



M&E

SOLUTIONS

M&E Solutions

Capability and Experience Statement

ELECTRICAL & MECHANICAL ENGINEERING | CONTROL SYSTEMS
DESIGN | PROJECT DELIVERY & MANAGEMENT | COMMISSIONING



We are M&E Solutions.

We are 50+ handpicked engineers, technicians, project managers and specialists with a range of global expertise in the mechanical and electrical project design and delivery space.

We deliver engineering solutions, purpose-built control and electrical systems that are adaptable, efficient and built to perform.

By staying agile and focused, we simplify complexity, reduce risk and add value at every stage — from design through to commissioning.

Our solutions are engineered to respond to change and scale with project requirements.

Efficiency, adaptability and value

— wired in from day one.

INNOVATING WITH PURPOSE

Tunnel Lighting Optimisation and Delivery

A precision-engineered M&E upgrade delivering more efficient, safer tunnel lighting through advanced control systems and high-efficiency infrastructure.

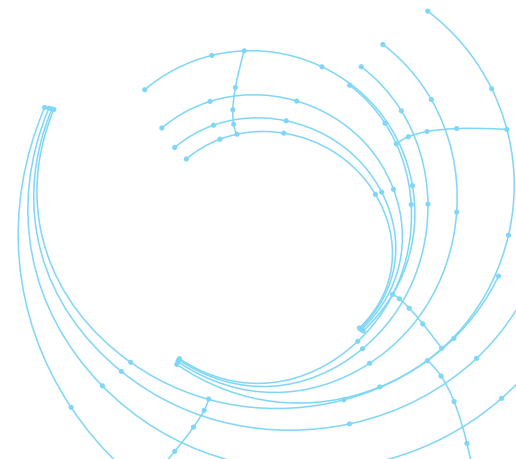
Working with our industry partners, M&E Solutions undertook R&D to understand existing conditions. M&E Solutions was the PC and managed design, procurement, installation and commissioning.

Eastern Distributor Tunnel: Client: Transurban

- 33% less energy consumption
- Retained existing UPS and emergency lighting infrastructure
- Like-for-like solution, reusing existing luminaire housing and cabling

Sydney Harbour Tunnel: Client: Ventia

- 80% less energy consumption
- Reduction in maintenance costs
- Optimised design compliant to AS/NZS1158.5
- Safer tunnel for drivers and maintainers



INNOVATING WITH PURPOSE

Heysen Tunnel **Misting System**

The Heysen Tunnels introduced Australia's first water mist system, delivering faster, safer fire suppression with minimal water use.

- Australian-first tech – Pioneering the nation's first tunnel water mist system
- 80% less water – Smarter, faster fire control with minimal water use
- Smaller footprint and minimal excavation – No big sumps or pumps — just sleek, efficient safety

M&E Solutions Innovation Scope:

Client: Department for Infrastructure and Transport | Delivery Partner: McConnell Dowell | Value: \$3M

- Fire system delivery – Played a key role in constructing and installing the water mist fire suppression system.
- Delivery partner – Represented McConnell Dowell in driving tunnel upgrade works.
- Fire system specialists – Led installation of Australia's first tunnel misting system.
- Hands-on execution – Solved complex install challenges and delivered under pressure.



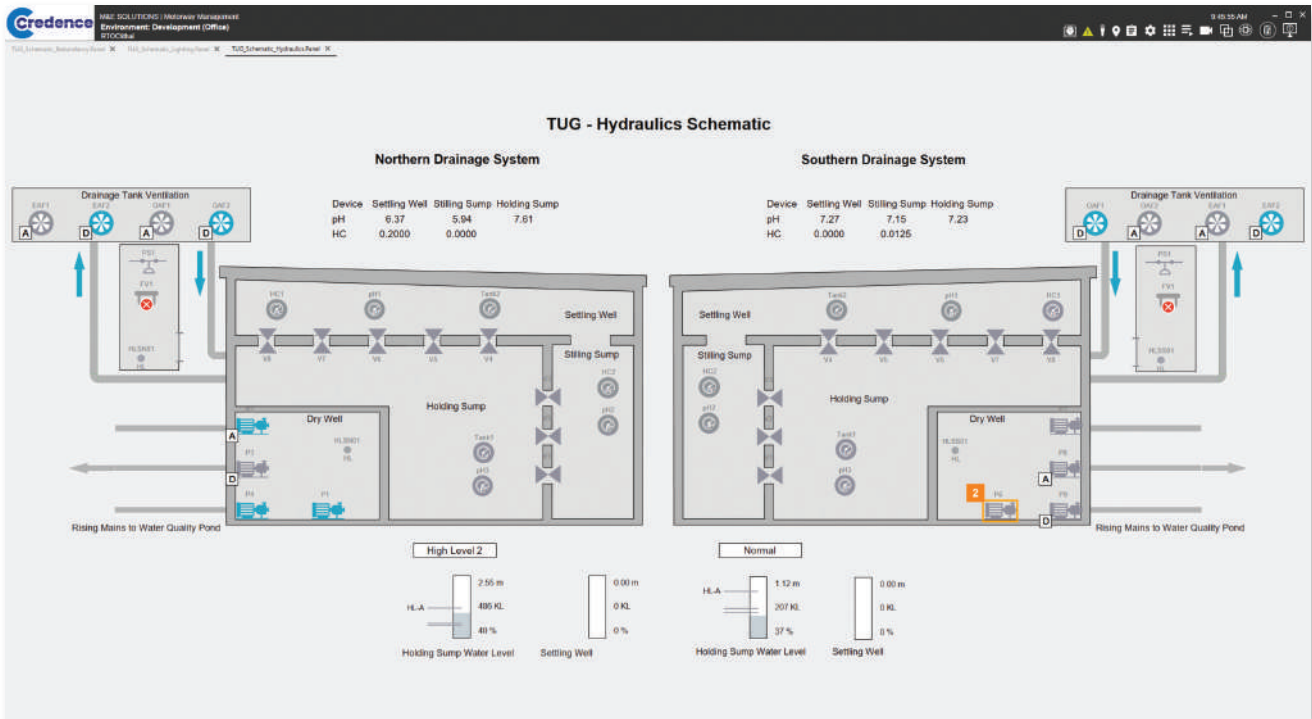


Credence OMCS

by M&E Solutions



A future-proof, PLC built, COTS-based Operational Management & Control System

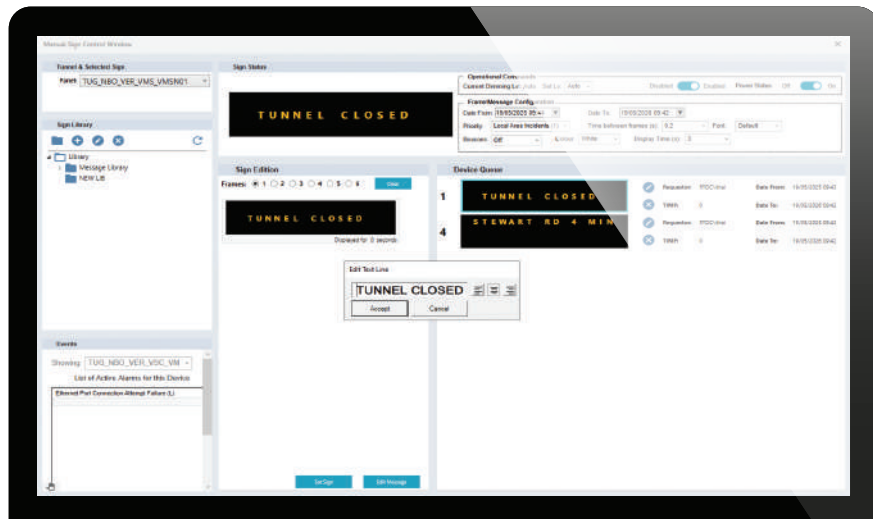
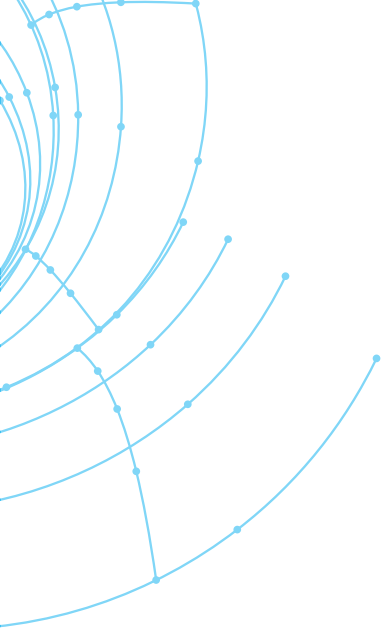


Engineered with **Safety, Security** and **Assurance** as core priorities

Developed in accordance with **AS/NZS 12207** and **AS 61508-3:2011** standards.

Compliance to **Transport for NSW** specifications including **TS902** and all OMCS standards.

Embedded **AVEVA Cybersecurity** and M&E Solutions compliance to **ISO45001**.



Credence is a Commercial-Off-The-Shelf (COTS) OMCS product developed by **M&E Solutions**, designed to lower lifecycle costs, maximise operational resilience, and streamline integration across motorway and tunnel infrastructure. Built on **Schneider AVEVA System Platform**, Credence delivers unmatched flexibility while remaining fully compliant with **TfNSW** system engineering principles.

Why Credence is Different

- **COTS + Customisable**

Built on a proven global SCADA platform (AVEVA), Credence enables easy upgrades, consistent development practices, and vendor independence—without proprietary lock-in.

- **Whole-of-Life Cost Savings**

By leveraging a robust ecosystem and widespread industry familiarity, the system ensures lower development and maintenance costs compared to bespoke builds.

- **Built for Expansion and Transition**

Designed with distributed architecture, parallel testing capabilities, and intuitive commissioning. Credence reduces disruption during migrations and supports future asset growth.

- **Safety as a Priority**

Credence solution is PLC based, with SIL compliance and multiple levels of redundancy. OMCS and field device interfaces are PLC based, ensuring no loss of safety functionality in event of OMCS loss.

Core Capabilities

- **Robust and reliable PLC Interfaces** – No data loss, real-time control
- **Anywhere Access** – Web access with fine-grain user permissions
- **Advanced Alarm & Incident Management** – Customisable, operator-centric UI based on TfNSW philosophy
- **Comprehensive Redundancy** – Failover across clusters, VMs, storage, PLCs
- **GIS-Enabled** – Live visualisation of assets, incidents and controls
- **Integrated Analytics** – Historian, reporting and SCADA playback
- **Security First** – Firewall segmentation, role separation, AVEVA-native cybersecurity



From Design and Delivery to Full Project Support

Tunnels and Transport Infrastructure

Full design and delivery of tunnel M&E systems:

- Wet and dry fire protection systems (deluge and misting), Intelligent Transport Systems (ITS), Tunnel and road lighting, Radio rebroadcast and public address systems
- Replacement, refurbishment, and upgrades of tunnel M&E infrastructure
- Ventilation and airflow studies - Jet and axial fan specification and design
- Air quality monitoring (CO, NOx, visibility sensors)
- Delivery of open-road ITS and traffic management systems
- CCTV systems and Automatic Incident Detection (AID), including headend integration

Mechanical and Electrical

- High and low voltage – Protection, design, power flow studies
- Switchgear and distribution boards
- Uninterruptible Power Supplies (UPS)
- Lighting systems – design and implementation
- Fire systems – deluge, misting, and hybrid solutions

Control Systems

- SCADA and PLC system design, delivery, and commissioning
- Seamless integration with existing infrastructure
- Power monitoring and advanced control panels

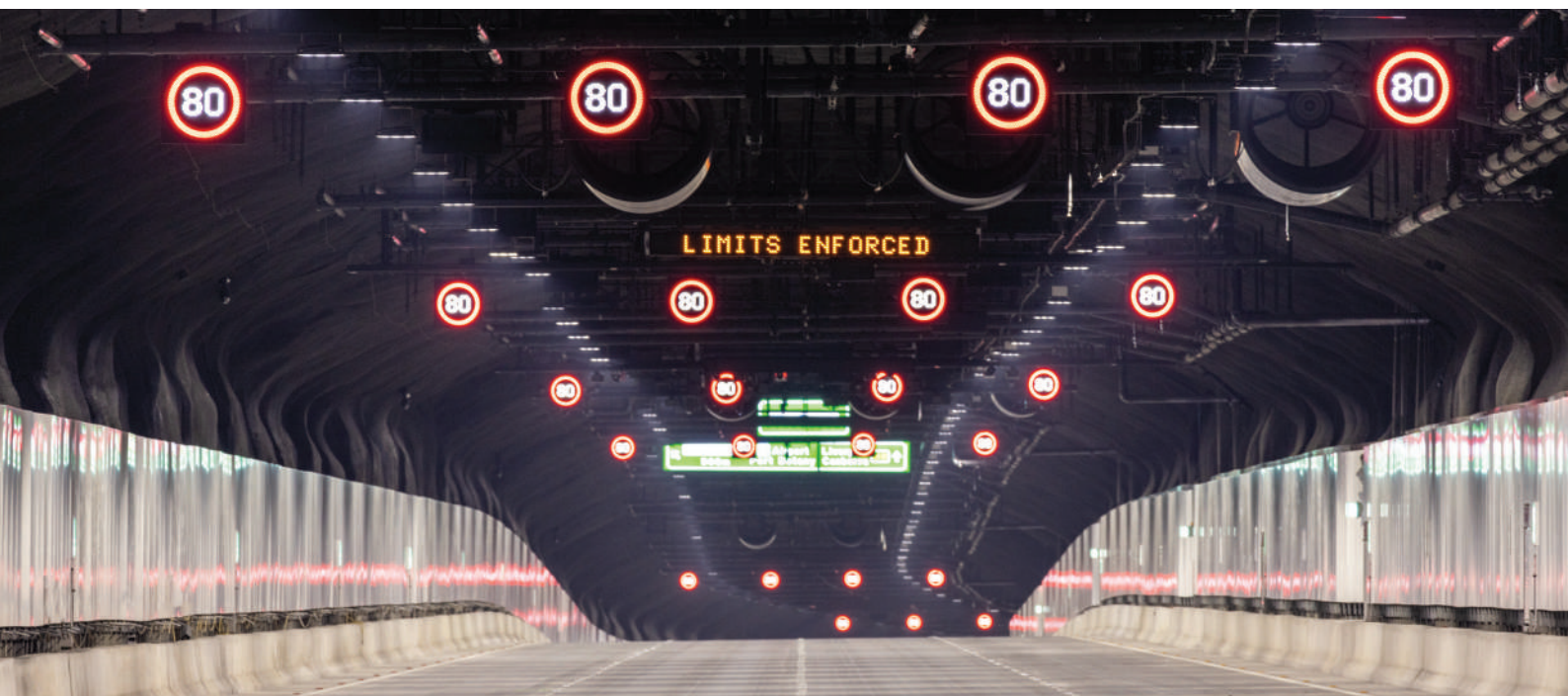
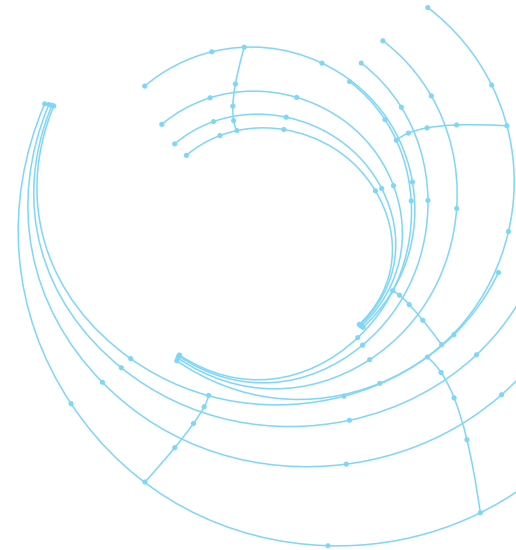
Water movement and treatment

Design and installation of:

- Sump pump systems and automated control
- Deluge water pumping systems
- Water treatment plants and separators

Project Support

Support from **early engagement (EOI/tender)** through to **delivery, operations & upgrades**



Proven People Performance on Landmark Projects

Western Australia:

Northbridge Tunnel
Perth Metro Package F

Queensland:

Inner City Bypass
Airport Link Tunnel
Clem 7 Tunnel
Northern Busway
Inner Northern Busway 5
South East Transit Busway 1b

New South Wales:

Sydney Harbour Tunnel
Eastern Distributor Tunnel
M5E Tunnel
Lane Cove Tunnel
Epping to Chatswood Rail Link
Rozelle Tunnel
T2E Tunnel
NorthConnex Tunnel
M4E Tunnel
M8 Tunnel
M4-M5 Link Tunnel

South Australia:

Heysen Tunnel Upgrade

Victoria:

Eastlink Tunnel
Melbourne Metro Tunnel
Westgate Tunnel
CityLink Upgrade

New Zealand:

Johnstones Hill Twin Tunnel

Trusted By





M&E SOLUTIONS

M&E Solutions Pty Ltd
Australia
 ABN 80 630 371 210

New South Wales
 Unit 11, 277 Lane Cove Road
 Macquarie Park NSW 2113

Queensland
 Unit 14, 67 Depot St
 Banyo QLD 4014

Postal Address
 PO Box 881
 Mona Vale NSW 1660

M&E Solutions NZ Limited
New Zealand
 Company Number 8187876
 NZBN 9429049329742

New Zealand Office
 Suite A, Level 8, 152 Quay Street
 Auckland 1010 NZ



Contact Us

Office
02 9127 3920

Simon Moroney
 Business Development Manager
 0437 356 122
 simon.moroney@mandesolutions.com.au

Paul Grabham
 Director
 0418 191 699
 paul.grabham@mandesolutions.com.au

Peter Valeontis
 Director
 0417 448 565
 peter.valeontis@mandesolutions.com.au

Industry Partners



A leading Australian-owned lighting manufacturer



Public Address and Sound Innovations Systems



The world's leading manufacturers of sensors

mandesolutions.com.au