



Cormeum Consulting Pty Ltd
Level 4, 260 Queen St
Brisbane
Queensland
4000
Australia
russell.goslin@cormeum.com.au
0421616830

Andrew Ouden
Department of Transport and Main Roads, Queensland
313 Adelaide St
Brisbane
QLD
4000
30 January 2023

Dear Andrew

Cormeum is grateful for the opportunity to respond to the **Request for Quote: TMRTETS 02 22-23 - Development of an Intelligent Transport System (ITS) Lifecycle Management Framework (ITSLiFe).**

We have assembled a consortium of experts in the field, led by Pascal Labouze who has significant experience and capability in leading complex ITS initiatives, both in Australia and abroad.

The following documents are contained in this response:

1. Cormeum response to Section 4 – Supplier Response
2. Cormeum's proposal regarding how we will address the project scope and deliverables
3. Bios for each of our team members
4. Cormeum Insurance certificates

We once again thank you for the opportunity, and welcome any enquires you have regarding our offer.

Sincerely,

A handwritten signature in black ink, consisting of a large, stylized 'R' followed by a horizontal line and a small flourish.

Russell Goslin
Director

Section 4 – Supplier Response

COMPANY DETAILS:	
Company name	Cormeum Consulting Pty Ltd
ACN/ABN	65 628 862 279
Address	Level 4, 260 Queen St, Brisbane, 4000
Postal Address (if different from above)	As above
Contact Officer Name	Russell Goslin
Phone Number	0421616830
Email Address	Russell.goslin@cormeum.com.au
Fax Number	n/a

FEE/PRICING INFORMATION:	
Price (excl GST)	\$190,680.00
Hourly rate (excl GST)	\$2,612.00 = \$326.50 per hour
GST Amount	\$19,068
Estimate of hours	73 days = 584 hours
Total Price: (incl GST)	\$209,748.00

NON PRICE INFORMATION:	
QPP Policy Objectives	<p>Supplier to nominate if they are an:</p> <p><input checked="" type="checkbox"/> Local supplier¹</p> <p><input type="checkbox"/> Indigenous Business²</p> <p><input type="checkbox"/> Social Enterprise³</p> <p><input checked="" type="checkbox"/> Small to Medium Enterprise (SME)⁴</p> <p>If so, are you a member of an industry group? (For example, BBF, Supply Nation) Not applicable</p>
Offer details	<p>Note to Supplier:</p> <p>Please address the following as outlined in Section 1:</p>

¹ Local Supplier – a supplier of goods or services that maintains a workforce within a 125km radius of where the goods or services are to be supplied.

² Indigenous Business – refers to a commercial entity that is at least 50 per cent owned by an Aboriginal person or a Torres Strait Islander person.

³ Social Enterprise – an enterprise led by an economic, social, cultural, or environmental purpose consistent with a public or community benefit. Social enterprises reinvest the majority of any profit or surplus into the fulfilment of their purpose.


⁴ Small to Medium Enterprise – a firm employing less than 200 people

	<ul style="list-style-type: none"> • It is a mandatory criteria that the supplier must comply with the Ethical Supplier Threshold. • It is a mandatory criteria that the supplier must comply with the Queensland Government Supplier Code of Conduct • The requirements of submission • Each of the Evaluation Criteria <p>If required, please attach an appendix to this Request for Quote.</p>
Where is the workforce delivering this contract based?	<p>Level 4, 260 Queens St, Brisbane, and various locations in Sydney, NSW</p> <p>Note: This may include your own workforce, sub-contractors, manufacturers, or other local businesses in the supply chain. The address may be different to your head office address</p>

INSURANCE / WARRANTY:

Insurance Details	(Refer Section 1)
Worker's Compensation	<p>Policy No: WSB190783148</p> <p>Insurer: Workcover Queensland</p> <p>Name Insured: Cormeum Consulting Pty Ltd</p> <p>Expiry Date: 30 June 2023</p>
Public Liability	<p>Insured Amount: 20,000,000</p> <p>Policy No: 04MIS2030240</p> <p>Insurer: Insurance Australia Limited trading as CGU Insurance</p> <p>Name Insured: Cormeum Consulting Pty Ltd</p> <p>Expiry Date: 12 April 2023</p>
Other insurances	<p>Professional Indemnity:</p> <p>Insured Amount: 20,000,000</p> <p>Policy No: 04MIS2030240</p> <p>Insurer: Insurance Australia Limited trading as CGU Insurance</p> <p>Name Insured: Cormeum Consulting Pty Ltd</p> <p>Expiry Date: 12 April 2023</p>
Warranty details: (Period and conditions)	Not applicable

Departures from the Conditions of Contract (including Special: Conditions)	Clause Number	Proposed departures, variations and additions
	Not applicable	
Deviations from specifications / scope:	None	
Ethical Supplier Threshold	<p>Please provide the following details about the Supplier:</p> <p>Has the Supplier:</p> <ul style="list-style-type: none"> contravened a civil remedy provision of Chapter 2 or Chapter 3 of the <i>Fair Work Act 2009</i> (Cth), or committed an offence against the Fair Work Act? contravened a civil remedy provision of Chapter 2, 3, 4, 5, or 7 of the <i>Industrial Relations Act 2016</i>, or committed an offence against the Industrial Relations Act, or failed to pay employment related levies, or other payments, established under Queensland legislation? failed to make superannuation contributions on behalf of employees in accordance with law? purported to treat employees as independent contractors, where they are not? required persons who would otherwise be employees to provide an Australian Business Number so that they could be treated as independent contractors? engaged persons on unpaid work trials or as unpaid interns, where they should be treated as employees? entered into an arrangement for the provision of labour hire services with a person who is not licensed under the <i>Labour Hire Licensing Act 2017</i>, or a supplier who is an unlicensed provider under the Labour Hire Licensing Act? paid employees wages below those provided for in an applicable modern award? <p><input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No</p> <p>*If Yes, please provide full and complete details: Not applicable</p>	
Supplier Code of Conduct	<p>The Queensland Government is committed to doing business with ethically, environmentally and socially responsible suppliers and has an expectation that suppliers align with the standards and expectations in the Queensland Government Supplier Code of Conduct.</p> <p>Is your organisation compliant with the expectations as contained in the Supplier Code of Conduct?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No*</p> <p>*If no, please advise what is preventing you from aligning to the Queensland Government Supplier Code of Conduct.</p> <p>Not applicable</p>	

Conflict of Interest and Collusion: (disclose if applicable)	Conflict of Interest: Suppliers must provide details of any possible conflict of interest that exists or may arise in relation to the making and/or acceptance of their Offer. If there is nothing to declare, please insert "None". None	
	Collusion: In submitting its Offer, the Supplier warrants to the Eligible Customer that it fully complies with clause 23.5 of the Conditions of Offer, except as expressly disclosed in this Response Form. The Supplier must disclose the full nature and extent of any agreements with competitors to the Eligible Customer. If there is nothing to disclose, please insert "Nil". Nil	
Small Business Notification	TMR supports the Queensland Government On-Time Payment Policy and encourages small businesses to register on the <u>On-time Payment Small Business Register for reduced 20 day payment terms</u> . The register is located at <u>www.qld.gov.au/on-time-payments</u> . Small businesses are eligible if they had fewer than 20 employees at the date of the contract.	
Authorisation, Certification and Execution by Supplier	As the authorised officer named below, I certify that in submitting the Supplier's Response on behalf of the Supplier: <ol style="list-style-type: none"> 1. I have the appropriate authority to authorise the Supplier's Response 2. I have read, understood and complied with the Requirements of the Request for Quote. 3. I confirm the Supplier has complied with the Ethical Supplier Threshold since August 2019. 4. The enclosed Supplier's Response is a true and accurate account of our offer. 	
	Name:	Russell Goslin
	Signature:	



Cormeum Consulting Pty Ltd

Proposal in response to Request for Quote: TMRTETS
02 22-23 - Development of an Intelligent Transport
System (ITS) Lifecycle Management Framework
(ITSLiFe)

Capabilities of Cormeum addressing the project Scope and
Deliverables in the context of the Evaluation Criteria.

30 January 2023

russell.goslin@cormeum.com.au

0421616830

Contents

Section 4 – Supplier Response	2
Executive Summary	9
Our understanding of TMR’s brief and our approach	10
Our understanding of the brief	10
How we offer to work with you	10
Our Team	12
Our collective experience and background	12
Organizational structure	13
Relevant Project Experience	13
Our Proposal	16
Outline of our approach	16
Delivery of engagement	16
<i>STAGE 1: Ramp up and baseline project</i>	16
<i>STAGE 2: Establish blueprint for system, process, people, and information items</i>	16
<i>STAGE 3: Finalise process and framework, and list of information items</i>	16
<i>STAGE 4: Develop templates for information items</i>	16
The framework we will use	16
Using the framework in a project	20
Establishment of governance frameworks	20
How we will deliver	22
Governance	22
Kick off	22
Progress meetings	23
Steering Committees	23
Meetings and workshops	23
Deliverables	24
Review and approval:	24
Planning	25
Key Assumptions, Risks & Opportunities regarding the engagement	26
Assumptions	26
Risks	26
Our Financial Proposal	27

Appendix 1: Information additional to our methodology & expertise.....	28
Systems Engineering.....	28
Engineering Management & Asset Management	29
Appendix 2: Team Bios	31

Executive Summary

The creation of an efficient multi-modal transport network and the ability to leverage technology and innovation are at the heart of today's mobility sector, and by creating the new SNO division, TMR is taking an important step towards delivering better transport solutions for its customers and communities.

The current co-design process that will set up SNO for success has identified several critical activities to enable the various value streams, and the development of ITS LiFe is one of these. In simple terms, TMR seeks to rely on a comprehensive engineering framework that will ensure that technology systems and assets best support road operations.

We understand why TMR needs this engagement and what needs to be delivered, and we have assembled a team of skill - relevant and experienced professionals who each bring a unique capability in service of this engagement:

- Danny has developed numerous System Engineering frameworks and documents
- Victor has been involved in numerous projects where he's managed Engineering and Asset Management frameworks
- David has led Enterprise Architecture and IT Strategy for TfNSW and successfully joined up the IT and OT governances
- Pascal was the Executive in charge of managing the ITS assets and systems for Transport for New South Wales (TfNSW) and of delivering benefits to the business
- Russell has worked extensively with TMR in several parts of the business, and in particular has provided support to the C-ITS team working on the Ipswich Connected Vehicle trial

We are proposing an approach where we will bring our whole experience and our learnings from the various organisations that we have served and supported, and at the same time we will also listen intently to the needs and ways of working inside TMR – overall we want to remain flexible and relevant to TMR's priorities, while remaining focused on the outcome. We will be client-focused, active listeners, and flexible at all times.

We have outlined a 4-stage approach to execute this engagement, which will allow us to gain insight into TMR from the perspectives of various stakeholders and SMEs, and to iterate the release of the deliverables allowing for reviews and input from TMR – but to stick within a 10-weeks program to produce all the deliverables needed by TMR. We will organise weekly progress meetings and fortnightly Steering Committees, because we want to share findings, remain aligned, and constantly give and receive feedback and guidance.

We are confident that we will deliver exactly what you need, because we have faced and resolved the same challenge in the past; because we are professionals in the key disciplines of System Engineering and Enterprise Architecture; and because we understand the ITS domain very well. Actually, we have matched our skills against the tender evaluation criteria and found that our collective experience is exactly what TMR has sought to engage.

We are excited by the opportunity to help TMR establish the engineering framework that will ensure that ITS will be even more instrumental in better managing roads and servicing road users, and we are ready to go.

Our understanding of TMR's brief and our approach

Our understanding of the brief

TMR has embarked on a business transformation to more effectively manage their road network and has created a new "State Network Operations" (SNO) branch to achieve this.

As part of this change, the fundamental enablers of delivering good business outcomes are being reviewed and several co-design processes have been implemented. Technology solutions are fundamental to operate the road network but TMR has found that, in the current state, their management is disjointed and ineffective.

The current transformation and the growing importance of technology in business' operations calls for an action plan to ensure that the development of new technology is delivered consistently and reliably; that it is guided by and evaluated against business outcomes; that it integrates effectively within the existing ITS eco-system; and that it adopts best practices derived from System Engineering frameworks. It also requires the broad technology assets to be managed rigorously and efficiently from acquisition to disposal, so that these assets are kept up to date and evolved, and the plans to maintain, upgrade and replace are properly anticipated with a constant focus on supporting the required business outcomes.

In order to address this need, TMR has requested that industry deliver a comprehensive framework that will be applied consistently across all systems and geographies. The ITSLiFe framework will consist of processes, roles, and artefacts that will be used by whomever is involved in managing or developing new technology solutions. It will apply to a very broad set of technologies, known as the ITS system, the exact delineation of which will be refined and determined at the beginning of this assignment.

To effectively rollout this new framework will require easy access to the tools and artefacts, and appropriate training of the staff involved in its application. The industry partner is also expected to provide advice in regards to these two topics.

In summary, TMR needs support to implement a framework that will ensure that its technology solutions are adequate for the business operations, that they will be developed consistently and reliably with a focus on business benefits, and that they will be managed over time with the right planning to ensure continued business servicing and value-for-money.

How we offer to work with you

Our engagement style and the behaviours that we exhibit are shaped to give our clients the best possible outcome and experience. Here is how we will work with you:

Client-focused: Because we are an association of small boutique consulting firms, our sole focus is to deliver exactly what our clients need, as and when they are ready to receive our input. We have hand-picked a team of individuals with extensive and complementary experiences, making it the best team that industry can offer. Each one of us will bring their whole expertise and experience to interacting with you in order to shape a framework that will be based on industry standards and best practice, but that will be 100% specific to TMR.

Active listeners: Every interaction with you will be an opportunity to refine our understanding of your priorities; every interaction with TMR's stakeholder group will allow us to gather the existing best practices in the organisation, and to understand what can be harnessed. We will seek to understand why and we will validate your assumptions and priorities regularly during the engagement. Every meeting will be captured so that we can share the stand out findings in our team and with yourselves, and thereby heighten our listening ethos.

Flexible: We understand the broad array of stakeholders that need to be involved, and we have a proven ability to include and get the best input from them. We understand that it may take time to gather all the inputs needed, or to organise the review of our first draft deliverables adequately. Or conversely, we understand that there are sometimes external factors that make the delivery of the advice urgent. In either case, we will adapt our workload and pace to match that of TMR's ability to support, review and approve the deliverables of the engagement. Because we are not beholden to a large organisation with its own internal stakeholders and demands, we will have a very open and honest commercial approach where TMR will not be financially disadvantaged by delays or extensions if they don't generate additional effort.

Our Team

Our collective experience and background

We offer a diverse and highly experienced team of technology professionals to conduct this engagement, with lengthy and deep experience, specifically in the transport, ITS and systems integration sectors. Our combination of skills and experience will ensure that we are able to address all of the requirements of TMR, bringing relevant local industry knowledge.

Cormeum Consulting Pty Ltd (Cormeum) will lead this engagement. Cormeum is a small consulting firm based in Brisbane that works with select partners to deliver business consulting to our clients. We specialise in leveraging innovation and technology to make your business better. We primarily focus on the Transportation sector, and as a consequence we have strong relationships with technology and business experts in this sector. Our core offerings are business and technology strategy development, program establishment, support, and health checking, and tightly aligning technology investments to business outcomes.

Russell Goslin, director at Cormeum, has extensive experience working with TMR across different parts of the business, specifically around technology solutions. Russell has had involvement in TMR's Smart Ticketing project, TMR's Mobility as a Service (MaaS) program, and the Ipswich Connected Vehicle (CAVI) project, specifically reviewing the current state and future path for the C-ITS solution developed by TMR and its partners. Russell understands the stakeholder landscape in TMR, and will bring his organisational knowledge, and program management experience, as well as his systems experience to the engagement.

Pascal Labouze is an accomplished executive with a track record leveraging technology and complex systems to enable mission-critical transport operations. Before heading up PL Advisory, Pascal was the Executive Director for Operational Systems at TfNSW, responsible for delivering and maintaining the right technology systems to enable improved operations across the road and rail networks. In particular, Pascal oversaw the technology strategy, investment, delivery, maintenance and assets for the ITS eco-system in NSW, allowing the Transport Management Centre to streamline their processes and gain additional insights into the operations of the NSW road network. Also, as the executive in charge, Pascal established and oversaw investment, project, technical and operations governance frameworks that allowed him and his team to deliver business objectives consistently and reliably.

David Colquitt is a technology specialist with over 20 years of experience in complex environments including Transport, Financial Services, Media and Government. His areas of expertise include IT Strategy, Operating Model, Transformation Planning, and Enterprise Architecture. He has specific and extensive experience working to develop strategy, architecture and solutions within organisations that have OT/ITS/IT environments. Dave has been responsible for the systems architecture function for Transport for NSW, as well as Cyber Risk Governance holding the roles of Chief Architect and CISO.

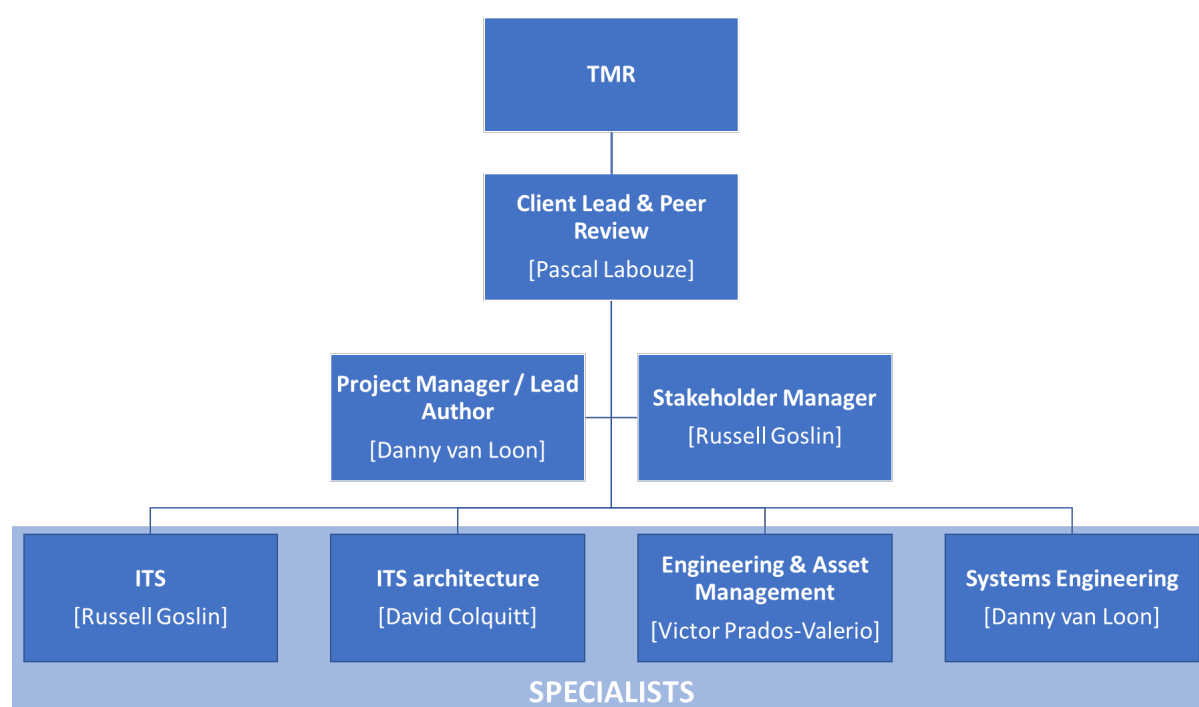
Victor Prados-Valerio is a senior transport professional with experience that includes infrastructure design coordination and management, procurement, commercial, financial and technical due diligence assessments, operations and commercial modelling, design and fit out of asset maintenance facilities, operations delivery, key stakeholder management and project management. Victor has been involved in a wide variety of projects including designing upgrades for maintenance

facilities, transport infrastructure design, the project management of large multi-million dollar mining projects, technical lead on major infrastructure engineering projects, supply chain and operations management, project assurance as well as systems coordinator for high profile rail projects. He has deep technical expertise and experience.

Danny van Loon is a broadly developed consultant with more than 20 years of experience applying advanced Systems Engineering techniques in a wide variety of projects in Road, Rail, Offshore, Energy infrastructure and Shipbuilding. He has excellent Process Management, Project Controls, Coaching and Mentoring skills. He has specialist skills in Systems Engineering, Risk Management, Requirements management, Verification, Quality Control and (spatial) Information Management. Danny has experience at both the project and corporate level in improving processes. Danny's mission is to make systems engineering more accessible, efficient and effective; and to integrate it with the engineering management and digital engineering processes.

Organizational structure

















Cormeum proposes the following organisational structure in our team to work with TMR:



Relevant Project Experience

Our team has extensive experience working on the ITS, OTS and Transport spaces. The following table outlines this experience, and indicates how it matches the evaluation criteria that TMR has spelled out in the tender:

Relevant project or role	Sys Eng	ITS	Eng Mgt	Tech doc	Description
Oversight of TfNSW ITS assets and projects	●	●	●	○	Pascal Labouze was appointed as the inaugural Executive Director for Operational Systems for TfNSW, and defined the division's organisation and governance entirely. As such, he established the project, technical and operations governance frameworks to ensure the successful delivery of ITS projects. He also oversaw the asset management lifecycle to ensure that all asset were properly managed from planning to disposal.
Systems Engineering specialist "Founding the Future" for Van Oord (Private, Offshore Construction Company, 5000+ empl.)	●	○	●	●	Danny started as Systems Engineering Specialist at Van Oord in 2018 and joined the corporate improvement program "Founding the Future" when this was initiated in 2021. This program aims to improve integrated project control by using Systems Engineering Principles and introducing "one way of working", "a data-driven culture" and "continuous improvement". Danny was responsible for the setup and development of a uniform framework for technical documentation to support all projects of Van Oord during their entire lifecycle and across all business units. Part of this assignment was the development of technical documentation packages as training material and instruction for the organization, guided by Systems Engineering principles (Requirement Management, Scope Management, Deliverable Management, Change Management, etc.)
Asset Information Manager for Water Authorities	●	○	●	●	Danny set up the information framework and contributed to the development of an Object Type Library (OTL) for Water System assets for three Dutch Water Authorities. He supported and advised the technical SME's in developing a library of water management assets, system requirements and supporting technical documentation. As part of this library, he enabled a learning framework for continuous improvement and he developed an enterprise asset management tool to support the system library and project configurator.
Tangara Fleet Strategy and Asset Lifecycle Costing Review, Sydney Trains	●	○	●	●	Sydney Trains engaged Victor Prados-Valerio to undertake the Tangara Fleet Strategy and Asset Lifecycle Costing Review as part of a collaboration between the Fleet Maintenance and Asset Management groups within the Engineering and Maintenance Directorate. The project aimed to identify ongoing reliability and performance issues with the Tangara fleet, associated asset lifecycle costs, and then present outcomes and recommendations to the stakeholder group through a facilitated workshop. Victor was the Assignment Lead for the review. He also led the decision framework stream which involved developing the criteria for evaluating between the recommendations and scenario testing to further assist stakeholder decision making (Sydney Trains and Transport for NSW).

Trains, Systems Operations and Maintenance Independent Certifier on the Sydney Metro City and Southwest Project					Victor Prados-Valerio has is part of the core team of the consortium which has partnered to deliver all Independent Certifier Greenfield Packages on the Project. As Operations, Trains and Systems IC Technical Director, Victor is responsible to provide certification services on all TSOM work packages including Trains and Signalling, Passenger Screen Doors (PSDs), Communication and Control Systems and overall Systems Integration. Key requirements for certification include Systems Engineering processes and the asset management system. Victor will be responsible for providing the First Passenger Service certificate for the railway prior to operation.
Various TMR projects					Russell has been engaged by TMR to conduct a number of focused and specific consulting engagements. In 2019, Russell was engaged to provide commercial support to the delivery of the Smart Ticketing program, given his extensive experience in public transport ITS and ticketing systems. Additionally, Russell has provided expert advice to the TMR Mobility as a Service (MaaS) program, and in 2021 was engaged to support the TMR Connected and Automated Vehicle (CAVI) trial in determining the strategy and roadmap for ongoing investment in the C-ITS solution developed by the project.
TfNSW ITS architecture					David was chief architect at TfNSW for 5yrs during which he drove the establishment of whole of cluster technology and cyber governance across OT,ITS and IT. During this time he held the role of chief architect and chaired the architecture boards for the cluster agency and group portfolios including ITS. He ran the design authority for the cluster-wide asset management transformation as well as having direct line responsibility for the architecture work within the program.
Summary team experience					Our team brings together an unprecedented depth of skills and experience against this assignment. It is composed of seasoned professionals who will rely on each other for their respective expertise and experience.

Our Proposal

Outline of our approach

Our team will use our extensive experience in systems integration and ITS system management to undertake a structured and methodical approach to preparing the deliverables that TMR requires. The following sections demonstrate how we have conducted similar engagements in the past, and how we will approach this engagement for TMR.

Delivery of engagement

Our team will take a four staged approach to delivering this engagement. These stages are outlined below.

STAGE 1: Ramp up and baseline project

- Review current state
- Review project objectives
- List pain points and re-formulate (confirm) project objectives
- Interview key stakeholders
- Baseline project plan and schedule

STAGE 2: Establish blueprint for system, process, people, and information items

- Develop system architecture and SOI definition
- Develop System Engineering and Asset Management frameworks
- Propose roles and develop accountabilities

STAGE 3: Finalise process and framework, and list of information items

- Finalise ITS system architecture, breakdown, definitions
- Finalise framework and propose list of information items
- Analyse security classification for information items
- Develop first draft of templates for some information items

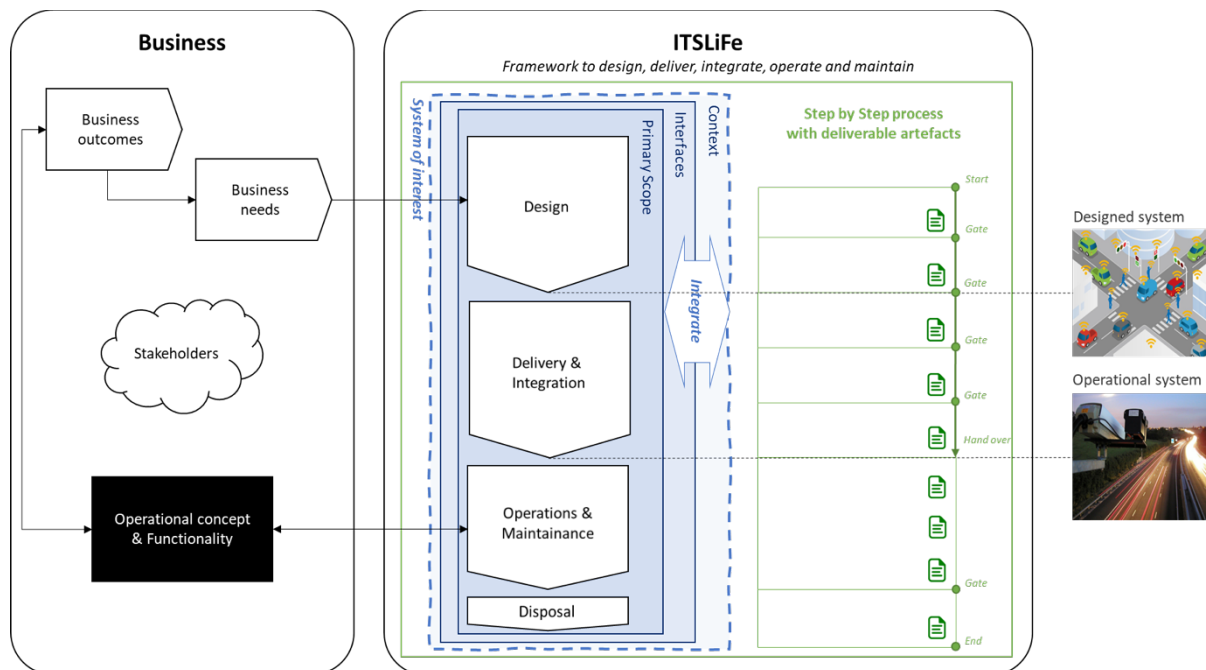
STAGE 4: Develop templates for information items

- Finalise list and characteristics of information items, including security classification
- Propose criteria for easy access to framework and artefacts, workflow tool properties
- Prepare phase 2 roadmap
- Finalise development of templates for information items

The framework we will use

During the first week of this engagement, we will identify and define the scope of the system of interest and relevant processes for the ITSLiFe Framework and we will assess which processes are already in place within TMR and which would need to be set up.

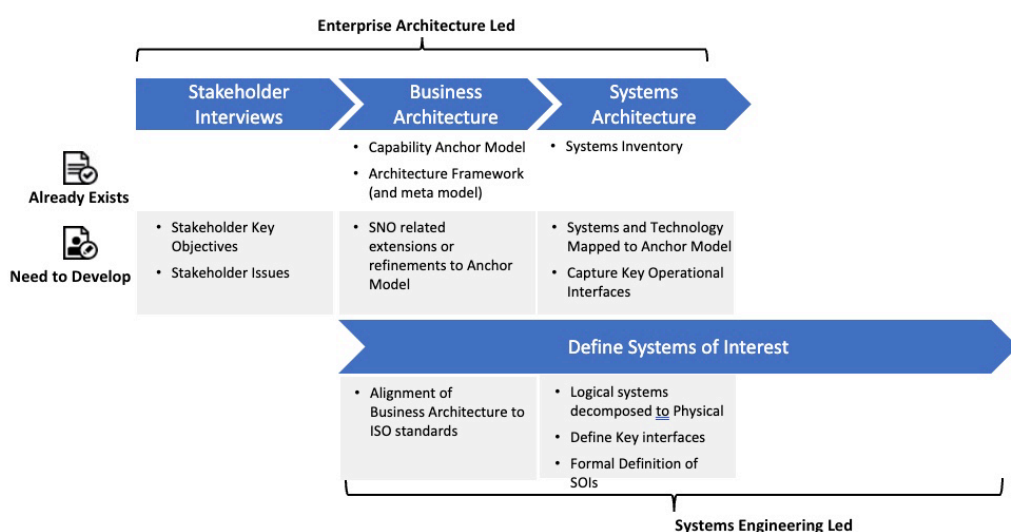
The diagram below provides a high level overview of the process that we will undertake to produce the deliverables:



System Of Interest

At the core of ITSLiFe we position the Intelligent Transport Systems. We will develop a system breakdown structure that represents the ITS in one uniform way throughout the full system lifecycle and that is integrated in the enterprise architecture of TMR. An Enterprise Architecture approach will be used to drive the early parts of discovery that will link a view of the SNO business to a logical set of systems, which can then be distilled into further physical views to support more detailed design and operational activity. Through this we will ensure a best of breed approach blending enterprise architecture and systems engineering, as well as support TMR in their need to govern and manage across a diverse portfolio of technology assets including OT, ITS and IT.

The diagram below demonstrates how we will do this through the stages of the engagement:



In different lifecycle stages, different perspectives on the systems may be required. For example: a logical or functional view may be used during functional design and a physical view may be required during operation & maintenance of the systems.

The Intelligent Transport Systems will interface with other systems both internally and outside of the scope of TMR. The systems will exist in different contexts, which may influence the performance or integration of the systems. To identify and control interfaces with other systems and its surroundings we will identify interfacing systems and context objects as part of the system of interest.

Business needs

Through stakeholder engagement and analysis of the business outcomes, both pain points and successes, business needs can be identified. Processes within ITSLiFe will enable TMR to formulate business needs, to articulate requirements satisfying the business needs in a traceable manner and to develop system requirement specifications for each ITS. Other processes within ITSLiFe will enable TMR to verify the requirements and validate the designed solutions for a specific project.

Standardized processes with workflow

To understand how management processes contribute to the development of the ITS, we will consolidate the system lifecycle stages and define stage gates in the system lifecycle. At each stage gate, deliverables of each of the processes are reviewed to decide whether the project is able to move to the next stage.

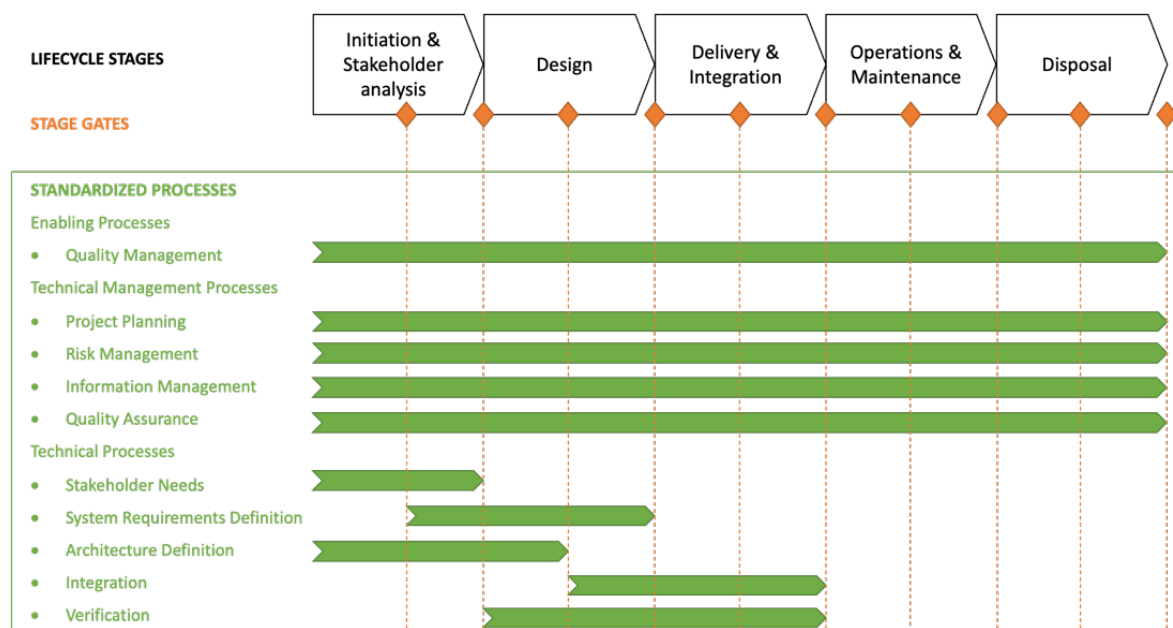
We will develop a process information model with functionality to describe at least the following information per process:

- Relation to TMR management system
- Deliverable artefacts
- Responsibility
- Applications used

- Required workflows

All required information attributes and secondary structures will be described in a common data model that will be available for all required applications.

The following diagram shows how each of these business processes will be analysed over the stages of the engagement:

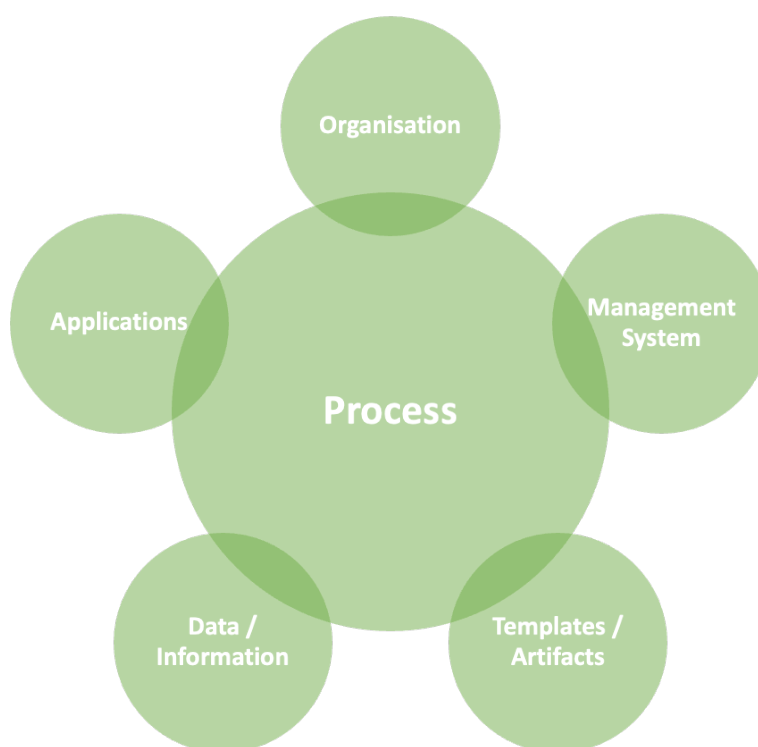


This approach drives better controlled and more uniform solution development and documentation. By increasing the integration of (management) processes TMR will be able to improve decision making and hand over between lifecycle stages.

When all processes within the ITSLiFe scope are described in the process information model, this will allow TMR to gain insights like:

- Ownership and responsibility per role
- Development of deliverables / artefacts per stage gate
- How applications are used
- Dependencies between processes

The following diagram shows a conceptual view of the process information model:



When the scope of processes within the framework is confirmed, we will assess which TMR processes can be re-used and consolidated and which processes should be redeveloped and tailored to the needs of TMR and within ITSLiFe.

Using the framework in a project

Projects can use ITSLiFe to develop project specific solutions and documentation by using the following steps:

1. Define technical scope: SOI
2. Define process scope: processes applicable
 - a. Relevant Templates become available
 - b. Training & Instruction on how to develop the Artefacts per stage gate
3. Develop solutions based on templates and SOI
4. Review per stage gate
5. Handover per stage gate

Projects will be able to create an initial project specific work breakdown structure based on metadata provided by ITSLiFe and tailor this to the project specific milestones.

Establishment of governance frameworks

ITSLiFe will implement an information management system and will be governed by an overarching Policy/Governance document. The policy document will need to capture the key principles, scope, applicability and context of the SNO related assets and processes. In order to ensure the integrity of ITSLiFe consideration will need to be given to how governance aligns to existing TMR organisational/enterprise governance in areas such as investment, design and risk (inc cyber). Our



approach and collective experience has a strong experience in building and linking enterprise technology governance across diverse transport organisations covering all IT/ITS and OT domains.

How we will deliver

The following section outlines the specifics of how we will deliver this engagement, including governance and practical day-to-day engagement.

Governance

Our team will be led by Pascal Labouze, who will be the primary point of contact for TMR, and who will oversee delivery of our services and artefacts. Our team will commence the engagement with a brief workshop in order to confirm the delivery scope, and key priorities for TMR. This will allow us to tailor our plan and deliverable to ensure we meet your most important requirements early, and give TMR clear visibility of delivery timeframes and schedules.

Once we have confirmed this plan with you, we will report on a weekly basis against the plan, and ensure that our team and TMR remain aligned in terms of priorities and key deliverables. We expect this will require a brief project team meeting with one or two key TMR representatives each week. We will provide a brief written report each week to be reviewed at and to guide this meeting.

These meetings and the associated delivery governance process will ensure that our team remains focused on what is important to TMR, and that we allocate our time and efforts in the most efficient and cost effective way to provide high quality deliverables, and cost effective outcomes for TMR.

Our initial priorities for this engagement, and the high level order in which we will conduct this engagement is as follows.

Kick off

Immediately upon contract award, we will organise a kick off meeting with TMR to start the project. This is an important meeting as it will ensure that we are absolutely aligned with TMR and that we agree on the mechanisms to keep this alignment throughout the delivery of this engagement.

The topics we expect to cover in this meeting are:

- Introductions: each member of our team will attend the kick off meeting and introduce themselves. Likewise we will be pleased to meet the TMR's project sponsor and project manager, and other key people as chosen by TMR.
- Changes in context since tender: We will be asking TMR if there has been any progress in the overall SNO transformation program, or any broader organisational factors, that have changed some of the assumptions of the engagement. If this is the case then we will incorporate these changes in our project plan.
- Recapitulate project objectives and validate: we will run through the high level project objectives, and the deliverables as listed in the tender and in this proposal.
- Review project plan: we will explain our proposed project plan (included in this proposal) and ask for any feedback that we would include in the updated project plan to be baselined for the engagement
- Inputs from TMR: we will expect to review a first list of documents and inputs from TMR, that TMR would have compiled in preparation for this engagement
- Risk review: we will outline the risks that we have identified and also gather the risks assessed by TMR, and start the development of mitigation actions

- Stakeholders: we will also seek to understand the stakeholder environment and start an initial list of people to reach out to.

Progress meetings

A progress meeting is proposed to be held on a weekly basis with TMR's project manager. The purpose of this meeting is:

- to formally report on progress against the agreed plan,
- discuss findings and receive TMR's feedback
- raise issues or difficulties and ask for TMR's support to resolve
- track deliverables and their reviews
- discuss changes if any

Agenda and minutes will be prepared by our team.

Steering Committees

A Steering Committee will be held on a fortnightly basis with TMR's sponsor. The purpose of the SteerCo is:

- to ensure that the progress of the engagement is constantly in line with the business objectives and priorities
- to present the main artefacts as they become available, and seek TMR's feedback and buy-in as the framework is being developed
- to escalate issues that present a risk to the delivery of the engagement
- to formalise variations and changes, whether they have a time and/or cost impact or not

Meetings and workshops

Meetings:

In general meetings will be held on-line to allow for a more effective use of everyone's time. We also anticipate that there will be a need to hold certain meetings face to face, and we will be able to accommodate this with our team based across Queensland and NSW.

We will adopt our usual meeting etiquette (agenda, minutes, time keeping) to ensure that all SMEs and attendees make the best use of their time in their contribution to the project.

Workshops:

We also anticipate that some workshops will be an effective means to engage with SMEs for the following phases of the engagement:

- during the initial stage of the project (stage 1): in order to gather input and existing material / process for similar aspects of the project, disseminated between different SMEs
- when some deliverables will start to take shape, in order to test and get stakeholders feedback on the proposed options for the framework

We will endeavour to identify the need for workshops early in the execution of the engagement, in order to provide sufficient time for the adequate people to be able to attend.

Deliverables

We here below propose the list of formal deliverables that we will deliver as part of this engagement, and provide a brief explanation:

D1: ITS System and SOIs Architecture

D1 will represent the ITS System and its break down into systems of interest (SOIs), outlining the functional and physical components. It will identify the interfaces between the ITS and external systems, and clarify which SOIs are part of ITS and which ones are considered external ones.

D2: ITS Lifecycle Framework description

The core of the engagement will be delivered with D2, which will contain the framework itself composed of the processes and gate reviews, and references to the various information items and roles involved in the execution of the framework.

D3: ITSLiFe Information Items

D3 will recapitulate all the information items supporting ITSLiFe, propose a template for each, including the metadata and security classification information.

D4: ITSLiFe deployment and access

This deliverable will summarise recommendations in regards to the other phases of the ITSLiFe transformation project. These recommendations will address the information management system that will support ITSLiFe, the training requirements and audience, the propose a summary roadmap for the phase 2 of the project.

D5: ITS LiFe roles and responsibilities

This document will present the various roles required in ITSLiFe, including their description and authority.

Review and approval:

Each of these formal deliverables will be delivered first in a draft form and then in their final form.

The draft will be formally submitted to TMR for review, and in the proposed program, we have accounted for a client review period of 5 working days.

The comments and feedback from these reviews will then be integrated in the finalisation stage of each document.

During the course of the project, we will also produce and deliver other deliverables to support the execution of the engagement:

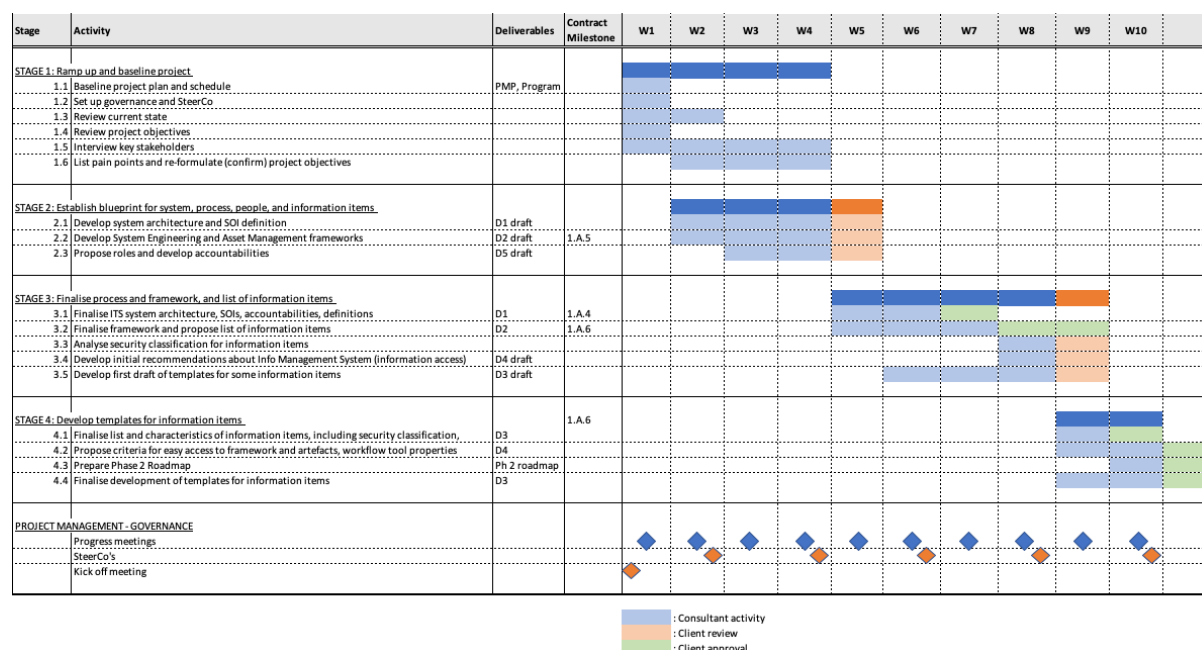
- Summary Project Management Plan
- Updated Program (will be updated regularly)
- Minutes of meetings and workshops
- Transcripts of stakeholder input

These will be made available to TMR and we will be adjusted to accommodate any input or advice from TMR as we plan and execute this engagement.

Planning

The figure below shows the high level plan that we propose to execute this engagement. The work is anticipated to be completed in 10 weeks, with adequate access to information, stakeholders and timely review of draft deliverables.

This plan will be re-baselined at the end of the 1st week of the engagement, taking into account TMR's guidance, constraints and priorities that are not known at tender stage. It will then be tracked on a regular basis and shared through the progress and SteerCo meetings.



Key Assumptions, Risks & Opportunities regarding the engagement

Assumptions

- General
 - We have accounted for 12 TMR stakeholders
 - We have accounted for the development of 10 templates for information items
- TMR to provide
 - TMR will provide a primary decision-maker: the TMR sponsor
 - TMR will provide a primary point of contact: the TMR project manager
 - TMR Subject Matter Experts (SME) are available for consultation during the engagement
 - TMR to provide Safety framework
 - TMR to provide examples for templates
- In scope:
 - Focus on engineering
 - Generic templates / deliverables are part of this engagement; All metadata will be generic and in theory applicable on the complete System of interest.
- Out of scope
 - Framework for project management is not included
 - System specific templates / deliverables are not included
 - Software licences other than Microsoft Office not included in our offer

Risks

Risk	Mitigation
Gap between Design and Delivery	<ul style="list-style-type: none"> - Provide one integrated process framework for Design and Delivery - Introduce Stage Gates and hand over moments
Iterations with Stakeholders take longer than foreseen	<ul style="list-style-type: none"> - Flexibility from our side regarding availability and resources - Primary point of contact at TMR - Frequent communication
Different expectations on content of template deliverables	<ul style="list-style-type: none"> - flexibility from our side regarding availability and resources - State assumptions in proposal
Asset Management is not addressed enough in the Framework to enable projects and asset management	<ul style="list-style-type: none"> - Propose additional SME asset information management

Our Financial Proposal

Cormeum proposes that this engagement be conducted on a Time and Materials arrangement. The following rates will apply to the proposed members of the team:

Team member	Daily rate	Estimated days	Estimated billings (ex GST)
Russell Goslin	AUD2,310	8	\$18,480
Pascal Labouze	AUD2,940	14	\$41,160
Danny van Loon	AUD2,520	36	\$90,720
David Collquit	AUD2,520	5	\$12,600
Victor Prados Valerio	AUD2,772	10	\$27,720
Total estimated price	AUD2,612	73	\$190,680

All quoted rates and prices are ex GST. The day rate in the “total” line above is an average of the rates of the five team member.

Should any travel or accommodation expenses be incurred in relation to this engagement, should this be required, they will be agreed before being incurred, and invoiced to TMR at cost. Given that some of our team members are based in NSW, we estimate 8 trips between Sydney and Brisbane, at an estimated cost of \$9,200.

Please note the following key additional commercial assumptions upon which this offer is based:

- Cormeum requires a 5-day notice period of contract award prior to commencing the engagement
- This offer is made subject to the TMR Short Form Conditions of Contract
- Invoices will be issued for days worked in accordance with approved timesheets
- Payment will be made in Australian Dollars, into an Australian bank account
- This offer is valid for 60 days, at which point its validity can only be extended in writing by an authorised representative of Cormeum
- In order to accept this offer, please issue a purchase order to Cormeum Consulting Pty Ltd prior to the expiration of the validity date for this offer

Appendix 1: Information additional to our methodology & expertise

Systems Engineering

Systems engineering focuses on analysing and eliciting customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem, the system lifecycle. This includes fully understanding all of the stakeholders involved. Our team understands that ITSLiFe initiative will be guided heavily by the principles described in systems engineering standards such as ISO15288.

System Life Cycle Processes		
Agreement Processes	Technical Management Processes	Technical Processes
Acquisition Process (Clause 6.1.1)	Project Planning Process (Clause 6.3.1)	Business or Mission Analysis Process (Clause 6.4.1)
Supply Process (Clause 6.1.2)	Project Assessment and Control Process (Clause 6.3.2)	Stakeholder Needs & Requirements Definition Process (Clause 6.4.2)
Organizational Project-Enabling Processes	Decision Management Process (Clause 6.3.3)	System Requirements Definition Process (Clause 6.4.3)
	Risk Management Process (Clause 6.3.4)	Architecture Definition Process (Clause 6.4.4)
	Configuration Management Process (Clause 6.3.5)	Design Definition Process (Clause 6.4.5)
	Information Management Process (Clause 6.3.6)	System Analysis Process (Clause 6.4.6)
	Measurement Process (Clause 6.3.7)	Implementation Process (Clause 6.4.7)
	Quality Assurance Process (Clause 6.3.8)	Integration Process (Clause 6.4.8)
		Verification Process (Clause 6.4.9)
Life Cycle Model Management Process (Clause 6.2.1)		Transition Process (Clause 6.4.10)
Infrastructure Management Process (Clause 6.2.2)		Validation Process (Clause 6.4.11)
Portfolio Management Process (Clause 6.2.3)		Operation Process (Clause 6.4.12)
Human Resource Management Process (Clause 6.2.4)		Maintenance Process (Clause 6.4.13)
Quality Management Process (Clause 6.2.5)		Disposal Process (Clause 6.4.14)
Knowledge Management Process (Clause 6.2.6)		

Figure: table of content ISO15288; Systems and software engineering — System life cycle processes

The often-applied standard ISO15288 identifies and describes a large set of processes that can roughly be divided into technical processes and management processes. While the technical processes contribute directly to the system of interest, the goal of the management processes is to organize and control the technical efforts. Other standards or guidelines may also be used as input, but in our approach, we clearly distinguish between identifying the system of interest and the processes that contribute to the system throughout its lifecycle.

Engineering Management & Asset Management

Asset Management is the coordinated activities of an organisation to ensure it plans, delivers and realises the maximum value/benefits from its assets as key enablers to delivering service to stakeholders and achieving the organisation's strategic vision.

Our team understands that the ITS LiFe initiative will align with TMR's Transport Infrastructure Asset Management Policy, supporting the department's vision of 'creating a single integrated transport network accessible to everyone'. TMR have a specific 'vision' to implement a wholistic ITS asset management plan as described in the RFT ITS LiFe Consultant's Brief document, Figure 4 below.

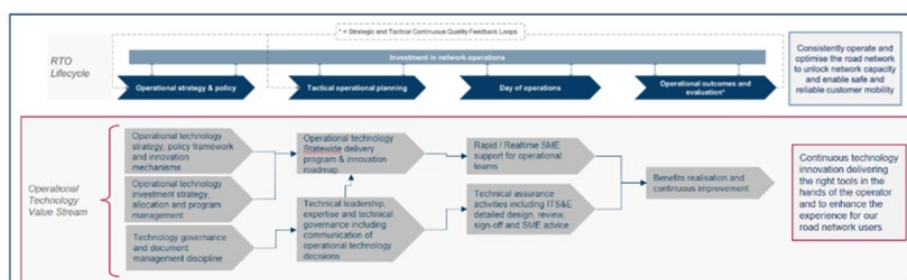


Figure 3 - Operational Technologies lifecycle stages

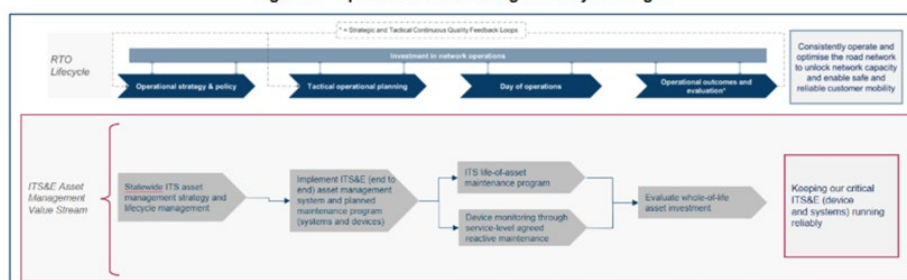
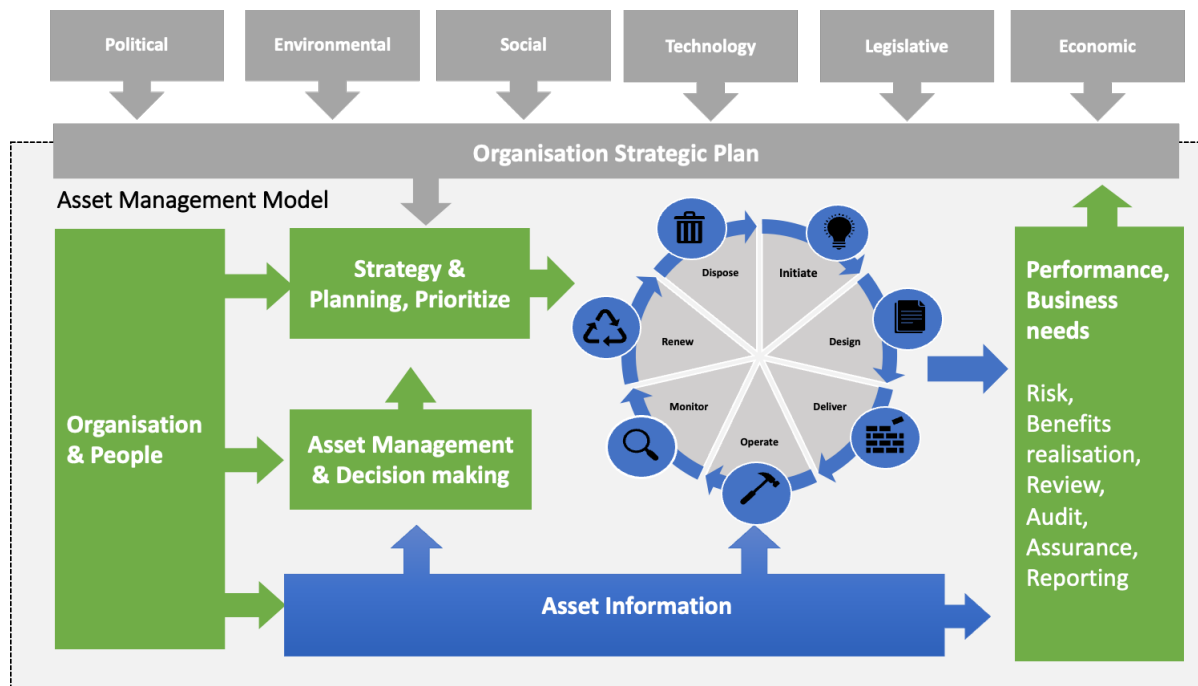


Figure 4 - Asset Management lifecycle stages

Along with Systems Engineering expertise, our team have included engineering and asset management expert, Victor Prados-Valerio, to provide the project team and TMR stakeholders with asset planning, strategy and optimisation advice.

As part of this asset management advice, the team will develop a high-level map of the asset management framework based on TMR's 'vision' for the ITS&E Asset Management lifecycle.

The asset management strategic model will draw on various inputs and KPI targets guided by ISO15288 and stakeholder input. A broad description of how the asset management strategic model is developed is shown in the figure below.





Appendix 2: Team Bios

CV – Russell Goslin

Principal Consultant



Summary

Russell has worked in the technology sector for over 20 years, helping organisations in the payments, transport and electricity industries better serve their customers by leveraging innovation. His experience across these three sectors has given him unique insights into the ways that customers expect to interact with public authorities, allowing him to identify cross industry innovations that allow for better engagement with customers. Most recently, this has seen Russell work on projects that introduce mobile solutions to customers, leveraging cloud, social media, and advanced analytics to provide relevant, contextual services to public transport commuters.

Russell has had extensive delivery experience, having implemented complex customer care and billing systems, electricity meter data management systems, and public transport fare collection systems. His knowledge and experience puts him in an ideal position to assist organisations embarking on large, complex technology programs, where strong leadership and program governance is required.

Qualifications

Masters of Business Administration, Deakin University, 2017

Master of Information Systems, University of Tasmania, 2002

Bachelor of Science, University of Cape Town, 1997

Experience

2018 – current: Cormeum Consulting, **Principal Consultant & Director**

- Providing technical leadership and advice to a state government authority regarding the implementation of a next generation ticketing system
- Providing project leadership for a technology commercialization initiative between a government department and a private sector technology provider, including commercial advisory
- Member of an expert advisory board to provide advice and thought leadership for a large, national public transport ticketing system procurement and implementation (outside of Australia)
- Provided technical expertise and advisory to an Australian public transport agency to assist in the evaluation of short-listed tenderers for a new public transport ticketing system, with particular focus on evaluating their open payment capability
- Selected to provide technical expertise and advisory to a large systems engineering organisation with regards to integration of systems for a Brisbane-based large public transport infrastructure project

2015-2018: Conduent (formerly Xerox Services), **Vice President, Public Sector, ANZ**

- Lead the public-sector business, and the transportation business in the ANZ region.
- Managed a highly distributed delivery team spread across Australia, India, Serbia and Switzerland which has responsibility for delivering and managing products and services in the region.

CV – Russell Goslin

Principal Consultant



- Report into a member of the management team based in the USA, and therefore by necessity operate in a highly autonomous and flexible manner.
- Implemented a new delivery governance model, and significantly improved quality assurance and release management procedures to improve quality to customer, and reduce defects

2012-2015: CGI, **Director Consulting Services, Queensland**

- Oversee the Queensland business in both business management and sales lead capacity role
- Overall responsibility for delivery to a large number of Queensland government customers, with a specific focus on meeting contractual obligations, and maintaining strong, collaborative working relationships
- Monitor and intervene in operations through a regular cycle of delivery governance, and through metrics monitored daily, weekly and monthly
- Negotiated and successfully delivered several large contractual arrangements across Queensland Rail, Queensland Treasury, Queensland Urban Utilities and DSITIA

2010-2012: Logica, **Regional Manager Tasmania**

- Lead a headcount of 120 with annual revenues of >\$25m, and oversee all recruitment, exiting, performance management, and establishing appropriate team structure.
- Overall responsibility for delivery to two Tasmanian government electricity organisations, with a specific focus on meeting contractual obligations, and maintaining strong, collaborative working relationships

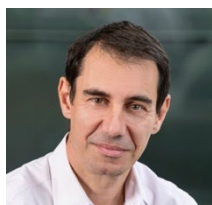
2007-2010: Logica, **Project Director**

- Overall responsibility for delivering a project portfolio of ~100 small and medium sized projects, with an approximate value of \$20m per annum
- Build and lead a project management team of 13 members, with a range of experience levels with a specific focus on identifying talented individuals within the broader business, bringing them into the team to provide them with career development opportunities.

2002-2007: Logica, **Project Manager**

- Delivered small to medium sized IT projects for local electricity utility customers.

Prior to 2002, Russell worked in a number of roles in the cards, retail banking and insurance sector in the United Kingdom.



Pascal Labouze

Director - PL Advisory

M | +61 (0) 401 305 485

E | pascal@pl-advisory.com.au



Key skills

- > Transport and Technology
- > Operational Technology, Digital integration
- > Business and technology strategy
- > Business development
- > Complex project delivery
- > System integration

Pascal Labouze is a seasoned professional in the Transport industry and has led a successful career in delivering complex technology systems that have supported traditional and innovative transport operations. He has held global executive roles in both supplier and government organisations, which provides him with a broad understanding and perspective on the broader industry.

Pascal has led critical strategies, multi-billion projects and large teams. He has a constant focus on delivering the best outcomes for communities and customers, and he understands the complexities of large organisations and broad arrays of stakeholders, focused on areas from policy to operations, and from strategy to project delivery.

He is a thought leader in the future of mobility and he has a particular expertise in the integration of multi-modal mobility solutions across rail, public transport and roads. He pursues particular interests in the electrification of transport (transition to Zero Emission Buses, EVs) where he serves as an advisor to organisations both in the Transport and the Energy sectors.

Relevant experience

Project / Role	Value to the organisation
Establishment of a new Division, organisational design and governance – Executive Director <i>TfNSW</i>	Pascal led the establishment of the <i>Operational Systems</i> new Division in TfNSW, that would ultimately comprise ca. 250 people and run \$2bn worth of projects. He oversaw the functional design, organisational design and multiple governance structures that effectively delivered multiple strategies and projects for the roads, rail and public transport transport operations.
Transport Management Centre (TMC) technology partner – Executive Director <i>TfNSW</i>	Pascal delivered the ITS technology systems and managed the technology assets of the Transport Management Centre (TMC) in NSW. He established and ran an effective governance that ensured that projects remained under control technically and financially, and that all investment would be aligned against the priorities of the business.
Development and operational oversight of an AVLS for the NSW bus operations (PTIPS) – Executive Director <i>TfNSW</i>	Pascal oversaw the development of PTIPS, the system that tracks all buses (3,000) in metropolitan NSW and delivers data to calculate the service delivery KPIs, and feeds through the customer information channels (apps, PIDs, feeds). This system integrates with all adjacent systems (from timetables to contract management) and presents a modern interface to the bus controllers. It relies on the Opal system tracking devices and provides oversight of the health of the Opal system components in the buses. The project delivered in time and to budget with integration of ML algorithms.
Business Case and Delivery of the Intelligent Congestion Management Program - Executive Director <i>TfNSW</i>	ICMP is an ambitious technology program that aims at integrating all the technologies needed to best manage the congestion in Sydney and NSW, and coordinate the entire transport network to optimise customer travel on all modes. It leverages sensors, data, mapping, analytics and AI tools to provide operators in the Transport Management Centre (TMC) the best situational awareness and decision support engines. Pascal led the establishment of the business case, obtained funding, directed the delivery and then procurement strategy, endorsed the vendor evaluation, set up the delivery team and oversaw the delivery of the program and its outcomes.

Netherlands multi-operator ticketing system – Program Director <i>Thales Transport</i>	Pascal led the delivery of the first in the world country-wide ticketing system, consisting in a multi-operator clearing house, an array of central and local systems, and equipment in vehicles and stations (level 0 to level 4). This project was made of 6 separate contracts (with each transport operator, and the central ticketing authority) and in consortium with a local installer partner and an outsourced applications provider. It entailed a very high complexity of technology and commercial arrangements, and Pascal built the program, established the governance and the controls, and led the large skilled team that delivered the first system in operations in less than 3 years.
GM Global Projects <i>Thales Transport</i>	Pascal has held a number of positions in the Revenue Collection Systems unit of Thales Transportation, designing, building and deploying some of the most advanced ticketing systems in Europe, Asia, Middle East. He has gained a large experience not only in all disciplines involved in the implementation of such complex systems, but also in the behaviours and expectations of their users, the customers of the transportation system. Notably, at a time when MaaS was not envisaged, Pascal participated in the development of a ticketing system that allowed citizens in the Netherlands to travel around the country and in the main cities using the same contactless card - tackling some of the challenges that still remain with MaaS.

Qualifications

- MSc Aerospace Engineering
- Masters in International Mgt
- Certified Executive Coach, IECL
- Accredited practitioner, LSI

Career Summary

- Since 2021 : *PL Advisory*, Founder and Principal
Advice related to the strategy and implementation of technology in transport, and to the associated business transformation.
- 2015 – 2021: *TfNSW*, Executive Director Operational Systems
Leader for the strategy, procurement, delivery & support for engineering and IT technology systems that enable operations across all transport modes. 300 people, \$2bn portfolio.
- 2013 – 2014: *Sydney Trains*, Head of Operational Technology
Leader in charge of the design, development, and implementation of Operational Technology systems
- 2009 – 2012: *Thales Air Traffic Systems*, GM Bids and Programs
Executive in charge of the bids and delivery of projects in the APAC region
- 1997 – 2008: *Thales Transportation Systems*, GM Global Delivery, Technical Director, Program Director & other roles
Successive roles in this business with a world-leading position in Smart Ticketing, AVLS and Electronic Toll Collection systems
- 1993 – 1997: *Alstom Signalling*, Design and Site Engineer

SUMMARY

Danny has more than 20 years of experience applying advanced Systems Engineering techniques in the infrastructure sector (road, rail, bridges, Offshore, Energy infrastructure).

He has excellent Process Management, Project Controls, Coaching and Mentoring skills. He has specialist skills in Systems Engineering, Risk Management, Requirements management, Verification, Quality Control and (spatial) Information Management and expert skills in the setup of Relatics and LEVVR.

Danny has experience on both project and corporate level process improvement. His strength lies in developing a well-founded and stakeholder supported vision and then making it successful in practice. His vision is to integrate disciplines and processes and enable multiple perspectives on the same assets throughout all stages of their lifecycle.

CAREER HISTORY

01/2022 – Present	Principal Consultant Systems Engineering, Overmorrow Consulting, Australia
07/2018 – Present	Consultant Systems Engineering & Risk Management, Van Oord Offshore Wind Projects, The Netherlands
02/2017 – 08/2022	Consultant Systems Engineering, Mourik Inc., The Netherlands
05/2015 – 08/2017	Asset Information Architect, Waterschap Brabantse Delta, (Dutch Water Board)
11/2015 – 08/2016	Relatics Specialist, Renovation Amsterdam Subway “Oostlijn”, Hegeman, The Netherlands
02/2016 – 06/2016	Systems Engineer, 380kV Transmission Lines, Engie, Belgium
07/2015 – 11/2015	Systems Engineer, A 27 Motorway Impact Assessment, Tauw Consulting, The Netherlands
11/2014 – 07/2015	Systems Engineer Railway Crossing, Colijn, The Netherlands
04/2010 – 01/2015	Systems Engineer, Train Station Vaartse Rijn, Colijn Contractors, The Netherlands
01/2013 – 04/2013	Asset Management Consultant, KOAC-NPC / KIWA, The Netherlands
08/2012 – 04/2013	Information Consultant, Ramboll Oy, Finland
02/2012 – 07/2012	Relatics Consultant, Shipbuilder, The Netherlands
07/2010 – 02/2011	Systems Engineer High Voltage, BAM, The Netherlands
07/2006 – 04/2010	Project Engineer Motorway Assets, Colijn, The Netherlands
07/2005 – 12/2005	3D CAD designer Sewage Treatment Plant, IV Infra, The Netherlands

PROFESSIONAL QUALIFICATIONS & AFFILIATIONS

1995 – 1999 Civil Engineering, Rotterdam University of Applied Sciences
2009 – 2015 Specialist Bridge Joints, Rijkswaterstaat
2010 – 2018 Relatics Business Partner
2012 - Current Member of the International Council of Systems Engineering (INCOSE)

Profile

Technology leader with 20 years experience in complex environments including Transport, Financial Services, Media and Government.

IT Strategy and Execution, Developed technology strategy for more than 30 ASX listed organisations and deep expertise building, planning then delivering on major IT strategy

Ability to manage scale, IT executive with leadership responsibility in programs ranging to \$425M, as well as business as usual line management of 80+ FTE and Opex P&L of \$25M.

Digital transformation, Lead the transformation of traditional business products to digital platforms, reinventing delivery and building competencies and technologies to be successful at it.

Cyber Risk Management, CISO experience in large organisations building strategic, end-to-end view of cyber risk and implementing the governance and competencies to ensure it is managed

Leadership, executive presence and behaviour, building high-performing teams, experienced member of Group Technology, shared services and whole of government leadership groups

Career Summary

2018 - Now	Ingenuity	<i>Strategic IT Consultancy</i>	Director of Strategy & Advisory
2013 – 2018	Transport NSW	<i>Transport (Government)</i>	General Mgr Strategy & Architecture
2012 – 2013	Foxtel	<i>Broadcast & Digital Media</i>	Head of IS Strategy & Architecture
2011 – 2012	HT&E	<i>Diverse Media</i>	Head of Strategy & Architecture
2007 – 2011	FromHereOn	<i>Strategic IT Consultancy</i>	Principal Consultant
2005 – 2007	Avolution	<i>IT Architecture Tooling</i>	Consultant
2002 – 2005	U.T.S	<i>University Research</i>	Doctoral Researcher
2001 – 2002	COMPAQ	<i>Systems Integrator</i>	integrator & Developer
2000 – 2001	Cirrus Real-Time	<i>Defence Systems</i>	Engineer and Developer

Career Highlights

- ✓ **IT Strategy** – Developed the Group IT Strategy for transport, including reshaping the operating model and shifting from major transformation to re-focus on efficiency and agile delivery
- ✓ **Cyber Risk Management** – Built a Strategic Cyber Risk Management function, founded a Group-wide Executive Cyber Committee, as well as created a strategic business case, securing funding for a 3yr, \$36.9M program to reduce enterprise risks outside the corporate posture
- ✓ **Strategic Business Case Development and Delivery** – Built Business Cases for, as well as Sponsored, Managed delivery and Operated the services of ~\$30M programs, including:
 - Identity – delivering enterprise capability that automated user onboarding from several weeks to 2hrs, improved user experience and increased security
 - Integration – delivered enterprise services and digital platforms, the latter kept pace with monthly demand doubling. Reduced service cost by 20% and increased availability
- ✓ **Financial & Team Leadership** – full P&L responsibility for ~\$25M function with 80+ FTE, met 30% cost reduction with minimal staff loss, whilst increasing engagement and performance
- ✓ **Digital Transformation and Disruption** – Through Ingenuity we have helped incumbent businesses transform to digital and cloud-based platforms and fast customer-centric product delivery, as well as helped disruptors get from ground 0 to viable platform in minimal time



Victor Prados-Valerio

Qualifications and Training

- Master of Applied Finance and Business, Macquarie University, 2016
- Diploma of Project Management, Institute of Management Sydney, 2015
- Bachelor of Mechanical Engineering (Hons), University of Sydney, 2008

Professional Experience

Victor Prados-Valerio is a senior transport professional with experience that includes infrastructure design coordination and management, procurement, commercial, financial and technical due diligence assessments, operations and commercial modelling, design and fit out of asset maintenance facilities, operations delivery, key stakeholder management and project management. Victor has been involved in a wide variety of projects including designing upgrades for maintenance facilities, transport infrastructure design, the project management of large multi-million dollar mining projects, technical lead on major infrastructure engineering projects, supply chain and operations management, project assurance as well as systems coordinator for high profile rail projects. He has deep technical expertise and experience.

Relevant Project Experience

- **Queensland Rolling stock Manufacturing Program, CAF Contractor Proposal Advisor (and in different procurement timeframes – Independent Certifier Bid Proposal Lead)** – Advising and leading IC proposal for the QTMP project. This current procurement includes the design and manufacture in Queensland of 65 six-car electrical multiple units, a manufacturing facility, maintenance facility and the maintenance of the multiple units for 15 years.
- **Volvo Bus and Truck Australia, TfNSW Bus Specification Strategic Advice Dec 2022-current** - As part of the TfNSW bus reform including zero emission and new technology changes, TfNSW has recently been seeking market and industry feedback on proposed safety changes to the bus procurement specification. In December 2021 Volvo engaged Victor to undertake a strategic review of proposed changes from a bus fire performance standard to a rolling stock (train) related fire performance standard. Based on Victor's fleet experience particularly on TfNSW, Victor was able to provide both a technical comparison, commercial and strategic view on next steps for Volvo to provide valuable feedback to TfNSW. Victor is currently undertaking Phase 2 of this work as TfNSW has recently provided further information on their proposed changes to the bus specification.
- **Rail Fusion Alliance (QR and Downer) independent Cost Estimator (\$Conf.) 2021**– Victor is undertaking an independent review of the reasonableness of the alliance's target outturn cost (TOC), project schedule and risk/opportunity profile
- **Sydney Metro City and Southwest OTS2 Project (\$1.3b) 2019-current** – Victor is the Trains Systems Operations and Maintenance Independent Certifier on the Sydney Metro City and Southwest Project. Victor is in the core team of the Advisian Typsa Certifier (ATC) consortium which has partnered to deliver all Greenfield Packages on the Project. As OTS2/TSOM IC Technical

Relevant Skills

Engineering Design and Production

Procurement Advisory

Project Management Office

Due Diligence and Assurance

Stakeholder Management and Workshop Facilitation

Business Case and Feasibility

Fleet

Financial Control and Framework

Operations and Maintenance

Relevant Projects

Tangara Fleet Strategy and Life Cycle Costing Review

Sydney Metro City and Southwest OTS2 Project

Regional Rail, Momentum Trains Consortium

Parramatta Light Rail

Grand Paris Metro Project

Director, Victor is responsible to provide certification services on all TSOM work packages including Trains and Signalling, Passenger Screen Doors (PSDs), Communication and Control Systems and overall Systems Integration.

- **Tangara Fleet Strategy and Asset Life Cycle Costing Review, Sydney Trains (\$N/A) 2018** – Sydney Trains engaged Victor Prados-Valerio to undertake the Tangara Fleet Strategy and Asset Lifecycle Costing Review as part of a collaboration between the Fleet Maintenance and Asset Management groups within the Engineering and Maintenance Directorate. The project aimed to identify ongoing reliability and performance issues with the Tangara fleet, associated asset lifecycle costs, and then present outcomes and recommendations to the stakeholder group through a facilitated workshop. Victor was the Assignment Lead for the review. He also led the decision framework stream which involved developing the criteria for evaluating between the recommendations and scenario testing to further assist stakeholder decision making (Sydney Trains and Transport for NSW). Victor developed the stakeholder engagement strategy, led all stakeholder interviews and facilitated the stakeholder workshop. The workshop objectives were to – inform Sydney Trains stakeholders of Tangara current and future capability and strategic context of the fleet; and, provide Sydney Trains decision makers with a Tanagra fleet strategy for the short to medium term that addresses Key Result Areas and based on a asset lifecycle costing and scenarios. The workshop outcomes were then presented in a detailed report submitted to Sydney Trains and Transport for NSW stakeholders.
- **New Generation Rolling stock (NGR), Qtectic Consortium (\$4.4b) 2018** – As Independent Reviewer, Victor provided independent investigative reviews of Bombardier compliance assessment process and compliance items.
- **Adelaide Bus Purchase Project, Department of Infrastructure, Planning and Transport (DPTI) (\$400m) 2017** – The project is to procure and bring into service approximately 400 rigid and articulated buses over a ten-year period in an efficient, effective, safe and economic manner in order to meet DPTI's operational requirements and operational contractual obligations.
As Procurement Advisor, Victor led the development and coordinated review of the technical specification, supply and support requirements, and returnable schedules. Victor also developed the commercial incentive model including Key Performance Area (KRA), Key Performance Indicator (KPI) and associated abatement regime. Victor was then the Technical Advisor to the Technical sub-committee during the evaluation phase.
- **Townsville Eastern Access Rail Corridor project (TEARC), Building Queensland (BQ) (\$N/A) 2017** – TEARC is an eight-kilometre rail line from Cluden through the Townsville State Development Area (TSDA) to the Port of Townsville. As Business Case Lead Peer Reviewer, Victor was engaged to undertake independent peer review services for the technical (engineering) scope of work for the business case which was predominately developed by BQ's technical advisors.
- Parramatta Light Rail, Great River City Light Rail Consortium (\$2.4b) 2018-current
- Manager Rolling Stock and Depot, Transport for NSW, Sydney Metro (February 2015 – June 2017)
- Various other local and international engineering project management and fleet engineering projects and roles.