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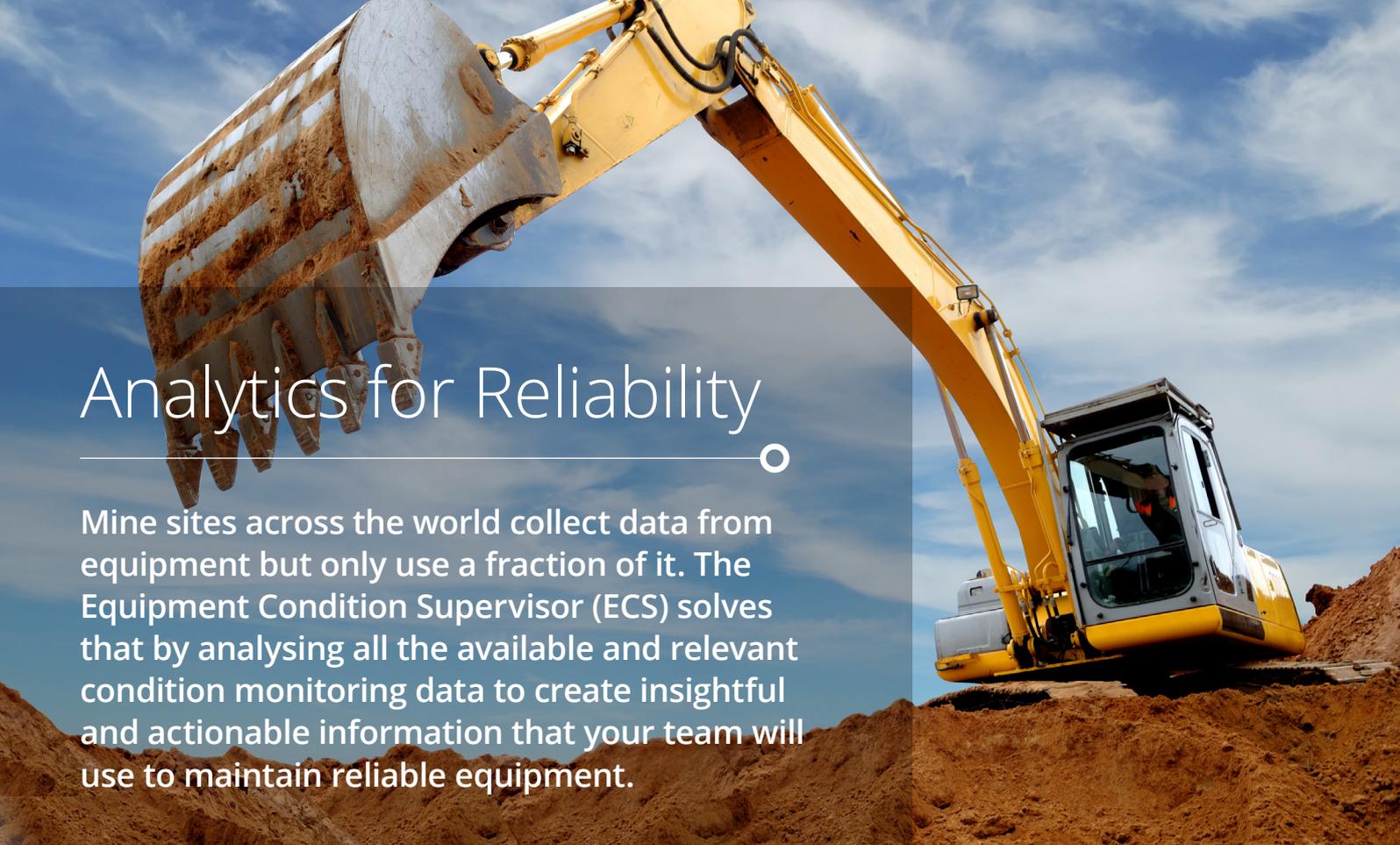
Using data to improve equipment reliability

Equipment Condition Supervisor (ECS)

Capability statement

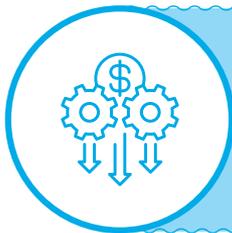
An AI approach that automates the transactional tasks associated with processing oil samples and other condition monitoring data





Analytics for Reliability

Mine sites across the world collect data from equipment but only use a fraction of it. The Equipment Condition Supervisor (ECS) solves that by analysing all the available and relevant condition monitoring data to create insightful and actionable information that your team will use to maintain reliable equipment.

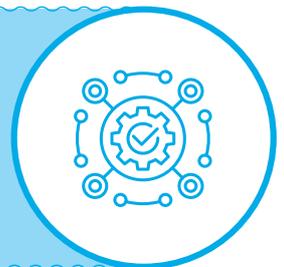


Getting ahead of a failure can potentially reduce costs associated with unscheduled maintenance by up to 30% for a typical fleet

We believe that data is only as good as the actions it creates. There is an incredible amount of data being collected from different components of equipment that simply isn't used. Whether the data is from telemetry, oil samples or observations, how that data is analysed and then used in a constructive manner to maintain reliability has always been a challenge. We're helping equipment owners and operators maintain reliable mobile fleet and fixed plant by utilising their data to generate action.

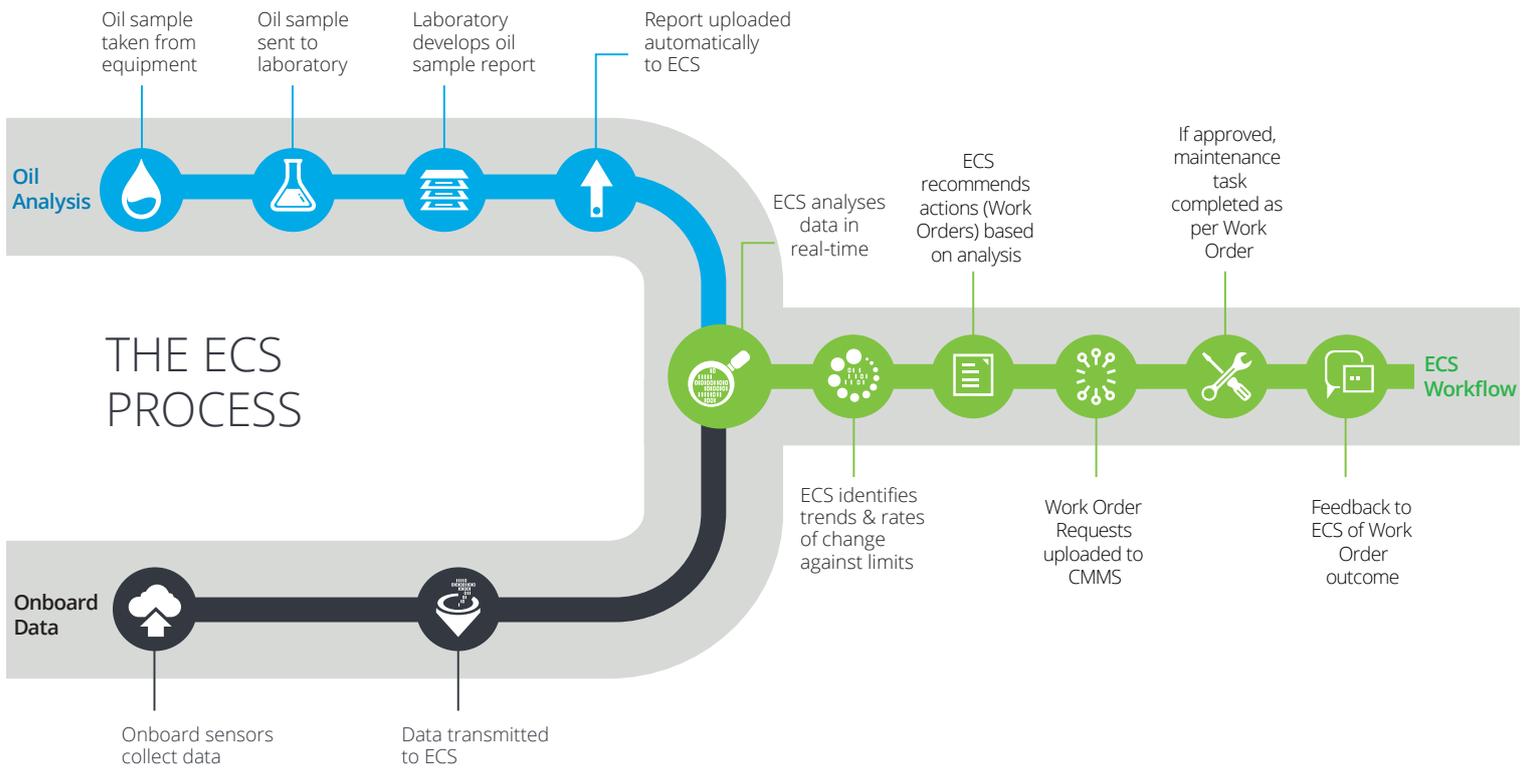
Our people have had years of experience working with assets in harsh operating environments. We've lived with the consequences of equipment failure and understand the importance of using all available data to maintain a reliable fleet. Our three data analysis modules were developed to use all the relevant data from your equipment to help your team get on with what they do best – maintaining reliable and productive equipment.

We'll work with you to eliminate transactional processing of reports and data, as well as automate the creation of work orders to get well ahead of any failures. Our mission is to provide your maintenance and reliability teams the opportunity to make a tangible difference to their equipment's reliability and productivity.



Equipment Condition Supervisor (ECS)

The ECS is the Reliability Engineer that never sleeps, works 24/7 and can analyse a months' worth of data in a millisecond. This means your Reliability Engineers and those responsible for condition monitoring can actually get on with the job of running reliability programs, scheduling maintenance, and working on the equipment, not reading and interpreting reports and data.



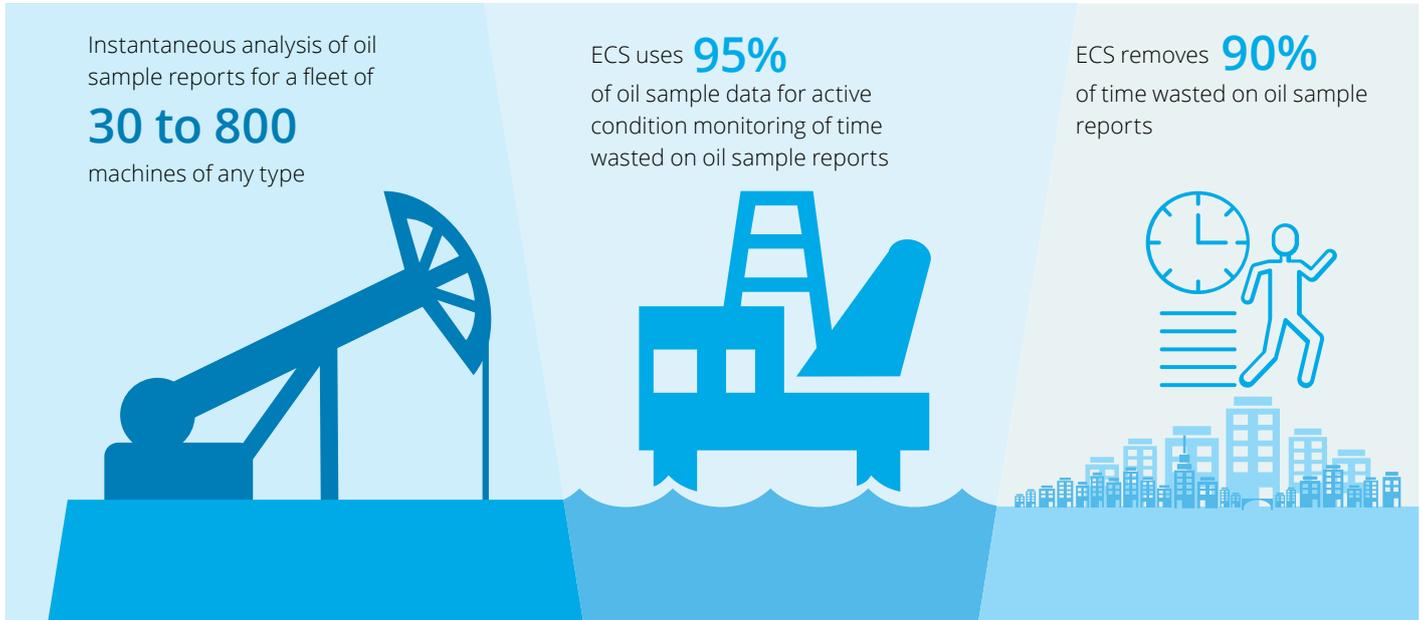
The ECS is the platform that drives automated data analysis for your equipment. The web-based system is a simple yet effective interface between your data and the work orders that it produces from the analysis. It takes 15 minutes to master using it which makes it ideal to deploy across sites easily and quickly.

The benefits of identifying an issue in your equipment early is that you get in and do the work as preventative maintenance. But the

benefits can't be realised until the work has been done. The ECS will create an alert that goes to a Supervisor if a work order hasn't been completed.

The ECS works in conjunction with three modules that can work simultaneously or by themselves. All three will assist with your condition monitoring and augment your preventative maintenance strategy.

Oil sample module



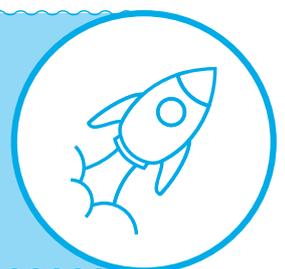
It's universally agreed that oil samples provide an excellent insight into your equipment, and the data they generate, when used effectively, can prevent component wear and subsequent failures. The Oil Sample Report Module removes the need for your condition monitoring and reliability teams to review oil sample reports and make decisions on what needs to be done.

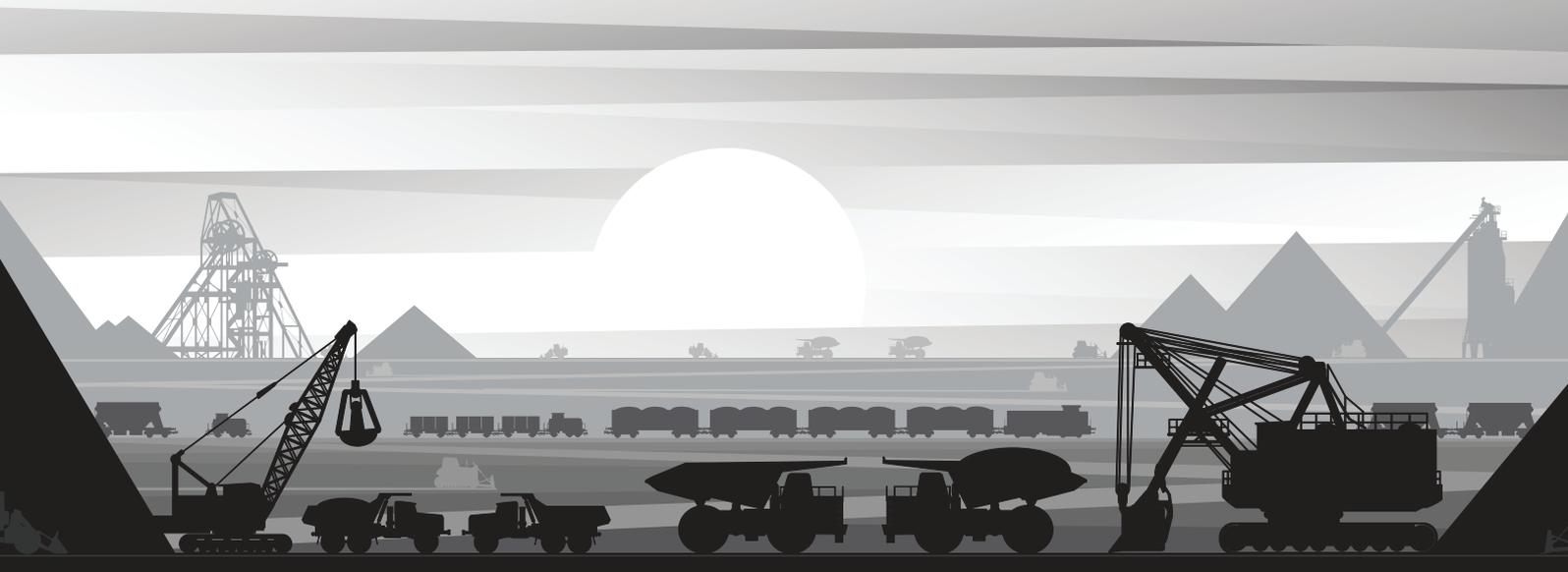
We know that only 20% of oil samples are utilised for maintenance decisions, which means 80% of your investment in oil sampling is wasted. We've done the numbers and worked out for a typical site that produces 6,000 samples a year at \$75 total cost per sample, that's around \$360,000 a year on wasted oil sampling. Within the ECS, the Oil Sample Report Module allows your team to fully utilise all data from the oil sample reports to develop preventative maintenance tasks, automatically and instantaneously. Get the full value from your oil sampling investment.

In many cases, this data is simply used as an alarm to alert a supervisor of an imminent failure or operator mismanagement. However, the data being collected goes well beyond imminent failure alarms. Use of this continuous data stream allows condition monitoring and reliability teams to identify subtle trends and changes in a component's condition. The On-board Data Analytics Module identifies these changes in the on-board data and creates a work order to get ahead of the issue before a failure presents. Not only does it assist in improving your fleet's health, it reduces the number of alarms and alerts your team needs to deal with daily.

Onboard data module

New generation equipment provides the greatest opportunity to understand its health and performance through the onboard data it collects.



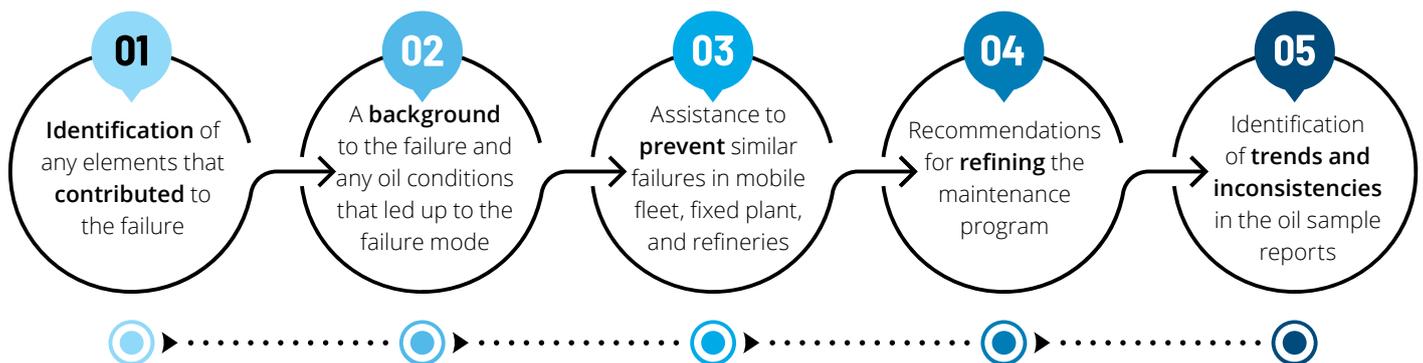


Failure analysis support tool (Fast)



When component failure occurs on equipment, the need to find a root cause is needed as quickly as possible to prevent other failures across the fleet.

Failure Analysis Support Tool (FAST), can get to the root cause through a combination of a forensic review of historical oil sample reports combined with other investigative tools such as component strip downs, onboard data, and visual inspections. Utilising the ECS, a forensic review of oil sample history can pinpoint the time and likely causes of failure by identifying subtle changes in fluid condition in the past. Customers receive a FAST Report as well as a consultation with the Analyst who prepares the final report which includes:



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