

Role Description

Systems Architect



Cluster	Transport
Agency	Sydney Trains
Division/Branch/Unit	Engineering and Maintenance / Major Works / Operational Technology
Location	Clyde
Role Grade or Band	RC7
Senior Executive Work Level Standards	Not Applicable
Kind of Employment	Permanent Full Time
Role Number	51019225
ANZSCO Code	133211
PCAT Code	1226461
Job Code	81000370
Health Assessment Category - Safety	Category 4
Vision	N/A - Cat 4 Only
Hearing	N/A - Cat 4 Only
Date of Approval	March 2019
Agency Website	www.sydneytrains.nsw.gov.au

Agency overview

Sydney Trains provides train services throughout the Sydney metropolitan area and was established in July 2013. Its vision is to keep Sydney moving by putting the customer at the centre of everything it does and delivering safe, reliable and clean rail services to the people of Sydney. The organisation is focused on providing sustainable, efficient and cost effective services.

Primary purpose of the role

The primary responsibility of the role is for the development of system architecture of a system-of-interest to achieve the business, project and functional objectives. Hold and exercise Engineering Authority for the OT system architecture. Lead concept generation, tradespace exploration and concept selection activities and manage the maintenance and evolution of the system architecture.

Key accountabilities

- Establish an architecture roadmap and strategy that should include methods, modelling techniques, tools, need for any enabling systems, products or services, process requirements and evaluation process
- Identify relevant architecture viewpoints and architecture frameworks to support development of models and views
- Develop models of the candidate architectures of the system-of-interest including logical and physical models and manage iterations between logical and physical architecture model development
- Assess the candidate architectures using the architecture evaluation criteria and maintain the rationale for all selections among alternatives and decision for the architecture, architecture framework, viewpoints and models of the architecture
- Identify and manage emergent properties from the system architecture activities and iterate through appropriate system requirement definition and configuration management processes
- Provide technical leadership to the engineering team by defining system elements and interfaces (both internal and external) that reflects architectural characteristics by ensuring allocation and alignment of the design properties and system requirements to the identified system elements
- Establish a means for governance of the architecture and coordinate review activities to achieve stakeholder agreement
- Execute safety responsibilities, authorities and accountabilities consistent with Sydney Trains safety management system requirements which are defined in SMS document number SMS-02-RG-3058 and live the NSW Public Sector and organisational values to achieve outstanding outcomes for the organisation and customers.

Key challenges

- Management of iterations between logical and physical architecture model development
- Understanding and defining interfaces to the appropriate level of detail and understanding of the architecture including internal interfaces between system elements and the external interfaces with other systems
- Actively identify potential challenges related to planned or proposed changes in configurations for design, tests, implementation and operations.

Key relationships

Who	Why
Internal	
Directors; Deputy Executive Directors across Sydney Trains and Transport for New South Wales representatives	<ul style="list-style-type: none">• for reporting and consultation on technology projects• for governance and technical advice• for consultation on broader cluster needs
Principal Engineers; Design Engineers; Maintenance Engineers and Managers and Asset Engineers and Managers	<ul style="list-style-type: none">• Technology solution endorsement and benefits quantification Subject matter Experts across Sydney Trains• provide high level technical solutions and engineering authority sign off that form the basis of engineering design• Translating technology initiatives into measurable maintenance reform• To ensure technology solutions aligns with the overall Asset Management Strategies

Who	Why
Procurement Managers; Project managers; Operations Centre Managers	<ul style="list-style-type: none"> Communicate the technical solution so the project solutions are aligned with the business needs technically High level technical advice on translating technology to meet operational efficiencies
External	
Asset Standards Authority; Sydney Ports Authority; Freight Operators	<ul style="list-style-type: none"> for collaboration on standard review initiatives for data access to condition-based information
Freight Noise Strategy	<ul style="list-style-type: none"> Provide consultancy and advise on condition-based initiatives
Operational Technology Technical leaders, Reliability Engineers and Industry Specialists	<ul style="list-style-type: none"> collaborate with to provide engineering services and delivery outcomes

Role dimensions

Decision making

As per the delegations for the role

Reporting line

This position reports to Business Technology & Test Manager

Direct reports

Nil

Budget/Expenditure

N/A

Essential requirements





Appropriate tertiary qualifications in a relevant engineering discipline or relevant equivalent practical experience in application of systems engineering, processes and tools to complex systems projects

Capabilities for the role

The NSW Public Sector Capability Framework applies to all NSW public sector employees. The Capability Framework is available at www.psc.nsw.gov.au/capabilityframework

Capability summary

Below is the full list of capabilities and the level required for this role. The capabilities in bold are the focus capabilities for this role. Refer to the next section for further information about the focus capabilities.

NSW Public Sector Capability Framework		
Capability Group	Capability Name	Level
 Personal Attributes	Display Resilience and Courage	Adept
	Act with Integrity	Adept
	Manage Self	Adept
	Value Diversity	Intermediate
 Relationships	Communicate Effectively	Advanced
	Commit to Customer Service	Adept
	Work Collaboratively	Adept
	Influence and Negotiate	Adept
 Results	Deliver Results	Adept
	Plan and Prioritise	Adept
	Think and Solve Problems	Advanced
	Demonstrate Accountability	Adept
 Business Enablers	Finance	Intermediate
	Technology	Advanced
	Procurement and Contract Management	Adept
	Project Management	Adept

Focus capabilities

The focus capabilities for the role are the capabilities in which occupants must demonstrate immediate competence. The behavioural indicators provide examples of the types of behaviours that would be expected at that level and should be reviewed in conjunction with the role's key accountabilities.

NSW Public Sector Capability Framework		
Group and Capability	Level	Behavioural Indicators
Personal Attributes Act with Integrity	Adept	<ul style="list-style-type: none"> • Represent the organisation in an honest, ethical and professional way and encourage others to do so • Demonstrate professionalism to support a culture of integrity within the team/unit • Set an example for others to follow and identify and explain ethical issues • Ensure that others understand the legislation and policy framework within which they operate • Act to prevent and report misconduct, illegal and inappropriate behaviour
Relationships Communicate Effectively	Advanced	<ul style="list-style-type: none"> • Present with credibility, engage varied audiences and test levels of understanding • Translate technical and complex information concisely for diverse audiences • Create opportunities for others to contribute to discussion and debate • Actively listen and encourage others to contribute inputs • Adjust style and approach to optimise outcomes • Write fluently and persuasively in a range of styles and formats
Relationships Work Collaboratively	Adept	<ul style="list-style-type: none"> • Encourage a culture of recognising the value of collaboration • Build co-operation and overcome barriers to information sharing and communication across teams/units • Share lessons learned across teams/units • Identify opportunities to work collaboratively with other teams/units to solve issues and develop better processes and approaches to work
Results Plan and Prioritise	Adept	<ul style="list-style-type: none"> • Take into account future aims and goals of the team/unit and organisation when prioritising own and others' work • Initiate, prioritise, consult on and develop team/unit goals, strategies and plans • Anticipate and assess the impact of changes, such as government policy/economic conditions, on team/unit objectives and initiate appropriate responses • Ensure current work plans and activities support and are consistent with organisational change initiatives • Evaluate achievements and adjust future plans accordingly

NSW Public Sector Capability Framework

Group and Capability	Level	Behavioural Indicators
Results Think and Solve Problems	Advanced	<ul style="list-style-type: none"> • Undertake objective, critical analysis to draw accurate conclusions that recognise and manage contextual issues • Work through issues, weigh up alternatives and identify the most effective solutions • Take account of the wider business context when considering options to resolve issues • Explore a range of possibilities and creative alternatives to contribute to systems, process and business improvements • Implement systems and processes that underpin high quality research and analysis
Business Enablers Technology	Advanced	<ul style="list-style-type: none"> • Show commitment to the use of existing and deployment of appropriate new technologies in the workplace • Implement appropriate controls to ensure compliance with information and communications security and use policies • Maintain a level of currency regarding emerging technologies and how they might be applied to support business outcomes • Seek advice from appropriate technical experts to leverage information, communication and other technologies to achieve business outcomes • Implement and monitor appropriate records, information and knowledge management systems protocols and policies