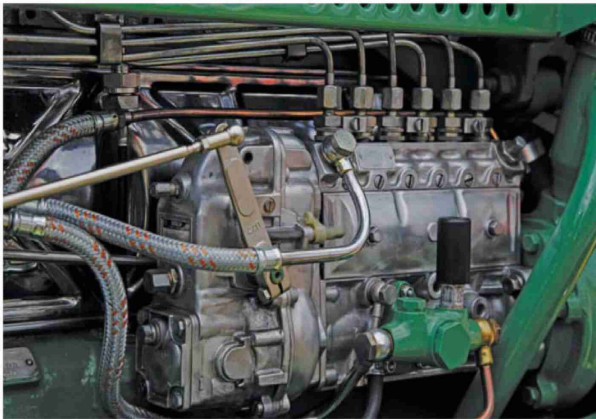


Oil analysis is critical

ISO-Reliability Partners, partnering with Yateks, provides real-time oil-quality sensors that meet the highest standards of industrial oil analysis and ensure unrivalled machine and engine protection.



Regular in-service oil analysis is important, because knowing what is happening inside your equipment allows for the early detection of failures. DERWEG/PIXABAY

Diesel engines are the driving force powering many modern transportation and industry applications. Efficient engine function relies heavily on the combustion process that converts fuel into mechanical energy. High-quality combustion is crucial for optimal engine performance and overall reliability, says Craig FitzGerald, CEO of ISO-Reliability Partners.

The company is an original equipment manufacturer of class-leading microfine oil filtration solutions, diesel purity testing, vacuum dehydration systems, automated water removal for compressed air, and high-efficiency industrial air scrubbing. ISO-Reliability excels in providing its customers with reduced equipment failure and increased production efficiencies.

"The majority of our clients are manufacturing facilities, general industry and mining. Our unique solutions and products are suited to any large-scale user of gearboxes, diesel equipment, and industrial or mobile machinery," says FitzGerald.

"Our solutions excel in high-speed, extreme-load, high-temperature, and high-contamination applications.

"We have a vast trove of unique industrial solutions that aid in eliminating equipment failure and improving reliability and availability."

When oil or diesel is purchased, it already holds unacceptably high levels of contaminants. Regular filters are not capable of removing these fine particles, leading to high equipment failure rates. To achieve equipment reliability and eliminate machine failures, it is becoming essential to focus on fine contaminant removal within the one- to four-micron range.

ISO's micro-fine filtration systems address and remove the fine contaminants found in diesel and oil fluid systems, which regular in-line filters are incapable of removing. It is these particles that are the leading cause of high internal wear rates and equipment breakdowns.

OIL ANALYSIS

FitzGerald highlights that oil analysis is valuable for acquiring important information about the lubricant condition, internal wear rates and contamination. Knowing what is happening inside the equipment enables

MACHINERY AND IMPLEMENTS

early failure detection and timely intervention. In its drive for excellence in machine performance and uptime, ISO-Reliability has partnered with Yateks, a technological leader in the manufacture of real-time oil-quality sensors that meet the highest standards of industrial oil analysis and ensure unrivalled machine and engine protection.

With oil analysis data, maintenance managers or workshop supervisors can strategically plan interventions or conduct minor corrective maintenance actions instead of triggering a major intervention on the equipment.

In high-pressure common-rail diesel engines, fluid contamination is the primary cause leading to indicators such as fuel dilution and soot formation. These indicators are a result of incomplete combustion due to improper fuel atomisation, caused solely by fine fluid contamination.

Fuel dilution occurs when the quantity of unburned fuel in engine oil increases, explains FitzGerald. The lubricant's viscosity then becomes too low, reducing overall lubricating effectiveness.

'OUR SOLUTIONS ARE SUITED TO LARGE-SCALE USERS OF GEARBOXES, DIESEL EQUIPMENT, AND INDUSTRIAL OR MOBILE MACHINERY'

Since poor combustion quality is connected with engine oil degradation, mitigating the issue begins by using suitable micro-fine filtration and adhering to the recommended oil change frequency.

FitzGerald says the company is developing a predictive maintenance platform powered by artificial intelligence for real-time equipment monitoring, early fault detection and reduced human interaction with machinery, thereby enhancing safety and efficiency.

"Our focus is on innovative solutions to improve efficiency and reduce wastage, addressing critical concerns like energy security," he concludes.

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