

Rail

Mode, Scope and Services



Mode

- High speed rail
- Heavy rail/Suburban
- Metro/mass transit/transit
- Light rail
- Monorail
- Automated people mover
- Heavy haul freight



Scope

- Project inception
- Operation & Maintenance (O&M)
- Strategic advice & management
- Business case & appraisal
- Feasibility studies
- System design
- Detail design
- Design & build
- Asset management
- Environmental assessment
- Implementation & commissioning
- Public engagement support
- Digital



Services

Planning

- Route development
- Delivery planning
- Planning strategy
- Revenue & demand forecasting
- Operational assessment & capacity
- Station planning
- Business case appraisal
- Operational & timetabling analysis
- Rail Resilience
- Energy Transition

Systems

- Signalling & communications
- Control & data systems
- Track
- Traction power & power supply
- Customer information systems
- Systems engineering & assurance
- Systems integration
- Requirements management
- Requirements definition
- System architecture

Advisory Services

- Organisational change
- Human factors
- Climate & sustainability
- Digital technology
- Public Private Partnership (PPP)
- Funding & financing
- Entry into service
- Operational Readiness, Activation & Transition (ORAT)
- Transit Oriented Development
- Precinct development
- Life cycle costing
- Acoustics & acoustics modelling
- Aerodynamics
- Water/flood modelling
- Ergonomics
- Security/Cyber security

Project Delivery & Control

- Programme management
- Project management
- Interface management
- Value management
- Construction management
- Design management
- Commissioning

Safety & Reliability

- Safety management
- Reliability, Availability
- Maintainability & Safety (RAMS)
- Fire engineering
- Risk assessment

Operation & Maintenance

- Concept of operations
- Operational readiness training
- Rule book
- Condition monitoring training
- Reliability reporting
- Maintenance planning
- Driver training simulator
- Operational scenarios
- Defect reporting, analysis & correction action system
- Maintenance process improvement

Digital

- Visualisation & Simulation
- Building Information Management (BIM)
- Virtual reality
- Automated survey
- Digital twin
- GIS

Rolling Stock

- System engineering
- Assurance project engineering
- Vehicle engineering
- Wheel-rail interfaces
- Crashworthiness
- Vehicle styling & design
- Vehicle dynamics simulation
- Rolling stock procurement
- Modelling
- Accessibility & inclusivity
- Energy & sustainability

Infrastructure Design

- Architecture
- Stations
- Depots
- Freight terminals
- Control centres
- Ventilation
- Mechanical & electrical
- Bridges & viaducts
- Tunnels
- Noise & vibration
- Civil engineering
- Geotechnics
- Utilities diversions
- Drainage