



Position Description

Senior Data Engineer Group ICT

Purpose:

The Information and Communication Technology Group (ICT), provides a wide range of ICT planning, implementation, operation and support services as a shared service to the KiwiRail Group.

The Data Engineering team help the business to utilise data and information to ingest raw data from different sources and transform\curate\shape and model the data so that information is readily available to inform business strategy and support data-driven decision making, while ensuring that information is accurate and consistent.

The Senior Data Engineer, serving as a Subject Matter Expert (SME) in Data Engineering, will develop, validate, deploy, and sustain data systems. This position will establish standards and guidelines for data solutions. Moreover, the incumbent will oversee and structure the data platform while identifying trends and discrepancies that could affect business objectives. The preferred candidate should demonstrate a proven track record in implementing data ingestion and transformation processes. Direct experience in constructing data pipelines using Azure Data Factory, Azure Synapse Analytics and Azure Databricks is essential.

Health and Safety is critical to the success of KiwiRail and ensuring that every staff member and contractor returns home in the state that they arrived. Consistency and repeatability of operational functions are critical factors in the safe delivery of customer services.

Dimensions:

Reports to	:	Data Engineering Manager
Responsible for	:	N/A
Location	:	Auckland
Budget	:	None
Internal Contacts	:	ICT teams Business Insights team Business users and management team Architecture and Design
External Contacts	:	Outsource partners Third party vendors

Key Accountabilities

Strategy

- Gain insight into business strategy and priorities, deciphering requirements for business analytics and information.
- Aid in crafting strategic and functional roadmaps for various data sources.
- Enhance data quality and operational efficiency.
- Stay abreast of industry advancements and assess their relevance to business needs.
- Facilitate knowledge transfer and training initiatives.
- Oversee data systems governance, ensuring consistent and reliable data across the organization.

Data Engineering

- Offer advanced-level contributions to the Data Engineering team responsible for designing, deploying, and maintaining data platforms.
- Ensure data quality, integrity, and security across all data engineering processes and systems, implementing best practices and standards to maintain high-quality data assets.
- Act as a Subject Matter Expert (SME) to assist in implementing analytics solutions aligned with the ICT roadmap and business analytics requirements to provide actionable insights.
- Design and implement scalable, efficient, and reliable data architectures that meet business requirements and support data-driven decision-making.
- Lead all technical aspects of data engineering projects, including design, development, testing, deployment, and maintenance of data systems and pipelines.
- Prioritize security within the Data Engineering team, managing security breaches, and ensuring adherence to policies, standards, and frameworks.
- Collaborate with cross-functional teams, including data scientists, analysts, and business stakeholders, to understand requirements and deliver effective data solutions.
- Take technical ownership of data and data pipelines to ensure compliance with data standards, architectural standards, and business requirements.

Continuous Improvement

- Continuously identify opportunities to streamline data engineering processes, improve efficiency, and reduce operational costs through automation and optimization.
- Continuously invest in personal and professional development, staying current with industry trends, best practices, and emerging technologies in data engineering.

- Maintain comprehensive documentation of data engineering processes, systems, and solutions to ensure knowledge transfer and facilitate future maintenance and enhancements.
- Monitor the performance and scalability of data systems and pipelines, identifying and addressing bottlenecks or performance issues as they arise.
- Assessing new tools, technologies, and methodologies in the data engineering space, and recommending their adoption to improve performance and productivity.
- Identifying opportunities for automation in data pipelines, ETL processes, and data management tasks, and implementing automation solutions to reduce manual effort and minimize errors.

Zero Harm

- Deliver improved Zero Harm performance, and challenge all teams to achieve and exceed business safety targets, and strive to achieve 'zero harm'.
- Demonstrate a strong commitment to safety and model safety behaviours at all times.
- Champion Zero Harm to ensure all staff are constantly vigilant about the safety of themselves and others and comply with all safety requirements.
- Understand and comply with HSE legislation, the Railways Act, regulations, code of practice, safe operating procedures and relevant best practice to ensure full compliance with requirements.
- Ensure that the effects of work on health are well understood, that there are proactive monitoring regimes in place and that measures are being taken based on factual evidence to minimise any health harm risks.
- Environmental sustainability is strength of rail. While there are natural advantages we need to ensure that these are matched with a focus on sustainable practices in the way we work.

Leadership

- Senior Data Engineer should have a clear vision for the data engineering team, understanding how their work aligns with the organization's goals and objectives.
- They need to think strategically about data infrastructure and architecture, making decisions that support the long-term objectives of the business.
- Strong communication skills are crucial for conveying technical concepts to both technical and non-technical stakeholders, ensuring everyone understands the importance of the team's work.
- The ability to collaborate effectively with other teams and departments is essential for ensuring that data engineering initiatives are aligned with broader organizational goals.
- Senior Data Engineer should mentor and coach junior team members, helping them develop their skills and grow within the field of data engineering.
- They should take ownership of the team's outcomes, ensuring that projects are delivered on time and within budget, and that the quality of work meets expectations.
- Build and maintain strong relationships across KiwiRail, engaging with the business to understand their information and data analytics needs, translating these into data & analytics solutions.

Person Profile

Essential:	Desirable:
<ul style="list-style-type: none"> ▪ 10+ years experience as a Senior Data Warehouse Developer or Senior BI Consultant or Senior Data Engineer ▪ Proven experience with Azure Data Factory, Azure DevOps, Azure Synapse Analytics, Microsoft Power BI, Dedicated/Serverless SQL Pools, Azure Databases. ▪ Proven experience with building end to end data solutions including ODS and Data Marts/Data Warehouse. ▪ Proven record of working on programming Languages (Python, PySpark, SQL) ▪ Experience with creating\maintaining data models, data mining, data cleansing, data warehousing and data architecture. ▪ Demonstrated knowledge and experience in Azure resources (storage, compute, security, monitoring) ▪ Strong commercial acumen - understands business challenges to interpret business analytics needs. 	<ul style="list-style-type: none"> ▪ Programming languages (Scala, R) ▪ Experience with SAP BusinessObjects or SAP Data Services ▪ Azure IoT Hub experience ▪ Able to demonstrate knowledge of principles of system design and database concepts ▪ Knowledge of applied machine learning/AI and models industrialisation ▪ Predictive and statistical analysis ▪ Understanding of other cloud platforms, such as Google and AWS beneficial, but not required as part of the role

Education:

Essential:	Desirable:
<ul style="list-style-type: none"> ▪ Tertiary level qualification in Computer Science, Computer Applications or similar 	<ul style="list-style-type: none"> • Azure certification(s) • SAP BO certification(s)