

**Project title**

Bridge move - structural monitoring in real time

**Client**

Gateway South Project &amp; McConnell Dowell

**Overview:**

Our [Aquamonix Solutions](#) group have provided specialist monitoring for critical infrastructure projects over recent years. Examples include the construction of two 180 metre long, 3000 tonne bridges in Adelaide SA, and the Jane St Railway overpass in Penrith NSW. Both projects involved bridges being built off-site and then transported and manoeuvred into their final position via Self Propelled Modular Transporters (SPMTs). While this method of bridge construction and transport is commonplace throughout Europe and the US, Australia had not used SPMTs in the infrastructure sector to install a fully completed structure. To support the moves, a real time bridge monitoring system was developed using strain gauges, lasers and tilt sensors to monitor the bridge during transportation from its construction site to the final location. Data collected from sensors was reported via website in real time, providing operators with complete and accurate asset monitoring solution.

**Features:**

- Real time strain, deflection, torsion, and tilt monitoring to ensure across multiple bridge sections
- Live data reporting to Web via ENVAULT to multiple devices e.g. phones and tablets for operational users
- On the fly level and stabilisation adjustments including alarming and tolerance warning
- Significant reduction in time for bridge move (actual move time reduced by 60%)
- Link to Adelaide [Darlington Upgrade Bridge move video](#)
- Link to [Jane St Penrith Bridge move video](#)

**Outcomes:**

**Nigel Hird – Project Manager Structures, Gateway South**

*“The system and real time graphic display far exceeded our expectations, and led to considerable time savings onsite”*

**Tim Devoldere – Operations Manager, Sarens Australia**

*“Previous systems we have used only tell you what you can’t do. This system tells us how to fix and correct an issue. We were extremely impressed with the performance of the monitoring system, and the improvements we were able to achieve”*



Operators have live access to bridge conditions during the move.

**Contact us**

[envirada@envirada.com](mailto:envirada@envirada.com)

[envirada.com](http://envirada.com)