



Remote surface & groundwater monitoring solutions

22 March 2021



Remote surface & groundwater monitoring solutions

Agenda

3.30pm	Arrival
3.35pm	Official Welcome
3.40pm	Introduction
3.45pm	Presentation (45mins)
4.45pm	Open Discussion (15mins)
5.00pm	Wrap Up & Evaluation
5.10pm	Drinks
5.30pm	Close





Economic Innovations

TSBE Workshop

Remote Surface & Groundwater Monitoring Solutions

Who are we?



Qteq is a local Toowoomba based environmental technology service provider at the forefront of automating data & process value creation for the water, energy & mineral industries.



OUR VISION

TO AUTOMATE ENVIRONMENTAL STEWARDSHIP AND SAFEGUARD COMMUNITIES AND ECOSYSTEMS THROUGH SMART TECHNOLOGIES.

What we do



Environmental Stewardship

Qteq plays a vital role in the responsible development of energy, minerals and water resources, minimising extractive environmental impacts, and safeguarding communities from natural disasters.



MEASURE | MONITOR | MANAGE | MITIGATE

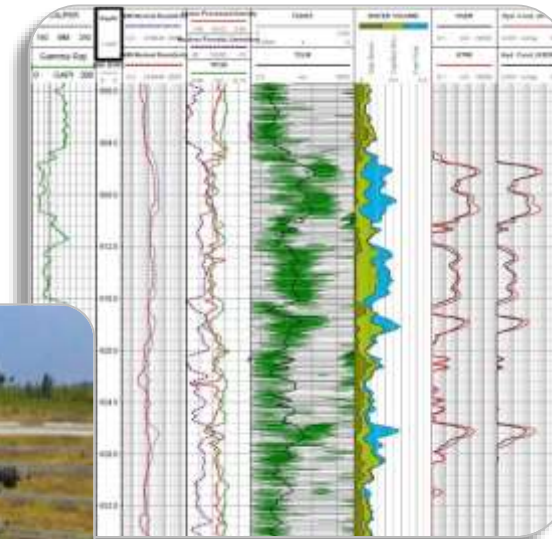
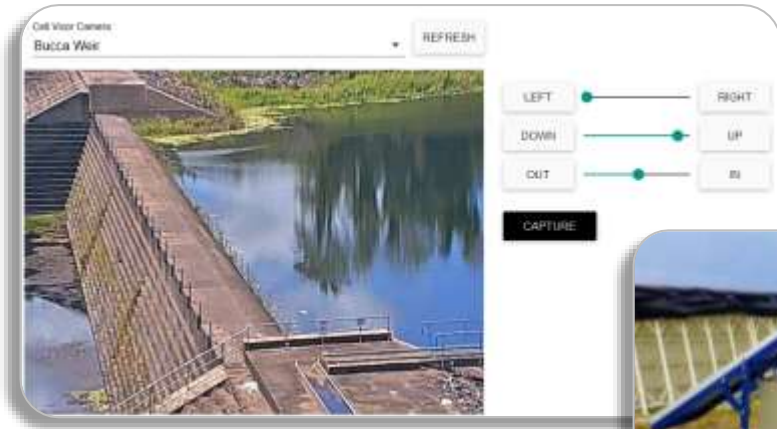
Major water authorities and company clients



Opportunity Statement



How can Qteq assist your organisation with high quality actionable data to locate, track and secure your groundwater and surface water resources, maximise economic potential, and safeguard communities from flood events?



Locate & Characterise Groundwater (Measure)

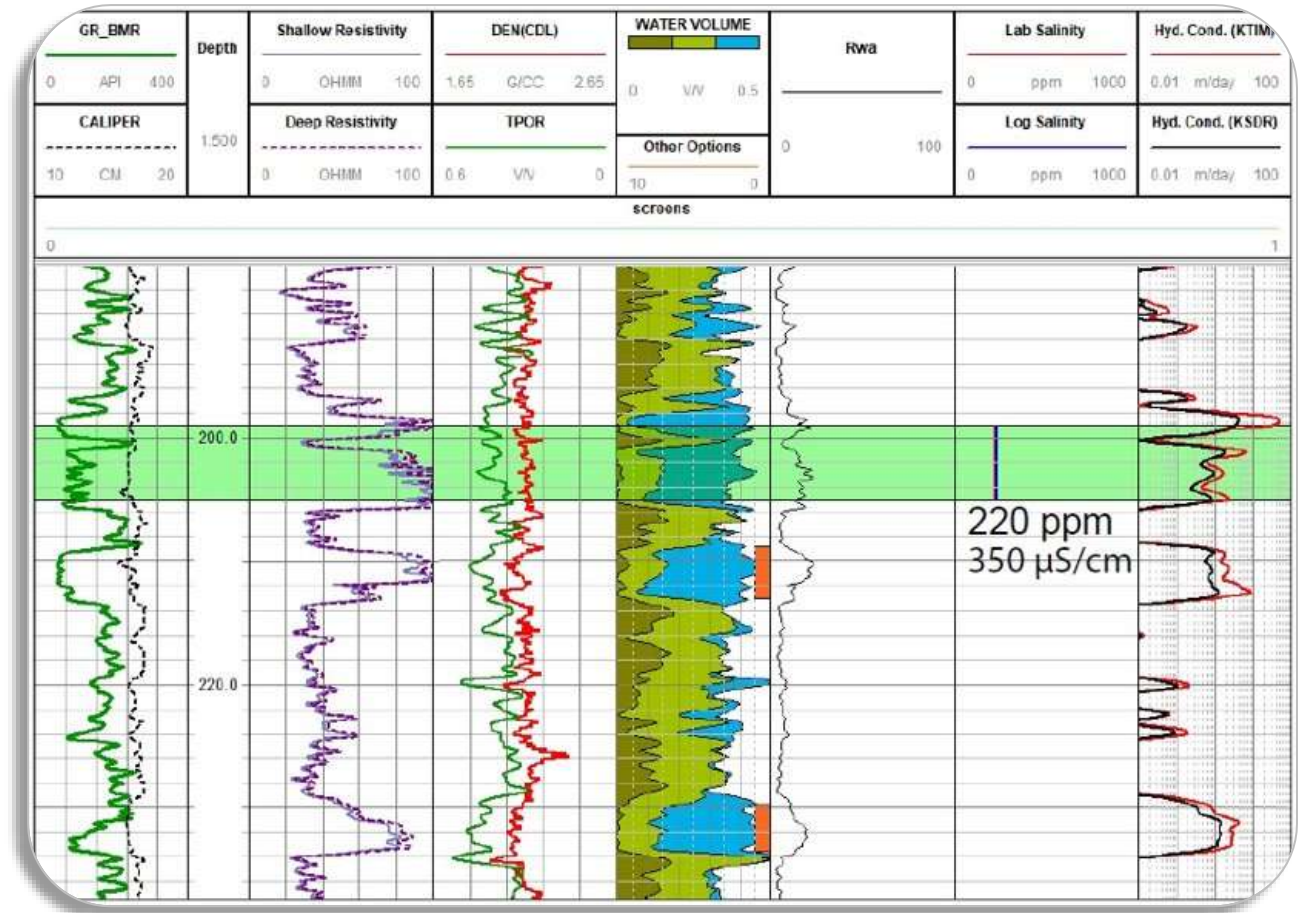


What is wireline?

Wireline is a cable technology for lowering measurement devices in a bore to investigate properties of the rocks and aquifers.

Alluvial Aquifers

- Identify aquifers
- Quantify the hydraulic conductivity
- Measure water quality (salinity)

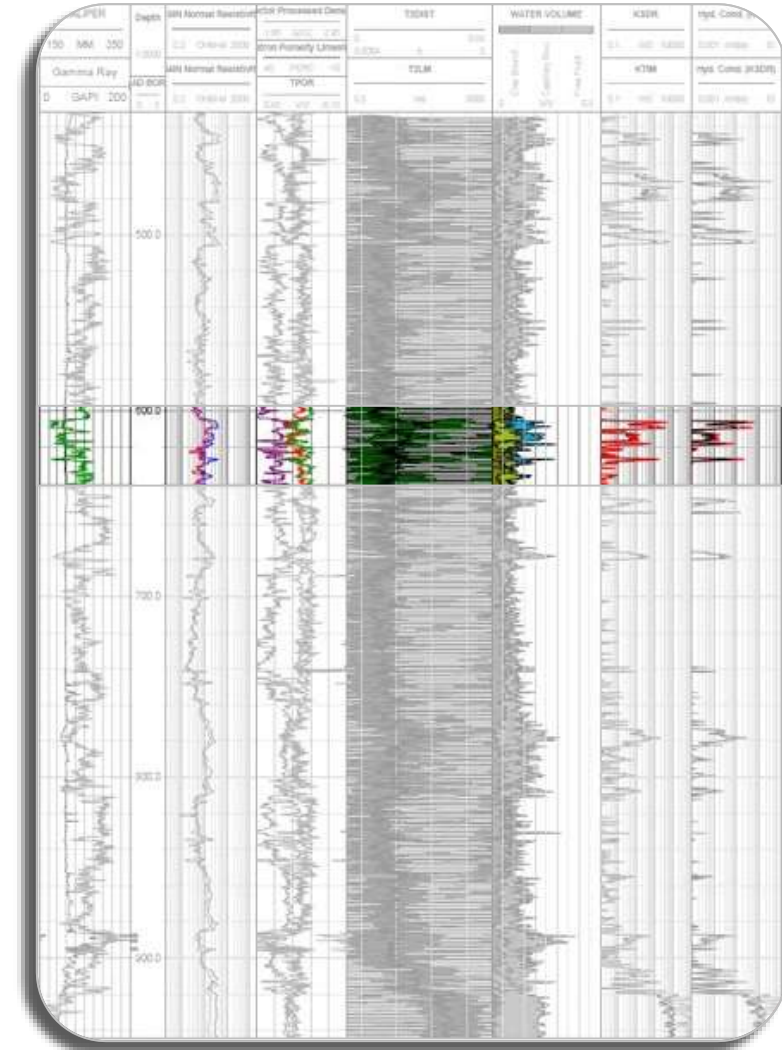


Locate & Characterise Groundwater (Measure)



Great Artesian Basin

- Qteq logged the bore between 432m-944m to define aquifer properties
- Identified multiple aquifers across different management units for licences
- On the Darling Downs, water license are issued for Walloon, Hutton & Precipice aquifers

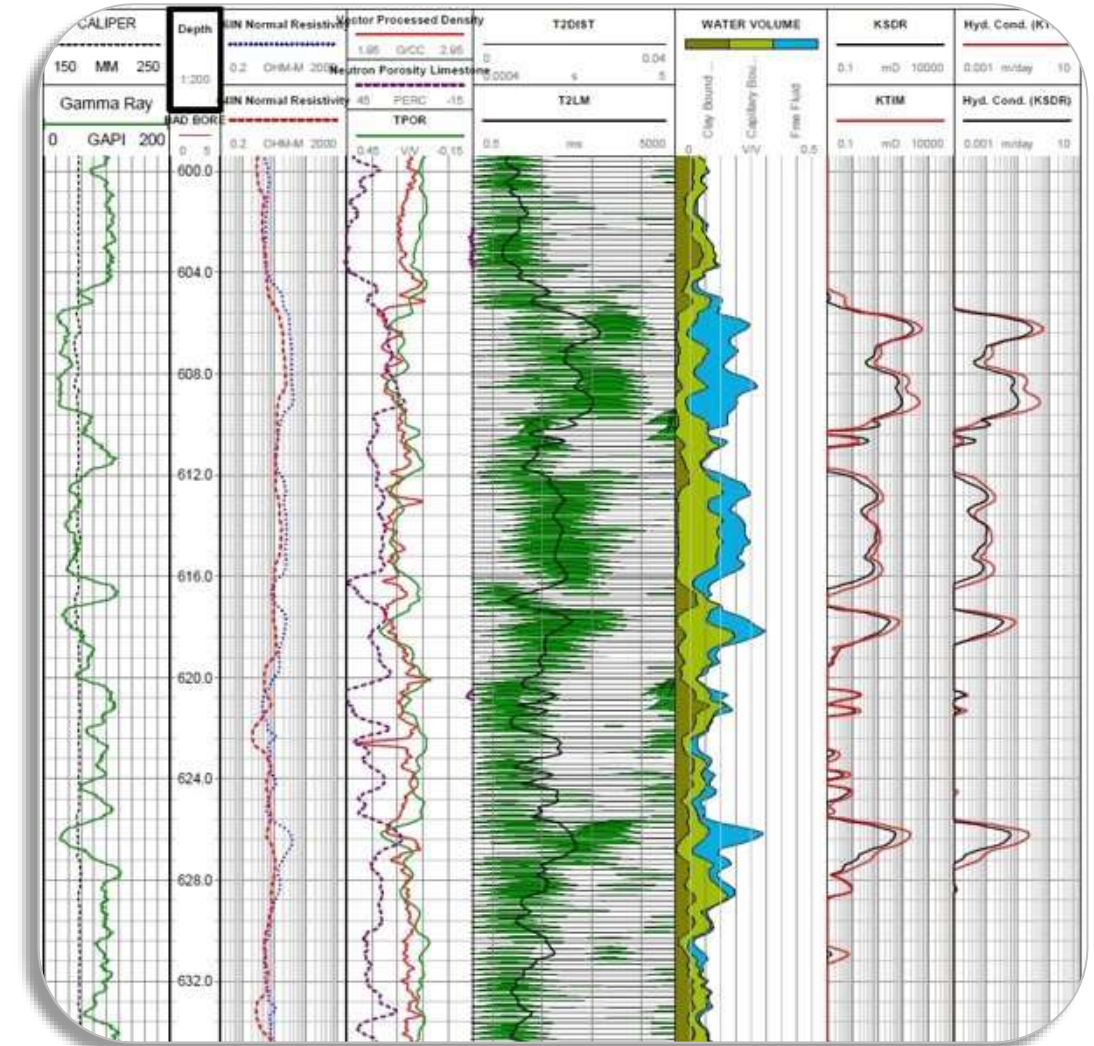


Locate & Characterise Groundwater (Measure)



Hutton Sandstone

- Detailed logging information shows variability in aquifer over 30m
- Importance of correctly positioning screens to maximise flow of water
- Water salinity can be calculated in new bore or behind plastic casing



Track Water Movement & Quality (Monitor)



AquiTraq Pressure Gauge Systems

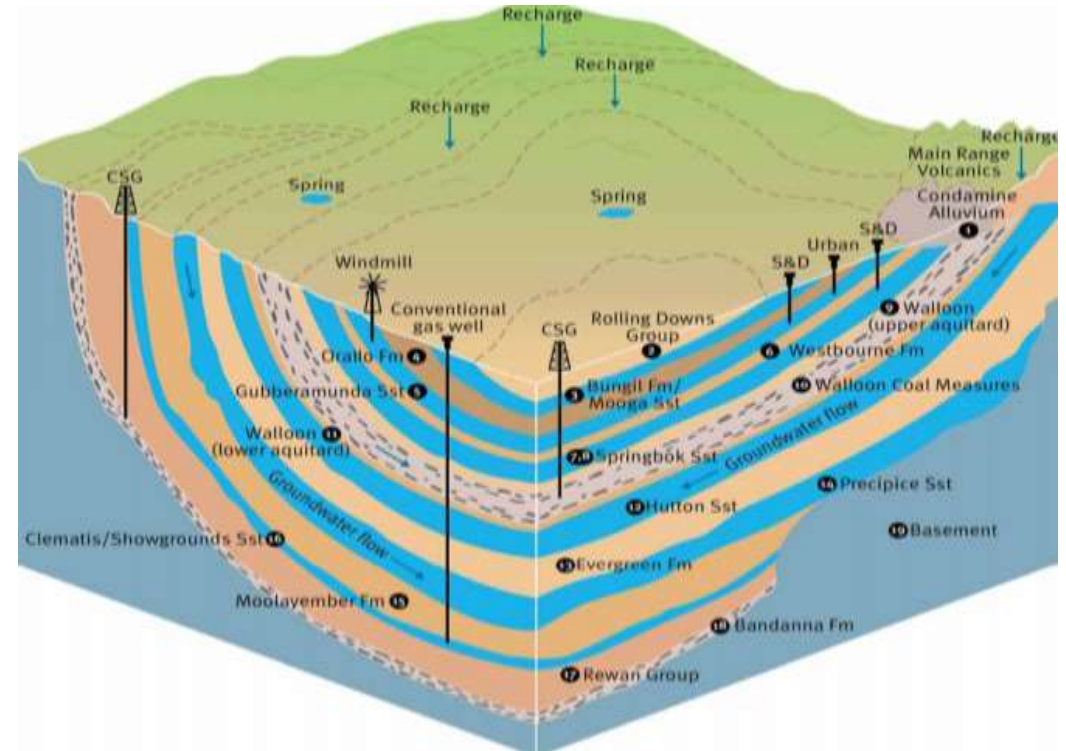
- Monitor pore pressure and water level in one or more aquifers from a single bore

Q-Tube AquiSample Systems

- Capture virgin aquifer water samples up to 2,000m below ground level

Q-Tube Enviro Systems

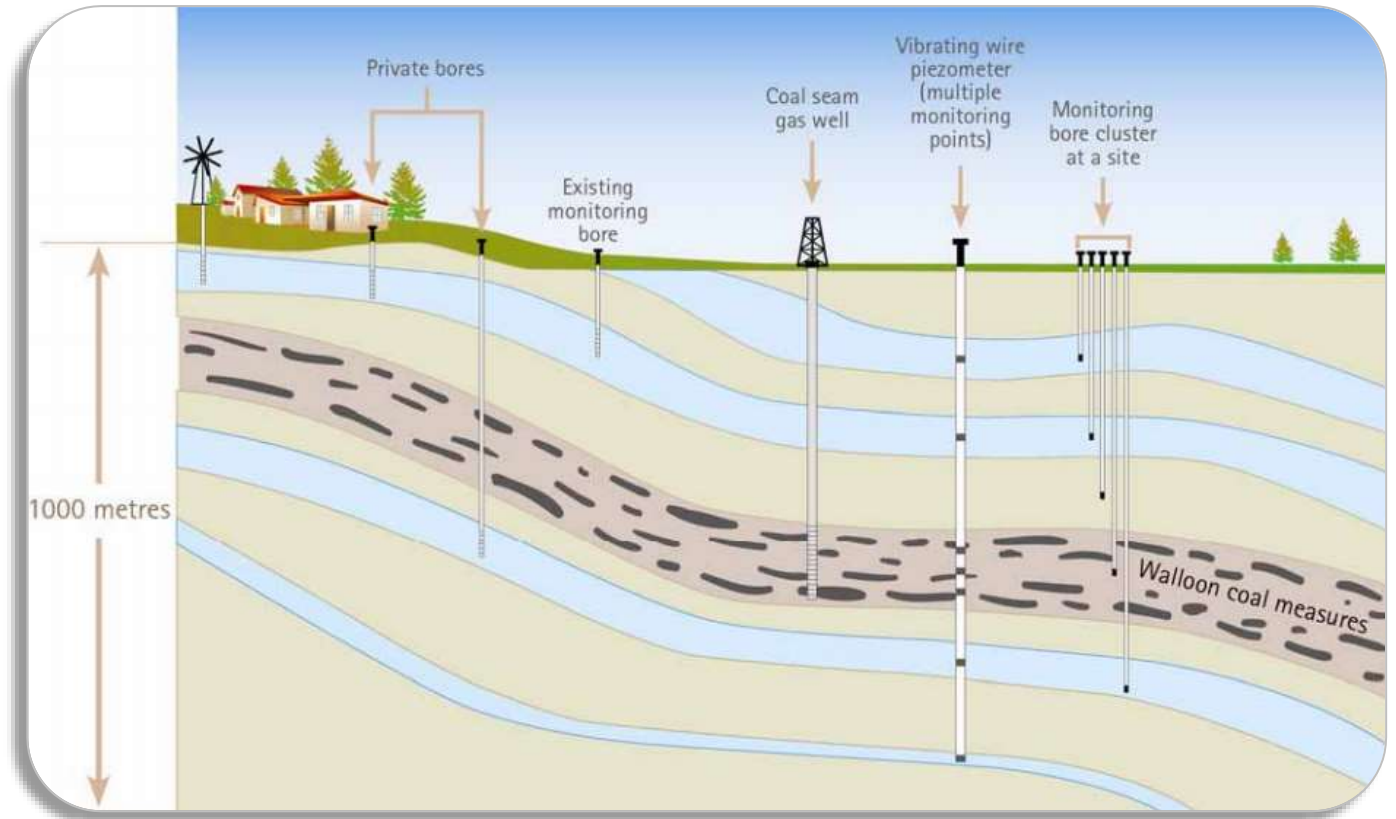
- Continuous monitoring of surface water quality
- Automated water samplers triggered off flow/river discharge



AquiTraq Pressure Gauge Systems



- Water level/Pressure gauge system that provides continuous, long-term water level monitoring
- Configurations available for single or multiple aquifers
- Applicable for investigations of aquifer productivity
- Real-time data remotely available via mobile network

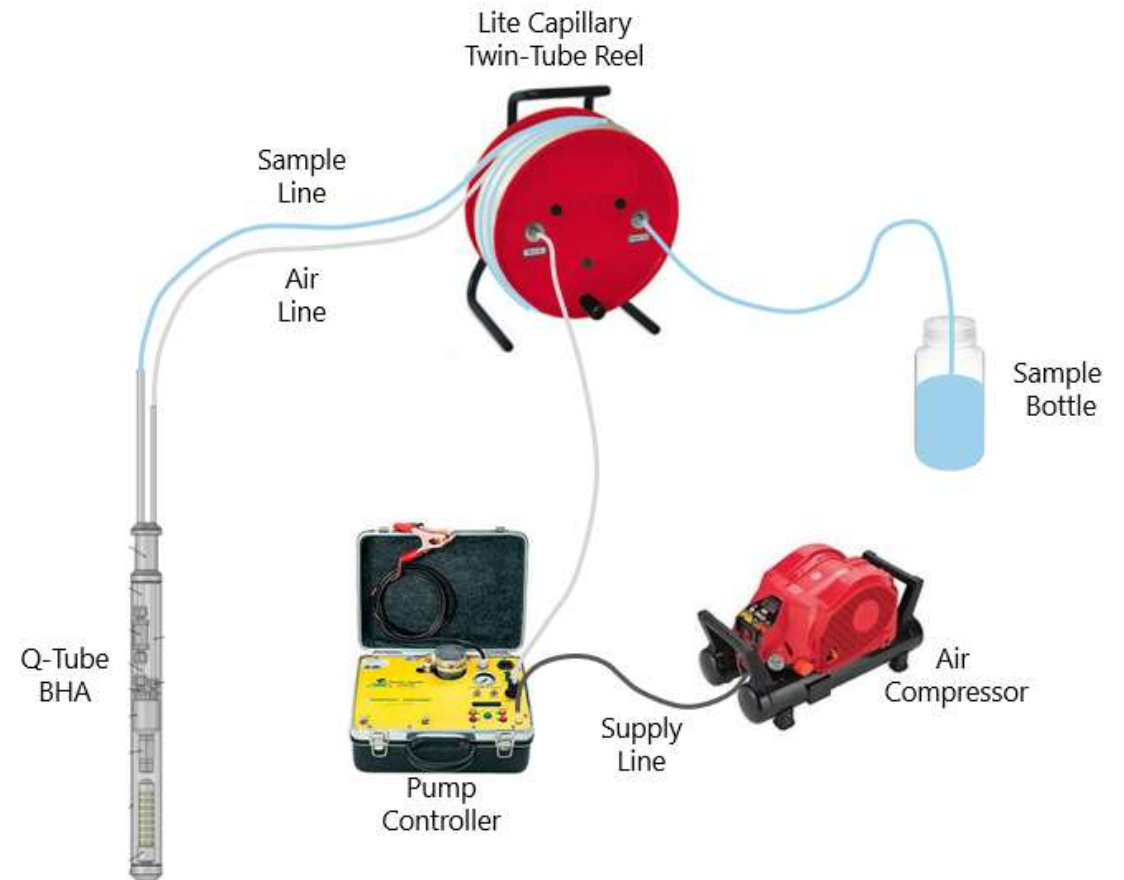


Q-tube AquiSample Systems



Low-flow, **groundwater sampling** system, having no moving parts, for use at any sampling depth, with operation unaffected by large changes in water level and is solids-tolerant

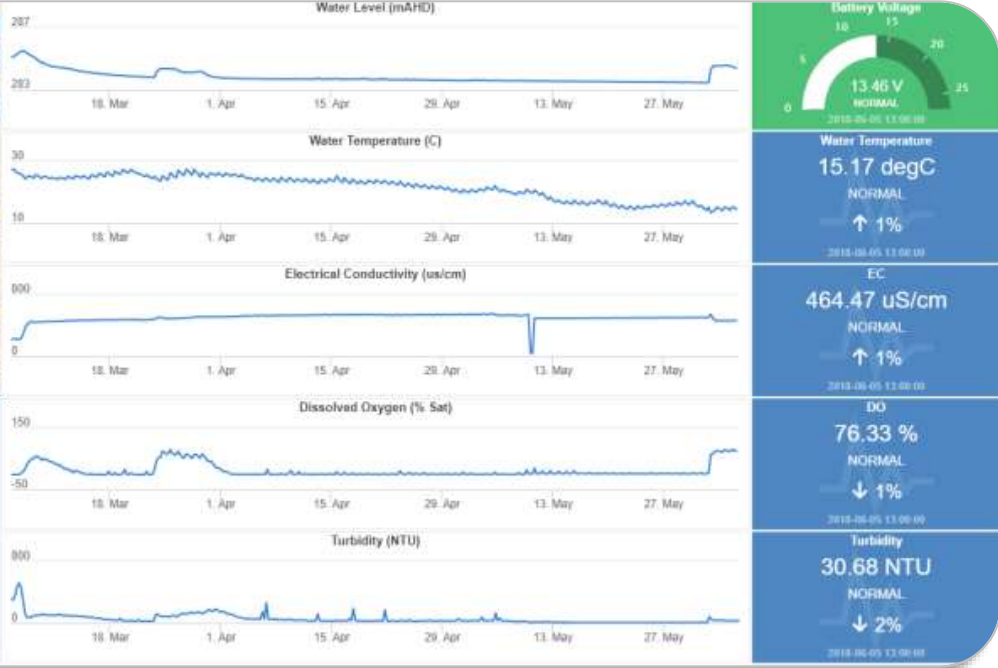
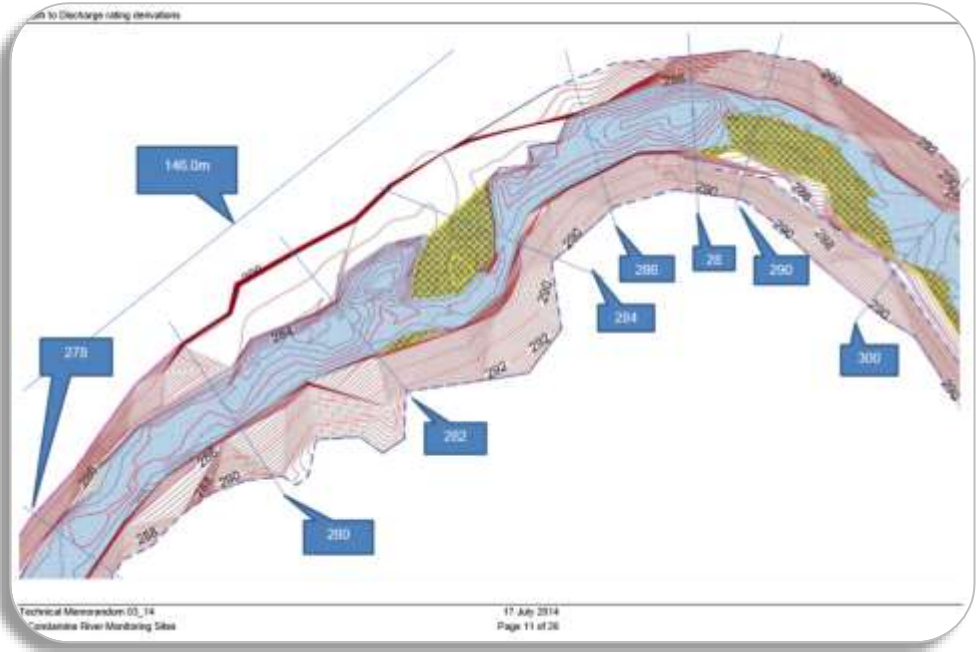
- Groundwater sampling system capable of operating 2,000m below ground
- Operation unaffected by large changes in water level
- Ability to isolate individual aquifer for sampling to avoid cross contamination



Q-Tube Enviro Systems



- In-situ real-time water quality monitoring
- Automated samplers triggered off flow/river discharge

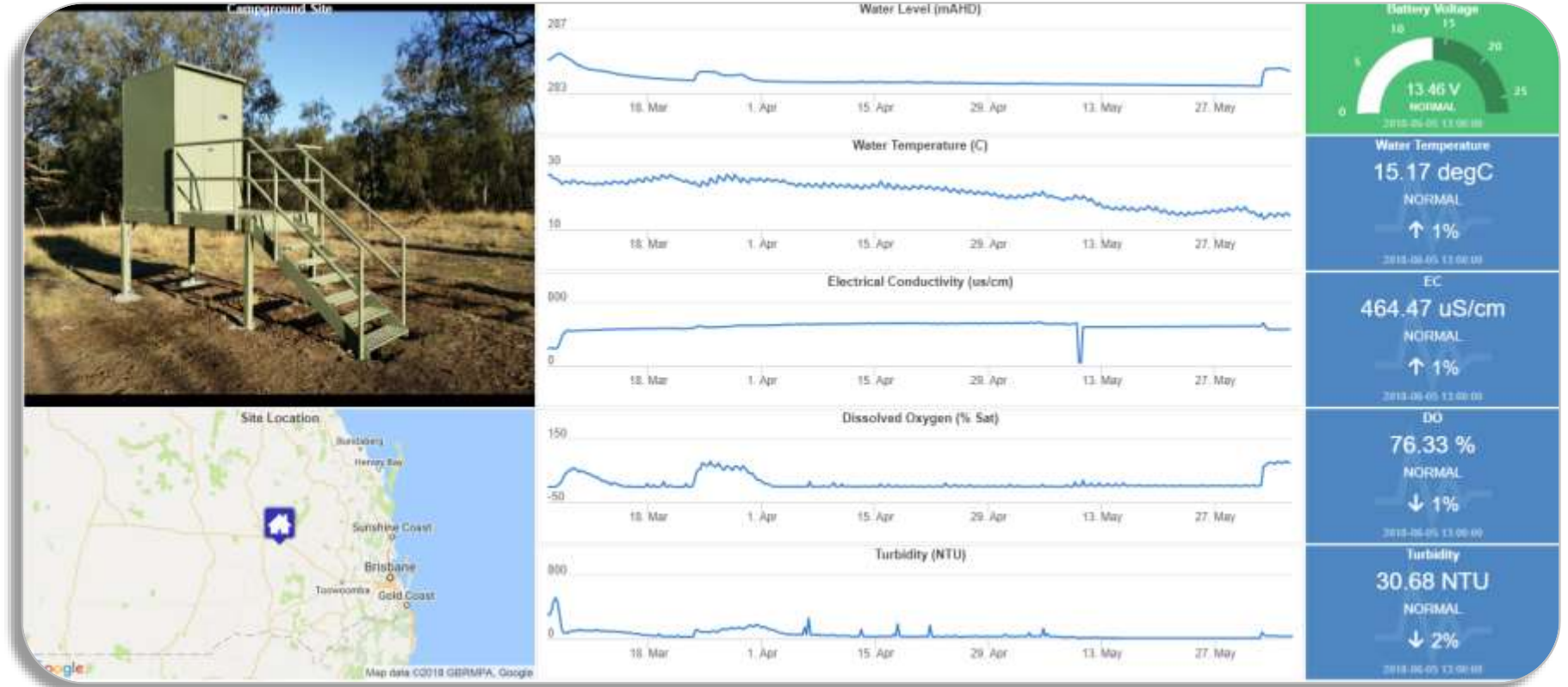


Manage Groundwater and Water Surface Security

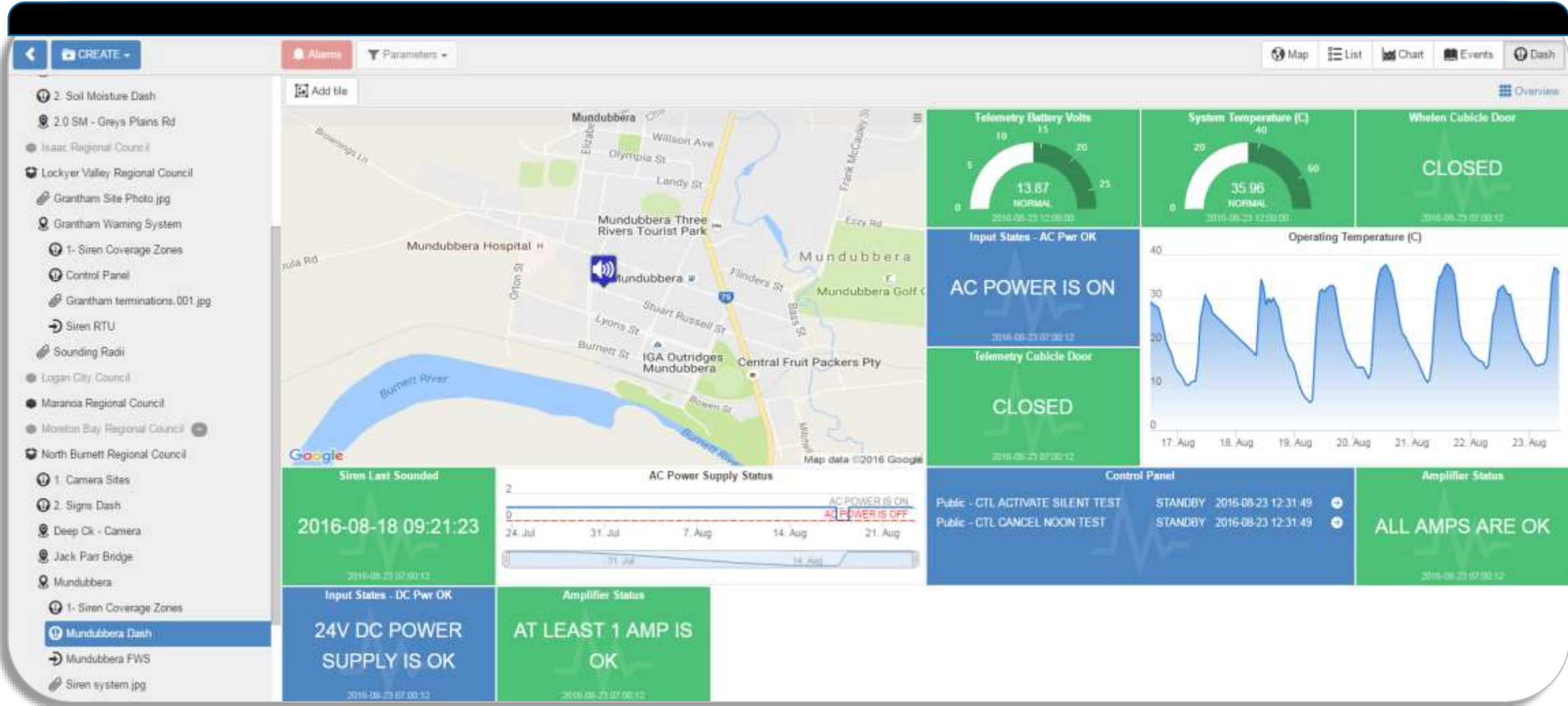


Actionable Intelligence

- Data management platforms
- Alert notification management



Cloud-based data access and system control



Live Camera Control



- Online Pan-Tilt-Zoom Image Capture

The screenshot displays a web-based interface for managing live camera feeds. The main dashboard includes a navigation sidebar with options like 'Explore', 'Map Explorer', 'Table View', 'Cross-Tab', 'Bulk Downloads', 'Cell Visor Control', and 'Campbell Control'. The main content area shows a grid of camera feeds, each with a title, timestamp, and a 'LIVE CONTROL' button. A detailed inset window provides a close-up view of the 'Cell Visor Camera' interface for 'Bucca Weir'. This interface includes a 'REFRESH' button, a live video feed of the weir, and control sliders for 'LEFT', 'RIGHT', 'DOWN', 'UP', 'OUT', and 'IN'. A 'CAPTURE' button is also present.

Flood Mitigation



- Flood warning systems
- Mass notifications solutions
- Remote monitoring stations
- Remote Camera stations





Smart Integrated Gauge (SmlG)

Integrates

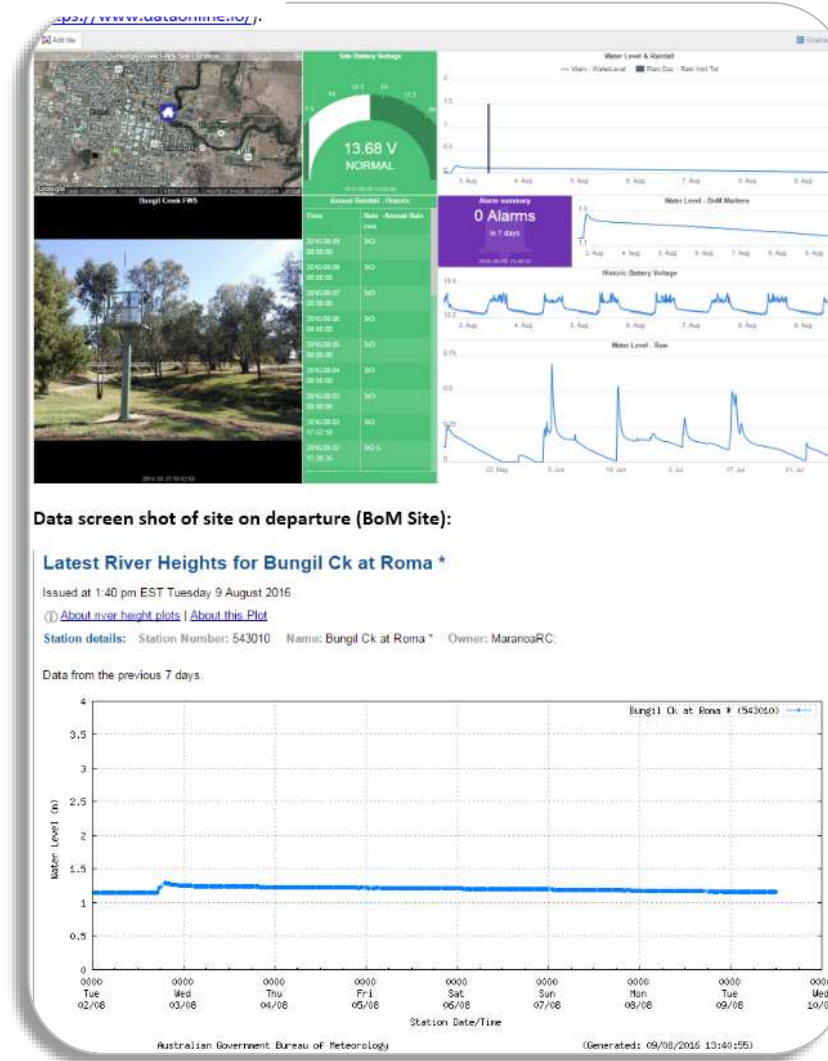
- Standard roadside flood marker
- Multiple alert trigger points (email/SMS alerts)

Benefits

- Compact
- Scalable & expandable (can add camera, automated road signs, etc.)
- Secure & Vandal resistant – no solar, integrated battery



Rainfall & Water Level Gauges



Remote Camera Systems

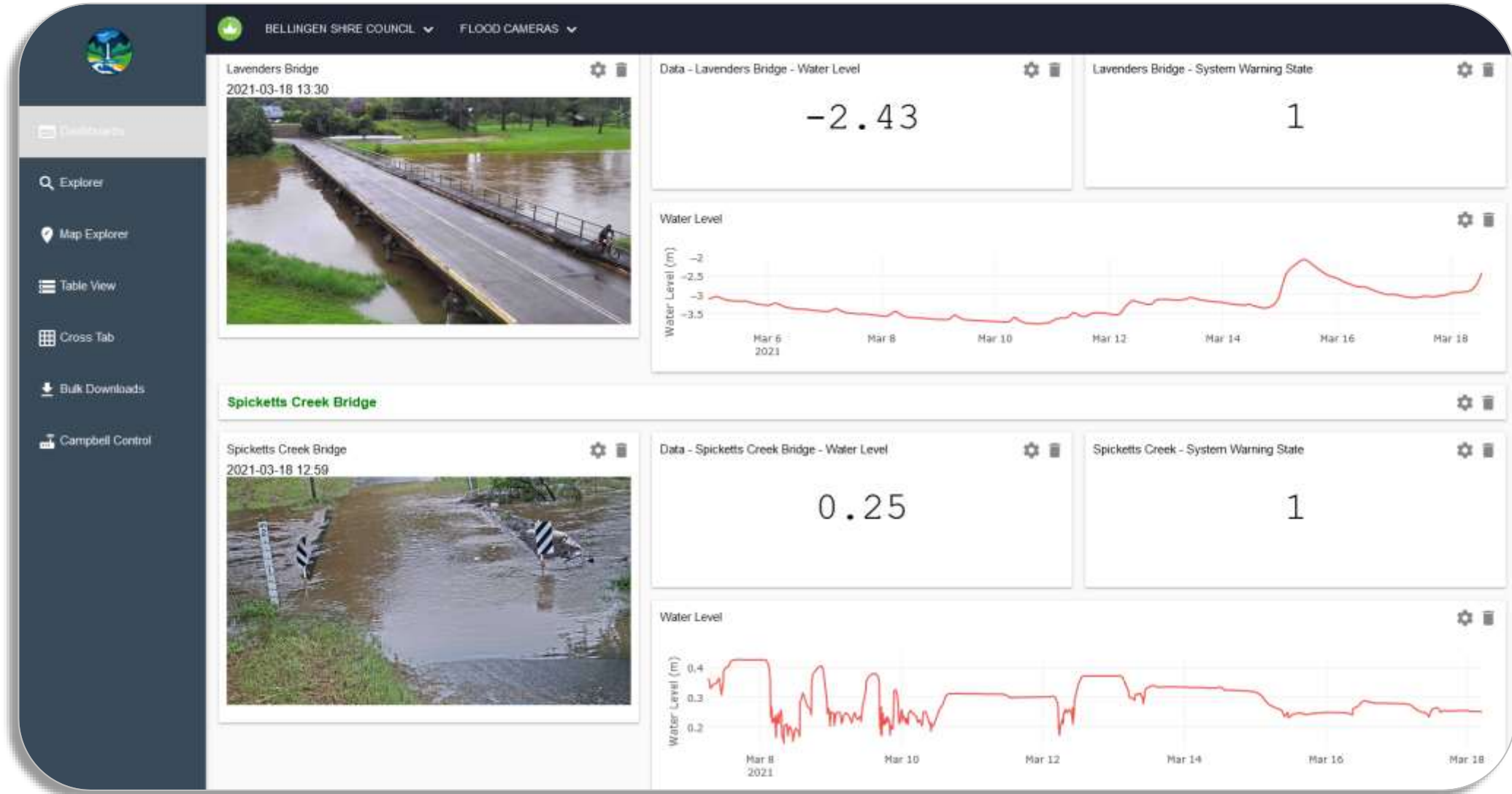


Smart Signs



- Local automation
- Remote integration and control
- Scalable
- Main roads specifications
- Multifaceted; flood, smoke/fire, informative, etc.







Thank you

See you at our
next Workshop

