

# WIRELESS REMOTE BRIDGE MONITORING IN AUSTRALIA

## OVERVIEW

The transport of extreme loads or “superloads” (deemed anything greater than 200 tonnes) on large convoys is often necessary in Victoria, Australia. Considerable planning and assessment is undertaken by the state’s Department of Transport (colloquially known as VicRoads) to facilitate the transport of a superload. This includes ensuring the integrity and public safety of road assets and infrastructure. In particular, any damage to highway bridges is a serious public safety concern and reduces the functionality of the transportation network. As such, the Department of Civil Engineering at Monash University, together with VicRoads, have adopted the Resensys wireless system as means to monitor and assess bridge structural integrity. The team are the first to implement the remote wireless system for bridges in Australia. A number of different SenSpots including concrete strain transducers, steel strain gauges, temperature and humidity gauges, tiltmeters, and crack gauges, as well as cellular SeniMax gateways, are currently installed and operating across 9 highway bridges in Victoria. The Resensys system has assisted in real-time integrity monitoring of a number of bridges under superload convoys. This includes a 255-tonne generator transported on a convoy weighing in total 650 tonnes and 108 meters in length on 5 historical (pre-1960s) concrete bridges. Moreover, the long battery life of the system allows continuous monitoring for future superloads, and on the long-term performance assessments of the structure as normal traffic freight loads continue to increase in Victoria.



## FURTHER INFORMATION

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