REMOTE VIBRATION ANALYSIS UNCOVERS LOOSE COUPLING PINS ON CEMENT CONVEYOR

Machine Sentry® Fixed monitoring identified a developing looseness problem on a limestone conveyor, leading to coupling repairs, realignment and vibration levels returning to normal.

At a cement manufacturing plant, a conveyor transfers limestone through an important stage of the production process. Reliable operation is essential to keeping material moving towards dosing and maintaining continuity across the line.

AVT Reliability® supports the site through its Remote Diagnostics Centre (RDC), using vibration data from Machine Sentry® Fixed sensors to identify developing faults and recommend targeted maintenance.

THE CHALLENGE

During a routine monthly RDC review, vibration readings from the limestone transport-to-dosing conveyor had risen into second alarm.

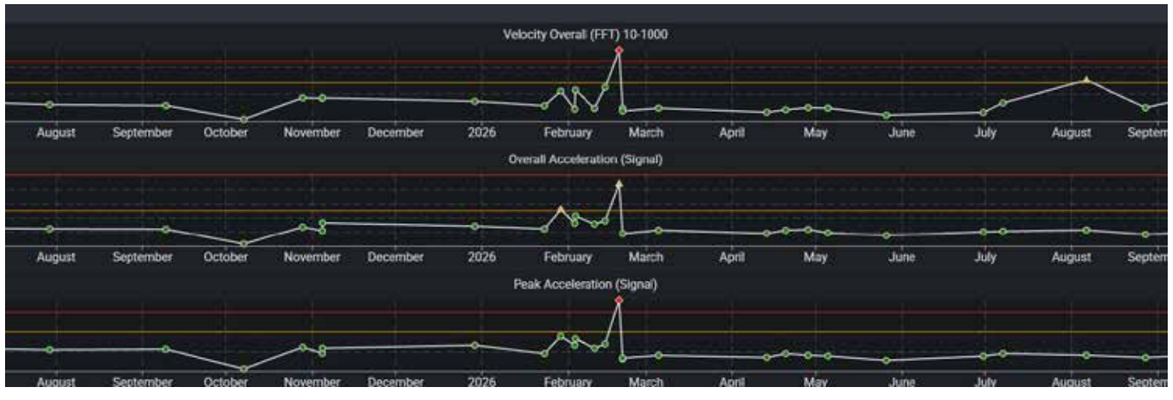
The increase suggested a mechanical issue within the drive arrangement. Left unresolved, a failure of the conveyor could interrupt the flow of limestone and delay cement production.

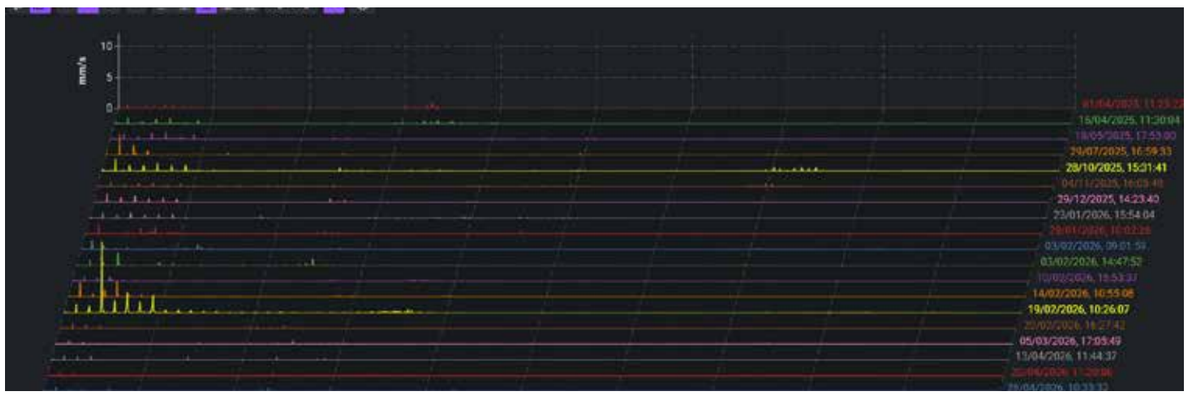
The site needed to establish the cause and carry out the appropriate checks before the condition deteriorated.

OUR APPROACH

AVT analysed vibration data collected through Machine Sentry® Fixed sensors and reviewed it in the Machine Sentry® portal. The velocity spectra showed multiple running-speed harmonics, a pattern consistent with mechanical looseness.

AVT raised an action note recommending a systematic inspection of the drive assembly, including checks for foundation damage, loose hold-down bolts, coupling condition, face run-out, spacing and alignment.





OUR FINDINGS

The inspection revealed the cause of the abnormal response: some coupling pins were missing, while others had become loose.

The physical findings confirmed that attention to the coupling was needed and gave the maintenance team a clear route to restoring the drive assembly's condition.

THE SOLUTION

The site replaced the affected coupling pins and carried out a full alignment of the motor and gearbox coupling.

New vibration data was collected following the work. All readings returned to satisfactory levels, providing confirmation that the corrective action had resolved the abnormal vibration response.

THE RESULT

AVT's remote analysis turned a change in vibration data into a focused inspection and successful repair.

The case shows how regular monitoring and practical engineering recommendations work together: the RDC identified the warning signs, the site found and corrected the mechanical problem, and follow-up readings confirmed the improvement.

AT A GLANCE

Industry:	Cement manufacturing
Application:	Limestone transport-to-dosing conveyor
Equipment:	Conveyor drive, motor, gearbox and coupling
Services:	Remote vibration analysis and RDC support
Technology:	Machine Sentry® Fixed and Machine Sentry® software
Key Findings:	Running-speed harmonics associated with missing and loose coupling pins
Solution:	Coupling pin replacement and full alignment
Outcome:	Vibration returned to satisfactory levels vibration

Need help?
Contact our experts

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