

# DEPUTY TEAM LEADER – DATA ANALYSIS

DEPARTMENT/UNIT	Institute of Railway Technology
FACULTY/DIVISION	Faculty of Engineering
CLASSIFICATION	HEW Level 9
DESIGNATED CAMPUS OR LOCATION	Clayton campus

## ORGANISATIONAL CONTEXT

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At [Monash](#), work feels different. There's a sense of belonging, from contributing to something groundbreaking – a place where great things happen. You know you're part of something special and purposeful because, like Monash, your ambitions drive you to make change.

We have a clear purpose to deliver ground-breaking intensive research; a world-class education; a global ecosystem of enterprise – and we activate these to address some of the [challenges](#) of the age, Climate Change, Thriving Communities and Geopolitical Security.

We welcome and value difference and [diversity](#). When you come to work, you can be yourself, be a change-maker and develop your career in exciting ways with curious, energetic, inspiring and committed people and teams driven to make an impact – just like you.

Together with our [commitment to academic freedom](#), you will have access to quality research facilities, infrastructure, world class teaching spaces, and international collaboration opportunities.

We champion an [inclusive workplace culture](#) for our staff regardless of ethnicity or cultural background. We have also worked to improve [gender equality](#) for more than 30 years. Join the pursuit of our purpose to build a better future for ourselves and our communities – [#Changelt](#) with us.

The Faculty of Engineering is one of the largest in Australia, renowned worldwide for the quality and calibre of our teaching, research and graduates. We offer a comprehensive range of undergraduate, graduate, postgraduate and higher degree by research programs in a wide range of engineering disciplines. Our research activities provide a platform for establishing a thriving educational enterprise and our staff are committed to creating a dynamic learning

environment. The research activities range from fundamental studies to research with a strong applications orientation. To learn more about the Faculty of Engineering, [please visit our website](#).

The Institute of Railway Technology (IRT) is the premier track and vehicle research centre in Australia and it provides world leading solutions in the areas of wheel-rail interface design, track design and maintenance as well as rollingstock assessments and modelling. Institute undertakes technology development, applied research and consulting activities for the railway industry. These activities are undertaken under contractual arrangements with more than 150 client organisations. This Institute is 100% funded through these industrial contracts. It has an established track record in solving railway-related technical issues, and its solutions have been adopted by railway systems throughout the world. Approximately 20% of the Institute's activities are conducted off-shore. The Institute's comprehensive and holistic systematic approach to problem solving using its team of experienced technical specialists has led to significant savings to its customers' operating and capital costs, surpassing all expectations and providing value-added environmental benefits. To learn more about IRT, please visit IRT website [ww.irt.monash.edu](http://ww.irt.monash.edu).

## POSITION PURPOSE

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The Deputy Team Leader (Data Analysis) performs a range of complex and highly technical activities related to rolling stock and track, and plays a critical role in supporting the achievement of objectives and deployment of resources for the delivery of IRT projects by deputising for and assisting the Team Leader Data Analysis. This position will often lead individual research projects for enterprise partners, involving members from other teams.

Building on a strong technical knowledge base, developed through applied research and experience, the Deputy Team Leader (Data Analysis) will be responsible for scoping, undertaking and managing technical activities, projects and deliverables related to a wide range of rolling stock and track related developments. This will require development of new and improved algorithms to assess vehicle and track performance to identify defects prior to these contributing to disastrous consequences. These projects will also require innovative solutions, processing of data, data governance, interpretation and reporting to the customer representatives.

The Deputy Team Leader (Data Analysis) will be required to work independently or in a team, and show high levels of professional maturity. There will also be a need to interact with clients and industry in order to fulfill obligations and develop relationships.

**Reporting Line:** The position reports to the Team Leader – Data Analysis, of the Institute of Railway Technology.

**Supervisory Responsibilities:** The number of reports will vary based on project needs specifically around skill sets required to meet project outcomes.

**Financial Delegation:** Not applicable

**Budgetary Responsibilities:** Not applicable

## KEY RESPONSIBILITIES

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**Working under broad direction with a considerable degree of autonomy, the Deputy Team Leader (vehicle-track) shall.**

1. Lead and undertake technical analyses pertaining to both rolling stock and track, including the use of a variety of data analytic tools including machine learning, advanced statistics and development of predictive algorithms.
2. Lead large analytic projects managing the development of Full Stack processes from backend servers to client facing systems including the development of data governance processes.

3. Provide project and technical guidance to other team members working on data analytic projects.
4. Assist the team leader in the development and delivery of the data analytics project portfolio, including coordinating regulatory compliance, preparation of contract research proposals, assisting with the management of budget, resources, materials and logistics.
5. Deputise for team leaders during periods of absence and take on permanent delegated responsibilities within individual teams
6. Prepare technical reports and documents to a very high professional standard.
7. Plan, schedule and undertake field work to suit project requirements and IRT resource availability. This will include undertaking measurements, processing data, interpretation, reporting and client liaison while on site.
8. Maintain extensive up-to-date knowledge of related research, including new and innovative analysis techniques, methodologies, equipment and theory.
9. Participate in and present at industry functions and events, such as conferences and workshops, in order to promote Monash IRT capabilities.
10. Provide support in the development and delivery of short courses held by Monash IRT.
11. Follow and enforce relevant occupational health and safety (OH&S) requirements and compliance associated with both local (Monash) and off-site (Client) working environments. This includes the strict adherence to Client safety rules and requirements while on their site(s).
12. Other duties as directed from time to time

## **KEY SELECTION CRITERIA**

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### **Education/Qualifications**

1. The appointee will have:
  - Postgraduate qualifications and extensive, relevant experience; or
  - equivalent combination of relevant experience and/or education/training

### **Knowledge and Skills**

2. Demonstrated knowledge in the application of data analytic techniques including machine learning, statistics and algorithm development.
3. Background in database management (e.g. PostgreSQL) and proficient in programming languages such as C#, C++, python and SQL.
4. Demonstrated skills related to development of complex analytic systems from backend software to client facing reports including development of data governance processes.
5. Highly-developed planning and organisational skills, with experience establishing priorities, allocating resources and meeting deadlines in a complex environment.
6. Demonstrated project management skills, with a proven record of successfully supporting research projects through to completion.
7. Demonstrated ability to work autonomously, as well as within a productive team environment and provide leadership and supervision to staff members, where the safety, including safe work practices and compliance, of other professionals and users is paramount.
8. Proven ability to solve highly complex problems, including through the application/use of sophisticated analytical and diagnostic skills, discretion, initiative, innovation and specialised expertise.

9. Highly-developed interpersonal and communication skills, including the ability to liaise with senior management, stakeholders, clients and public audiences, and communicate complex issues in a clear, succinct manner.
10. Flexibility to undertake travel, field work, night shift and emergency work to fulfil urgent customer requirements.

## **OTHER JOB RELATED INFORMATION**

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- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- Travel to industry partner or external stakeholder sites and other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be a requirement to perform field work from time to time
- There may be peak periods of work during which taking of leave may be restricted
- Fit to undertake field work in railway environment (pre-employment medical) will be required, as well as medical and drug testing when required to work on Client sites

## **GOVERNANCE**

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Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.