docked for up to 21 days to allow time for the issue to be resolved. The cost of such delays figures in the cost of up to $23 per test when you factor in the cost of shelf-life limited chemicals, storage, and transportation.

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Summary

The time has come for marine vessel owners to receive immediate information about the condition of their oil and critical equipment. Portable devices enable operators to perform immediate onboard oil analysis information. The initial investment costs are quickly offset by the benefit of real-time results, leveraged across many machines and/or vessels. The guarantees of cost savings and maintenance improvement and the positive effect of safe practices is, however, priceless.

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