

# Predictive maintenance equipment supplied to Phalaborwa mine

TRACY HANCOCK | FEATURES WRITER

**P**redictive maintenance solutions provider Engineering Dynamics (ED) has supplied an online vibration monitoring system for the mills, drives and overland conveyors at fertiliser producer Foskor's rock and copper division's opencast mine, in Phalaborwa.

The technology was supplied to the Limpopo-based mine's Pyroxenite Expansion Project 2 with the aim of debottlenecking its existing Extension 8 plant, which was completed in March.

The operation mines phosphate rock (foskorite and pyroxenite), from which Foskor's acid division, in Richards Bay, KwaZulu-Natal, produces phosphoric acid and phosphate-based granular fertilisers for local and international markets.

ED CEO **Christo van der Walt** explains that the vibration measurements of the critical equipment at the Phalaborwa mine are directed to its central condition-monitoring centre.

"Vibration-monitoring sensors are used in conjunction with the mine's existing communication network to provide regularly updated statistics on the large rotating equipment on the mine. This equipment is spread out over a wide area, making it difficult for individuals to access the machines regularly," says Van der Walt.

Vibration monitoring will prevent unscheduled downtime as the mine receives early warnings of pending problems. This enables resources to be secured in advance, so that the issue can be addressed on



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Laser alignment ensures that shafts of machines are properly aligned to reduce energy consumption by between 3% and 5% a year

scheduled maintenance days, before the equipment fails.

ED has also supplied vibration-monitoring equipment to diversified miner BHP Billiton's Metallurgy main ball mill production machine, in Meyerton, to improve its reliability.

The vibration technology is used to determine the condition of the mill's bearings, as the entire mill drivetrain is crucial to mining operations.