

KiwiRail | Position Description

Senior Engineer Wellington Metro Resignalling (Wellington ETCS Project)

Purpose:

Wellington Metro Resignalling is a project to develop and then deliver the modernisation of the Wellington Rail Network signalling and operational systems. The objective is to increase the capacity, resilience and safety of Wellington's rail network so it can meet the increased demands for sustainable transport.

This project is installing Level 2 ETCS (European Train Control System) with Automatic Train Protection and in-cab signals to replace lineside signals.

These upgrades will be in conjunction with physical changes on the network to enable the flexibility built into these new control systems. This includes additional track crossovers to allow trains to run "wrong line" around disruption or maintenance.

The project is now funded to complete specification of the new system and take it through to procurement of a pilot implementation of a new signalling system.

The programme is divided into four main streams, each with its own leader:

1. People and organisations (the users)
2. Lineside equipment (the signalling and control system)
3. Train onboard equipment
4. Data radio system

Integration with KiwiRail's new train control system is another line of activity.

KiwiRail is developing detailed requirements which will be used to procure Contractors to deliver 2 to 4.

The three Wellington ETCS Senior Engineer roles lead the technical streams above; lineside, onboard and radio, through requirements development, procurement and delivery.

Wellington ETCS is a technically and commercially demanding project having to be delivered on a busy operating railway with as little disruption to services as possible. The Senior Engineer will need to have a good grasp of their subject, how it fits into the overall system and be able to make compromises so the whole operates as best as possible. They will provide the leadership for their team, including consultants and



suppliers, driving innovation in service of the objective and imparting a sense of energy and direction to all by example of their capability and urgency.

The Senior Engineer will be a person who has a good background in a branch of railway or communications engineering and project delivery, sufficient to enable them to manage their assigned stream through development of requirements (specifications and design), procurement, pilot implementation, analysis of the lessons from the pilot, delivery of the full system , commissioning and acceptance.

Dimensions:

Reports to:	Project Director Future Rail Systems
Location:	Wellington
Internal Relationships:	Network Services – Wellington Metro KiwiRail Engineering Services Teams KiwiRail Freight and Network Authorities Other as required to deliver works
External Relationships:	Greater Wellington Regional Council Transdev Wellington & Hyundai-Rotem Waka Kotahi NZ Transport Agency Contractors & Suppliers

Key Accountabilities

Technical role
<ul style="list-style-type: none">• Take the lead in the development of technical requirements (specifications) for your stream.• Anticipate and solve all problems within your control and authority.• Work without detailed direction or close supervision• Work closely with the people and organisations stream leader (and users) to ensure your technical systems are specified to deliver the needs of the user.• Provide technical leadership to ensure the engineering work of your contractors, consultants and KiwiRail subject matter experts is coordinated and directed towards the goal of a cost effective system meeting the defined requirements of users and the overarching objectives of reduced risk and increased capacity.• Be the main KiwiRail technical contact for your suppliers. Technical clarifications, design reviews, seeking approvals from KiwiRail engineering specialists, ensuring design and other documentation is supplied and properly recorded (BIM or Digital Engineering is intended to be used), on site supervision, testing and acceptance and general problem solving.• Be the main technical link between the project and the KiwiRail teams, who will maintain and support the system, ensuring they are ready to take responsibility when the system goes live.• Work with the Systems Engineer at all times, to ensure that the confirmed requirements of the CONOPS are applied to all aspects of your stream and any necessary changes go back through the systems engineering process to ensure



they remain aligned with the other streams or the other streams can adjust to accommodate the change.

Continuous improvement and focus on objectives

- The Lead Engineer is expected to act as a champion for continuous improvement throughout the project. This will result in a general atmosphere of focus, innovation, improvement and a 'paced' urgency being facilitated amongst all parties
- Focus will always be on objectives, be these the overall project or programme objectives, or the objectives set out in KiwiRail policies.

Leadership

- You will be an effective leader for your stream with a compelling technical vision, respected as a technical expert and using influence and consensus to provide a clear and organised path to the objective as a guide for others.
- No surprises at Project Director level from unknown performance problems
- Help select and develop team members (including consultants) with a view to current programme demands and development to meet future KiwiRail needs.
- Ensure the team's efforts are focused on achieving the performance outcomes reflected in this PD.
- Ensure that all team members engaged under your project:
 - have clear goals (tangible deliverables) and expectations (values/behaviour) set
 - have scheduled reviews against those items
 - receive prompt and honest feedback on performance through-out
 - are engaged in the business and the preferred culture is presented and developed in the team
 - are delegated authority to a level that stretches them for development purposes, but without undue risk to the programme or KiwiRail.
- Provide specialist technical leadership for your engineering team
- Mentor, encourage and set growth career paths for any direct reports so that at the end of their involvement in the programme they are better equipped to operate at a higher level and contribute to KiwiRail or in the rail environment in New Zealand.
- Your performance as a leader will be measured by
 - The potential for your successor to come from within your team
 - Project management results



Working with others

- You are expected to be an active, positive and contributing member of the Wellington ETCS Project team.
- Working productively with a wide range of others, individuals, organisations and groupings, and motivating these to contribute to the objective is essential to the success of the Wellington ETCS project.
- Operate as part of a joined up team who ensures that a complete and operating ETCS SYSTEM is delivered in Wellington: train, lineside, radio, Network Control, people and organisations.

While the Operations Expert will capture and attempt to balance this through the medium of the CONOPS and the Requirements derived from it, the Senior Engineer must be flexible, adaptable and committed to making any necessary compromises work as part of a wider team.

Sustaining a Zero Harm Environment

- Provide consistent leadership towards the goal that this new system increases the safety of operations and maintenance. Don't let these objectives become lost during the complex task of delivering the technology.
- Comply with all rail safety system standards, procedures and statutory requirements within your area of responsibility.
- Have a good understanding of SFAIRP and risk management and apply these to the project.
- Be responsible for your own safety and that of other rail employees, contractors and visitors within your work environment
- Take responsibility for the identification, reporting and initial control of any safety or environmental hazard identified within your area to your immediate manager
- Adhere to KiwiRail's health and safety requirements and take responsible for maintaining a proactive approach regarding both personal wellbeing as well as that of fellow employees, associated client personnel, sub-contractors and members of the public.
- Report all accidents and incidents to your immediate supervisor within one hour.



General

- The role sits within a broad programme of works and there are good opportunities for the incumbent to grow or develop by taking on responsibilities that involve a manageable stretch beyond their core competencies.
- Identify and take on such responsibilities by agreement with PM or Director.
- Act for other project personnel whenever cover is required.
- The role could expand to cover a similar duties in the project that will upgrade the Auckland Metro network from Level 1 to Level 2 ETCS to increase capacity.
- Any other duties specified by PM or Director, within capabilities and experience.

Commercial, Financial Control & Reporting

- Work as part of the overall procurement team to help develop the procurement requirements, evaluate bidders and finalise commercial arrangements (form the contracts) with the successful supplier.
- Work within budgets and in accordance with financial processes
- Support the Director and Project Manager in all aspects of financial measurement and reporting for assigned work. This will result in accurate accruals, forecasts and reports are provided on time; accurate and complete reports or drafted provided on agreed schedules.
- Conduct and document of your stream consistent with the CPAD Programme Manual and other applicable KiwiRail policies and procedures.

Records Management

- Maintain complete and accurate records of all aspects of the project assigned to you.
- All records are to be kept in the relevant filing system, including emails. This will result in substitute personnel being able to access required information when acting to fill project staff roles.
- All technical elements of the project are to be captured in KiwiRail digital engineering (BIM) systems. A key requirement of this role is that full design and as built information for the assigned stream is maintained and handed over to the business as usual railway at the end of the project.
- Ensure you are aware of the policy and procedures around the creating, maintaining and destruction of records. This will result in accurate and complete master Contract being maintained at all times (incl. agreed and in process variations).



Person Profile

Essential:	Desirable or helpful:
<ul style="list-style-type: none"> • Relevant engineering experience in the discipline concerned: <ul style="list-style-type: none"> ○ Railway rolling stock ○ Railway signalling systems ○ Communications (radio) ○ Complex systems engineering • Ability to form a vision of the future, a 'big picture', and continue working steadily towards this, despite short term distractions, and without losing attention to detail and accuracy • Able to form and inspire teams made up of people from different organisations, suppliers and divisions to develop and deliver objectives using influence rather than assigned authority • Having drive and enthusiasm and the ability to positively inspire these in others. • Able to provide innovative and energetic technical leadership. • Able to work effectively and without detailed supervision in an ambiguous and changing environment over prolonged periods. • Able to construct order from ambiguity and provide clarity for those you are leading, including employees, consultants and suppliers. • Ability to fit into a programme culture that is based on a constructive team effort towards solutions and achievement of the overall objective. • Able to deal calmly and professionally with stressful situations and 'difficult people' and resolving this without compromising KiwiRail's position • Ability to make safe and efficient decisions quickly under pressure. • Written and verbal communication skills adequate for the role. • Logical and organised. • Rigorous in record keeping. • Willing to stretch, learn and grow. 	<ul style="list-style-type: none"> • Experience with basic project planning and management tools. • Project Management experience • Good level of numeracy and analysis (financial) • Corporate Membership of an applicable Engineering Professional Society • Professional Registration as an Engineer



Education:

Essential:	Desirable:
<ul style="list-style-type: none">• Degree in Engineering or other related tertiary qualification• Current drivers license	<ul style="list-style-type: none">• Project management experience

