**Smarter Oven Monitoring: Telemetry for Geotechnical Labs**

As laboratories aim to improve efficiency, accuracy and reduce manual workload, telemetry of laboratory data is proving to be a practical and effective solution. In geotechnical labs, temperature controlled appliances and/or environments, like drying ovens and concrete baths, are a key part of the testing process and have a direct impact on the results. For example, ovens need daily temperature checks, and in many laboratories, this is still done by hand.

According to AS Lab C4, the accreditation criteria for mechanical testing in New Zealand, consistent daily temperature records are required to meet standards like BS 2648. For labs working towards ISO/IEC 17025, reliable data is essential. Manual logging is time-consuming, has low frequency of readings, and is vulnerable to human failings

To make things easier, we’ve rolled out a telemetry system using IIoT (Industrial Internet of Things) dataloggers. These devices automatically record and store oven temperatures throughout the day on the Cirro web platform. It’s a straightforward way to standardise the process, improve traceability, and take pressure off staff, allowing them to focus on the work that really matters, the testing!

In this presentation, I’ll walk through how we implemented telemetry in a geotechnical lab: what gear we chose, how we set it up, and the impact it had on our daily workflow. Since adopting the system, we’ve seen more consistent records, easier audits, and less manual admin.

Aligned with the theme *Building Robust Tomorrows*, this talk highlights how small, smart changes can help labs run smoother and stay ready for the future, without needing a complete overhaul.