



## Job Description Form

### Our Purpose

To provide safe, customer-focused, integrated and efficient transport services.

**Position Title**

Condition Data Intelligence Specialist

**Level**

6

**Position Number**

37623

**Division/Directorate**

Network & Infrastructure

**Branch/Section**

Track Maintenance

**Effective Date**

December 2025

**Health Task Risk Assessment Category**

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### Reporting relationships

Superordinate: Condition Monitoring Manager, Level 7

Subordinates: No Direct Reports

### Key role of this position

Leads the scoping and construction of data interrogation pipelines using data acquired from monitoring & measurement systems, sensors and equipment, for the development of asset condition & performance evaluation parameters and their application.

### Core Duties and Responsibilities

#### Condition Monitoring

- Provides technical expertise and undertakes data exploration & analysis to monitor track asset performance & condition, applying data science techniques, including statistical modelling and machine learning & algorithms, to identify methods to solve complex problems and initiate continual improvement in monitoring practices.
- Contributes to the strategic implementation and change management of condition monitoring practices & systems to align with the measurement & reporting requirements stipulated in the Narrow-Gauge Code of Practice, technical instructions and other PTA standards & procedures, and mentors engineering & maintenance teams as to the data domain applications.

#### Technical Analysis/Modelling and Continuous Improvement

- Undertakes industry research on technological advancements, and innovative data science modelling & applications of measurement data & monitoring system outputs and proposes alternative methodologies that contribute to sustainable business practices.
- Identifies opportunities to apply data science principles to inform condition of assets through the transformation of raw measurement data into structured and integrative data sets, and the automation of data-based decision-making processes.
- Contributes to the identification of root cause, and predictive deterioration analysis, through the manipulation of raw measurement data for comparative baselining and statistical modelling of asset performance & condition.
- Provides specialist advice for the localisation and use of raw measurement datasets from vendor proprietary solutions; manages the integrative structuring and transformation to ensure alignment of multiple source, and measurement sample data.
- Reviews, evaluates and challenges data collected by the IDV, and other condition monitoring systems, to ensure the accuracy, validity and repeatability of data.

### **Asset Inspections and maintenance planning**

- Undertakes inspection, maintenance, and other asset condition & performance reports to identify opportunities for process improvement and data use, and where necessary, conducts inspections in person.
- Provides guidance and input into the interpretation and application of asset measurement data to determine efficiency of maintenance work programs.

### **Business Rules, Procedures and Systems**

- Develop and implement data review systems to monitor measurement data integrity, localisation accuracy and monitoring system health, to inform calibration and/ or other maintenance requirements.
- Assists with evaluation and assessment of the suitability of new technologies, as required, relevant to the improvement of Permanent Way and Railway Reserve systems performance.
- Supports the Condition Monitoring Coordinator by participating in data acquisition and asset inspection activities as required.

### **Administration and Reporting**

- Supports the collection and maintenance of track asset, defect and activity data, prepares and completes appropriate documentation for maintenance records, logs, field data reports, analysis/evaluation reports and technical drawing amendments.
- Provides leadership & guidance on database logic and design for integration of new technology, and software platforms with existing business processes and systems; liaises with the Senior Condition Monitoring Analyst to ensure data management protocols are achieved.

### **Safety and Compliance**

- Maintains a strong safety awareness culture through proactive involvement in safety meetings, compliance with safety policies, and proactive safe working actions

### **Other**

- Performs other duties as reasonably expected/directed.

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## **SELECTION CRITERIA**

### **1. Core Competencies**

- A qualification in data science or equivalent, or a minimum of 2-years proven experience in a data analytical role focussed on track maintenance or condition monitoring objectives.
- Substantial experience working within a rail environment.
- Demonstrated knowledge and experience of track maintenance principles including condition monitoring systems, defect identification and cause analysis.
- A demonstrated understanding of track asset performance, including track geometry and other associated aspects.
- Sound understanding and demonstrated practical application of OSH and Rail Safety Legislation.

### **2. Communication and Interpersonal**

- Well-developed verbal and interpersonal communication skills with the ability to clearly and effectively communicate with stakeholders at all levels and within a team setting.
- Well-developed report writing skills with the ability to analyse problems and formulate solutions.

### **3. Conceptual, Analytical and Problem Solving**

- Strong conceptual, analytical and problem-solving skills, including:
  - A relevant and demonstrated ability to analyse asset information and performance, identify trends and issues and make recommendations that contribute towards reliability improvement and development of best practice.
  - Proven experience in analysing asset data and developing the data into effective reliability and performance improvement plans/ programs, identifying gaps errors and/ or anomalies.

### **4. Organisation**

- Good planning and organisation skills, including demonstrated experience in planning maintenance works and coordinating resources for maintenance or construction activities.

**5. Computer Literacy**

- Substantial experience in the use of PC based diagnostic tools, software packages and complex databases.

**6. Special Requirements**

- Satisfactory completion of required medical examinations to verify physical fitness to perform the duties of the position.
- Provision of a current National Police Clearance Certificate dated 3 months or less from the date of application for the position.
- Ability to work unsocial and irregular work hours, including call outs at short notice.
- Ability and willingness to work at any location on the PTA's urban rail network as required.
- Applicants must meet the training and competency requirements for the role within the required timeframe. Cancellation of the appointment will occur where an applicant does not meet the special requirements within an agreed period of time.
- Possession of a current Western Australian 'C' Class Driver's licence or equivalent for at least 1 year.
- May be required to obtain and use a Western Australian LR Class Driver's Licence, if requested by the PTA.
- All licenses/tickets relevant to this position must be maintained on an ongoing basis and may be required by the Public Transport Authority from time to time.
  - Individual Access (IA) Track Access Permit.

**Certification**

The details contained in this document are an accurate statement of the duties, responsibilities and other requirements of the position.

**Managing Director / Executive Director / General Manager**

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**Signature**

.....  
**Date**

**Employee**

I have read and accept the responsibilities of the Job Description Form.

The position's duties are to be performed in accordance with the PTA's Code of Conduct and the PTA's Values.

.....  
**Signature**

.....  
**Date**

