

Program Outline

MONDAY 17 AUGUST 2026	
Technical Tours <i>(limited space available)</i>	
0845 - 1400	Dry Creek Rail Operations Experience – Keolis Adelaide & Operations Control Centre Gain a unique behind-the-scenes perspective into Adelaide's passenger rail network with an exclusive visit to the Dry Creek rail precinct. Combining the Keolis Adelaide Railcar Maintenance Facility and the Department of Infrastructure and Transport's Operations Control Centre (OCC), this technical tour offers delegates a rare opportunity to explore both the operational and maintenance functions that keep Adelaide's rail services moving. Delegates will gain insight into the maintenance, servicing and operational readiness of Adelaide's passenger rail fleet, while also experiencing the operational heartbeat of the network through the OCC, where real-time monitoring, coordination and management of rail services takes place. Together, these facilities provide a comprehensive overview of the systems, technology and teams responsible for delivering safe, efficient and reliable public transport across Adelaide.
1015 - 1330	Port Dock Precinct & National Railway Museum Step back in time and explore South Australia's rich rail heritage with a visit to the historic Port Dock precinct. Delegates will travel by train to Port Dock to experience the newly developed station precinct and surrounding rail corridor, followed by an exclusive tour of the National Railway Museum, home to one of Australia's most significant collections of railway history and rollingstock. A relaxed opportunity to continue networking may follow at a local venue nearby.
1030 – 1230	Intercast & Forge – Wingfield Gain behind-the-scenes insight into railway manufacturing with an exclusive tour of the Intercast & Forge facility in Wingfield. Delegates will experience the production environment responsible for manufacturing Pandrol rail fastening systems, a critical component in rail infrastructure across Australia and internationally. This technical tour provides a unique opportunity to see precision engineering and manufacturing processes firsthand.
1300 - 1600	Exhibitor Move In
1300 – 1800	Registration Desk Open
1600 – 1700	Emerging Rail Professional Icebreaker
1700 – 1830	Welcome Reception

TUESDAY 18 AUGUST 2026	
0730 - 1800	Registration Desk Open
0730 - 1800	Exhibition Open
0830 – 1000	Day One Plenary Session
0830 – 0845	Welcome to Country
0845 – 0850	Welcome, Master of Ceremonies
0850 – 0900	RTSA Welcome
0900 – 1000	Keynote Address - Michael McQueen
1000 – 1030	Morning Tea <i>Served in the exhibition space</i>

1030 – 1230	Concurrent Sessions - Concurrent sessions are 20-minute presentations + 5-minute question time				
	SESSION 1 LIGHT RAIL AND METRO SYSTEMS	SESSION 2 TRAIN OPERATIONS	SESSION 3 SAFETY & RISK MANAGEMENT	SESSION 4 SIGNALS & COMMUNICATIONS	SESSION 5 TRACK DESIGN & CONSTRUCTION
Session Chair	Jonathan Barnes	Damian Birkin	Ravi Ravitharan	Mohan Sankarasubbu	Nithurshan Nadarajah
Room	Hall L	Riverbank 5	Riverbank 6	Riverbank 7	Riverbank 8
1030	Small Network, Big Change: Adelaide's Tram Grade Separation Project and Innovative Track Solutions Jason Williams , Aurecon & Tram Grade Separation Projects Alliance, VIC, Australia	Intelligent Event-Triggered Robust Model Predictive Control for Disturbance-Affected Automated Train Platooning Yufeng Lin , Centre for Railway Engineering, CQUniversity, QLD, Australia	Rail Surveying Safety Innovations Transforming Shutdown Delivery, Machine Control and Workforce Protection Olan Healy , McDonald Surveys, WA, Australia	A Practical Playbook for Signalling & Engineering Management for Brownfield ETCS Level 2 Migration Subhajit Dey , UGL Limited, NSW, Australia	Buffer Stop Design for Varying Requirements for Bellevue Depot Surendra Bisht , Aurecon, WA, Australia
1100	Energy-Centric Design & Maintenance Framework (ECDMF) for GoA4 Depots Vinod Kumar Mott Macdonald Australia, VIC, Australia	Interoperability in Rail Systems - Economic Drivers, International Lessons, and Implications for Australia Brychan Morris , Network Rail Consulting, QLD, Australia	Integrated Dynamic Track Quality Assessment for Australian Rail Networks Using TQI, Vehicle Dynamics, And Standards Yan Sun , CQUniversity, QLD, Australia	When Legacy Systems Fail Catastrophically Haki Singh , Keolis Australia & New Zealand, SA, Australia	Flood Resilience of Inland Rail Ayub Ali , Inland Rail, QLD, Australia
1130	Keeping Adelaide Trams Running Through Grade Separations: Temporary Stabling and Network Isolation on Glenelg Line Tom Kerr McConnell Dowell, SA, Australia	What Is Capacity? A Review of Measurements and Applications in Literature and Industry David Bannister , Minerva Transport Planning Company, VIC, Australia	Effective Bowtie Diagram Development – Supporting Safety and Risk Management Steven Gibson , ESR Consulting, WA, Australia	Cyber Security in an EtcS, Eulynx and FRMCS Brownfield Environment Andrew Mac Quantum Rail, VIC, Australia	Boef-Rail: Deterministic Software for Railway Track Analysis Mahan Yoldashkhan , MTM, VIC, Australia
1200	Digital Twin Modelling of Complex Light Rail Intersections Robert Lambert , Monash IRT, VIC, Australia		Talk Isn't Cheap: Examining The Effectiveness of Risk-Triggered Commentary in Rail Driving Anjum Naweed , CQUniversity Adelaide, SA, Australia	Transition From RRI to CBI Zhe Xu , Siemens Mobility, NSW, Australia	Major Infrastructure Programs - Learning Lessons from High Speed 2 Limited Colin Westwood AtkinsRéalis, VIC, Australia
1230 - 1330	Lunch Served in the Exhibition Hall				
1330 – 1530	Concurrent Sessions - Concurrent sessions are 20-minute presentations + 5-minute question time				
	SESSION 6 ENERGY, ENVIRONMENT & SUSTAINABILITY	SESSION 7 INSPECTION & CONDITION MONITORING	SESSION 8 SYSTEMS ENGINEERING	SESSION 9 TRACTION SYSTEMS	SESSION 10 TRACK DESIGN & CONSTRUCTION
Session Chair	Roger Buckley	Colin Cole	Subrina Rahman	Sudheer Jamiseti	Armin Ehrampoosh
Room	Hall L	Riverbank 5	Riverbank 6	Riverbank 7	Riverbank 8
1330	A Multi-Objective Corridor Resilience Assessment Framework For Battery Electric Trains Sakura Mukhopadhyay , Arcadis, NSW, Australia	Augmenting Track Inspection With AI to Enhance Track Asset Management Strategy Darren Tan , Monash Institute of Railway Technology, VIC, Australia	Integration: When Simplicity is the Key to Managing Project Complexity Nicolas Teulier , Acmena, NSW, Australia	Challenging the EN 50122-1 Overhead Contract Line Zone (OCLZ) for Catenary and Contact Systems David Stuart-Smith , Arup, NSW, Australia	Topographical Vertical Alignment Design Using a Rolling Stock Derived Method Miles Sexton , Inland Rail, Qld, Australia
1400	Numerical Assessments of Energy Saving From Improved Rolling Stock Designs Qing Wu , Centre for Railway Engineering, CQUniversity, QLD, Australia	Battery Electrification of the Flash-Butt Rail Welding Process Shane Mayhill , Holland, L.P., IL, USA	Fail-Safe or Fail-Secure? Security Gaps in Railway Soroush Tazerji , Sener, VIC, Australia	What's the Big Inrush? Modelling Traction Power Transformer Energisation: Case Studies and Procedures Reece McIntosh , Incite Energy, QLD, Australia	Managing Track Stiffness Variations In Brownfield Railway Projects Sebastian Ocampo & Maneesh Gupta , AECOM Australia

1430	Qubo-Qaoa-Based Battery Configuration Selection for Heavy-Haul Battery Electric Locomotives Daniel Roi Agustin , Centre for Railway Engineering, CQUniversity, QLD, Australia	From Inspection to Intervention: Using Eddy Current Data and to Produce Focused, Optimized Rail Repair Plans Ben Muscat , Goldschmidt, NSW, Australia	Maintenance Change Evaluation Using Reverse MRA and RCM Logic Michael Siminski , Downer, NSW, Australia	Developing the OLE Sectioning Arrangement for Auckland's Waitematā (Britomart) Station and Tunnel Ralph Moulang , Aurecon, VIC, Australia	A Simple Conceptual Model to Predict Lateral Ballast Resistance due to Rail Compression Buckling Shah Neyamat Ullah , Centre for Railway Engineering, CQUniversity, QLD, Australia
1500	Reducing Emissions Through Repurposing Ageing Rolling Stock Josh Steed & Jia Chua , Metro Trains Melbourne, VIC, Australia	Data-Driven Intelligent Decision Systems in Rail Abdurrahman Beg , Monash Institute of Railway Technology, VIC, Australia	Applying Principles of Space Mission Analysis to Australian High Speed Rail David Venn-Brown , Velotyx Rail, NSW, Australia & Pankaj Johri , Alstom Group		Numerical Modelling of Ballasted Railway Track Stability Enhanced by Lateral Supports Using FEM-DEM Approach Milad Alizadeh Galdiani , Centre for Railway Engineering, CQUniversity, QLD, Australia
1530 – 1600	Afternoon Tea served in Exhibition Hall				
1600 – 1730	Concurrent Sessions - Concurrent sessions are 20-minute presentations + 5-minute question time				
	SESSION 11 TRACK MAINTENANCE	SESSION 12 ROLLING STOCK DESIGN, CONSTRUCTION & MAINTENANCE	SESSION 13 TRAIN-TRACK & WHEEL-RAIL INTERACTION	SESSION 14 TUNNELS, BRIDGES & STRUCTURES	SESSION 15 RAILWAY ECONOMICS
Session Chair	Abdurrahman Beg	Thomas Keating	Cong Qiu	Maneesh Gupta	John Gardiner
Room	Hall L	Riverbank 5	Riverbank 6	Riverbank 7	Riverbank 8
1600	High Speed Monitoring to Detect Process Instabilities in Rail Flash Butt Welding Fangzhou Zhang , Monash University, VIC, Australia	Before Things Go Off the Rails: Shedding Light on Dynamic Vehicle Simulation Andre Volpato , Rail Confidence, NSW, Australia	Prediction of Track Geometry Degradation Using Iterative Multibody Dynamics Simulation With Monte Carlo Fleet Variability Esteban Bernal , Centre for Railway Engineering, CQUniversity, QLD, Australia	Design of Corrugated Steel Culverts Renewals Mostafa Emara , Metro Trains Melbourne, VIC, Australia	Designing Through Competing Priorities: Optimising Yard Layout at Mount Maunganui Ryan Spooner , Arup, Auckland, New Zealand & Andrew Smetherham , Arup, NSW, Australia
1630	Increase in Rail Stress Over Mud Spots Franco Fanucci , Loram Maintenance of Way, MI, United States	Asset Management Planning in Decarbonisation of Heavy Haul Rail Rolling Stock Adriane Ho , Aurecon, WA, Australia	Rail Roughness Evolution During Commissioning: From Post-Grinding Acceptance to Acoustic Compliance Ash Athukoralalage , Speno Rail Maintenance Australia, NSW, Australia	Designing Elevated Side Walkways for Real-World Tunnel Variability Opinderjit Samra , Arup, NSW, Australia Mary Hadjiangeli , SMEC, NSW, Australia	Rail Projects That Have Gone Well Philip Laird , University of Wollongong, NSW, Australia
1700	Data-driven Rail Milling Carsten Jörn Rasmussen , Linsinger Maschinenbau GmbH, Vic Australia	A Risk-Based Signalling Compatibility Assessment Framework for Rail Infrastructure Maintenance Vehicles Chinmay Sankhe , Rail Confidence, NSW, Australia	Optimising Heavy-Haul Track Design through Under Sleeper Pads (USPs) Hayagreev Raman , Getzner, VIC, Australia	Platform Screen Door Façade Glazing – Benefits and Considerations Steven Wong , Metro Trains Melbourne, VIC, Australia	Managing Scour Risk on Rail Bridges During Extreme Weather: Lessons from the Rangitata Bridge Collapse Michael McKay , Transport Accident Investigation Commission NZ, WLG, New Zealand
1830 – 2230	Gala Dinner				

WEDNESDAY 19 AUGUST 2026					
0730 - 1800	Registration Desk Open				
0700 - 1800	Exhibition Open				
0830 – 1030	Day Two Plenary Session				
	Keynote Address: David C Clark, Senior Vice President – AREMA & Director Construction Engineering - CSX Transportation				
	Keynote Address: Alex Payne-Billard, Principal Consultant, AtkinsRéalis				
	RTSA University Challenge				
1000 – 1030	Morning Tea Served in the exhibition space				
1030 – 1230	Concurrent Sessions - Concurrent sessions are 20-minute presentations + 5-minute question time				
	SESSION 16 RAILWAY ENGINEERING MANAGEMENT	SESSION 17 RAILWAY RESEARCH AND MATERIALS	SESSION 18 SAFETY & RISK MANAGEMENT	SESSION 19 SIGNALS & COMMUNICATIONS	SESSION 20 Track Design & Construction
Session Chair	Danny Chu	John Cookson	Phillip Campbell	Oluwole Odusanya	Tim Griffin
Room	Hall L	Riverbank 5	Riverbank 6	Riverbank 7	Riverbank 8
1030	Recent Developments in Undergraduate Education in Rail Engineering Graham Holden, Edith Cowan University, WA, Australia	Development of Next Generation Recycled Plastic Composite Sleepers for Mainline Railway Application Le Quan Ngoc Tran, Institute of Railway Technology, Monash University, VIC, Australia	What is a Safety Integrity Level (SIL) Useful for? And How Do They Work? Andrew Gabler, Acmena Group, QLD, Australia	Case Study: Optimising Level Crossing Audible Warning Systems in Urban Settings Graeme Miles, Metro Trains Melbourne, VIC, Australia	New Approach to Estimate Bearing Capacity of Strip Footings on Geogrid-Stabilised Granular Layer Over Clay Boon Chua, KBR Australia, SA, Australia
1100	Discipline-Based Engineering Assurance for Railway Civil Structures – a Metronet Practitioner Case Study Faranak Fahimi Hanzaee, Public Transport Authority, WA, Australia	Evaluation of Aged Properties of Synthetic Railway Sleepers Based on Follow-up Survey for Major Applications and Prediction of their Lifespan Naoto Kotani, Sekisui Chemical Co Tokyo, Japan	Assessing the Future Role of Railway Safe Workers Adrian Ponton, Adrian Ponton & Associates, VIC, Australia	Intelligent Self-learning Optimisation Algorithm Enhanced Accurate Train Stop Yaju Wang & Yawen Zhang, Traffic Control Technology, Beijing, China	Increase Track Stability by Innovative Fastening Systems Jefferson Fern, VFS Australia, Vossloh, QLD, Australia
1130	Insurance Pays for Damage. Assurance Prevents It. Engineering Confidence in a Fragmented Rail Environment Stephen Muscat, Rail Confidence, NSW, Australia	Evaluation of Methods to Extend Insulated Rail Joint Asset Life Through Optimisation of Track Structure Support Daniel Cumming & An Tang, Worley Consulting, WA, Australia	Integrating Safety and Security in Risk Assessments Keerthy Mysore, Shakti Corp, NSW, Australia	Planning for Complexity in Digital Train Control Technology Project Delivery Raj Menon, Network Rail Consulting, NSW, Australia	Bottom-Up Slab Track as a Driver of Tunnel Fitout Sequencing and Programme Optimisation Gian Luca Vicchi, VIXRAIL Solutions, WA, Australia
1200	An Integrated Multidimensional Approach to Skills Development Supporting the Future of Railways Ravi Rativtharan, Institute of Railway Technology, Monash University, VIC, Australia		Delivering System Safety on Railway Mega Project Hitesh Patel, HKRP Australia Pty Ltd, QLD, Australia		Combined Vibro-Acoustic and Wheel-Rail Interaction Considerations for the Design and Specification of Track Systems Ben Lawrence, RWDI, NSW, Australia
1230 - 1330	Lunch Served in the Exhibition Hall				
1330 – 1530	Concurrent Sessions - Concurrent sessions are 20-minute presentations + 5-minute question time				
	SESSION 21 INSPECTION & CONDITION MONITORING	SESSION 22 ROLLING STOCK DESIGN, CONSTRUCTION & MAINTENANCE	SESSION 23 TUNNELS, BRIDGES & STRUCTURES	SESSION 24 ADVANCING THE FUTURE OF RAIL THROUGH ENGINEERING, SAFETY, AND SUSTAINABILITY	SESSION 25 Systems Engineering
Session Chair	Esteban Bernal	Bruce McDonald	Adam Morris	Rob Lambert	Qing Wu
Room	Hall L	Riverbank 5	Riverbank 6	Riverbank 7	Riverbank 8

1330	From Symptoms To Solutions: A Prescriptive Approach to Rail Risk Nithurshan Nadarajah, Monash Institute of Railway Technology, VIC, Australia	Mitigating Vibration-Induced Failures in Locomotive OPG Brackets Through Vibration Analysis, FEA Correlation and Field Validation Ramsha Asif, Siemens Mobility, VIC, Australia	From Point Clouds To Prediction: The Emerging Role of AI in Transit Space Shaina Minchin, Aecom, WA, Australia	An Efficient Wear Simulation Method for Railway Wheel Life Prediction Philippe Pacheco, IF Sudeste MG, Minas Gerais, Brazil	Reliability Growth Demonstration as a Decision Tool for Operational Readiness of Complex Rail Projects: Lessons from Melbourne's Metro Tunnel Adam Versteeg, Vida Metro, VIC, Australia
1400	A Dynamic Laser-Based System for Track Geometry And Rail Wear Monitoring Armin Ehrampoosh, Monash University Institute of Railway Technology, VIC, Australia	Variation of Residual Stresses in Railway Wheels Leading to Potential Hot Spots Lily Tran Monash University Institute of Railway Technology, VIC, Australia	Managing Subsurface Erosion and Drainage-Induced Instability in Operational Rail Corridors: Lessons from Keswick Systems Loc Ha Keolis, SA, Australia	E-Mobility Devices on Rail – Jurisdictional Review Lauren Fraser, GHD, ACT, Australia	A Systematic Approach to Standards for Railway Modernisation Michael Paul, Network Rail Consulting, VIC, Australia
1430 – 1500	Afternoon Tea served in Exhibition Hall				
1500 – 1615	Closing Session				
1500 - 1525	Keynote Address: Engineering Certainty for the National High-Speed Rail Using the Development Phase Ed Gralton, General Manager - Technical and Design, High Speed Rail Authority				
1525 - 1600	PANEL DISCUSSION: High Speed Rail - Ed Gralton, General Manager - Technical and Design, High Speed Rail Authority - Stephen Allday, Executive Director, ARCS (Allday Rail Consultancy Services) - David C Clark, Senior Vice President – AREMA & Director Construction Engineering - CSX Transportation				
1600 - 1615	Closing Remarks				

The Organising Committee reserves the right to alter the program as circumstances dictate.