Australian Gas Networks

Attachment 9.9

IT Investment Plan

Final Plan 2023/24 – 2027/28

July 2022

Contents

Executive summary

As a gas network service provider, we must understand and meet rapidly changing customer needs. This means building a flexible and responsive business that seeks to improve productivity and enhance the way we manage the vital community assets we own. To do this, we must invest in information technology (IT) that allows us manage and monitor our assets, meet our obligations and provide consistent and responsive customer service.

This plan outlines the key IT investments proposed for the next access arrangement (AA) period (July 2023 to June 2028). The plan covers traditional IT such as enterprise applications, IT hardware, corporate data and managed infrastructure, as well as the operational technology (OT) systems for our Supervisory Control and Data Acquisition (SCADA).

Our IT and OT systems provide the following functionality:

- managing market transactions;
- issuing and controlling field work;
- monitoring and recording gas deliveries to customer sites;
- facilitating emergency response services;
- monitoring network condition;
- analysing network capacity;
- recording the configuration and location of assets;
- providing information to our customers and the community; and
- interacting with our customers.

Combined, these functions allow us to provide a safe, reliable and affordable gas supply to our customers.

Like many utilities globally, we are responding to the challenges brought about by climate change and the need to reduce carbon emissions, changes in customer preferences, new technology, rising cyber threats, energy efficiency and the price competitiveness of energy resources. These challenges are changing the way gas is used across our network.

In 2017, AGN, Multinet Gas Networks and Dampier Bunbury Pipeline came together to form Australian Gas Infrastructure Group (AGIG). AGIG operates across multiple Australian jurisdictions, bringing together a wealth of expertise and experience that allows its various businesses to share knowledge, information and resources for the benefit of customers.

AGIG's scale and breadth of resources presents opportunity to deliver benefits for AGN's customers in Victoria and Albury. Not least, it allows us to review and rationalise our IT systems and infrastructure across the group, moving to shared platforms where practicable. We are well down the path on the IT rationalisation journey. During the current AA period (January 2018 to December 2022) we have completed a program to replace state-based IT systems with enterprise-wide equivalents, which are being used to serve all AGN network businesses. We have also started a program to rationalise our IT systems and infrastructure across AGIG where possible.

Under our AGIG IT Strategy, launched in 2019, we will consolidate several IT solutions, including for example moving all AGIG businesses on to a single enterprise resource planning (ERP) system. The 'One ERP' initiative is expected to be completed by 2026 and will achieve an aligned finance and procurement environment across AGIG, which will provide supporting tools and standardised processes in line with good industry practice.

Further to this, the AGIG IT Strategy in the next AA period includes transitioning key operational technology systems from AGN's current third-party operational partner (APA) to an in-house AGN Operations function. This AGN Transition program will incorporate roll out of the enterprise-wide SAP S4/HANA ERP solution for the new AGN Operations entity.

Our aim is to develop a stable and aligned IT environment which will leverage economies of scale across all of our entities. Further we will enhance collaboration with customers and across the business, improve utilisation of data and reporting, and appropriately manage cyber risks.

By the end of the current AA period, we will have invested $47[1] million in capital expenditure on our IT systems, including:

- updates to our critical applications under a more efficient, extended upgrade cadence in line with accepted industry practice and manufacturer requirements;
- system enhancements to meet new regulatory requirements, with the most significant being those for life support customers;
- major upgrades to our geospatial information system;
- the substantial completion of a field mobility integration project;
- the roll-out of a core business intelligence platform;
- Phase 1 of our "One ERP" project;
- website enhancements; and
- cyber security capability improvements.

In the next AA period, we propose to invest $71 million in our IT systems. This is an uplift of $24 million compared to the $47 million we are forecast to spend in the current AA period. The uplift is largely driven by a significant program of works required to transition and bring in-house a number of our core IT systems toward the end of the period ($22 million).

We will invest $42 million over the period to maintain currency and deliver ongoing system improvements for our existing IT systems, further uplift our cyber security capabilities and to replace end-of-life IT devices and infrastructure.

We are also proposing to invest $6 million to:

- support remote and digital metering ($1 million); and
- improve our information management capability ($2 million); and
- provide a better and more accessible digital customer experience ($3 million).

The following table shows the split of recurrent and non-recurrent IT investment forecast for the next AA period, compared with the total investment expected to be undertaken by the end of the current AA period (January 2018 to December 2022).

[1] Unless otherwise stated, all costs in this document are expressed in real 2021 dollars and excludes overheads and real cost escalation.

Proposed IT investment $'000 2021

IT program of work	2023/24	2024/25	2025/26	2026/27	2027/28	Total next AA period	Total current AA period
Maintain current levels of IT services (recurrent)	10,173	8,758	9,690	6,802	7,040	42,462	39,008
Efficient and effective service delivery (non-recurrent)	3,726	1,857	909	10,306	11,495	28,296	8,200
Total	**13,899**	**10,614**	**10,599**	**17,108**	**18,535**	**70,755**	**47,208**

Tables may not sum due to rounding

The IT investments in this plan are designed to maintain the existing IT environment and services, reduce a range of IT safety and security risks, improve the service experience of our customers and transition a number of core systems in line with our AGIG IT Strategy and other key business strategies. We will renew our critical applications and IT infrastructure in line with good industry practice, and implement a number of system improvements that will further us on our journey to transform the AGIG-wide IT environment.

The investment proposed in this plan will build on our digital customer service capabilities by providing targeted digital customer experience improvements tested through our customer engagement program. This will ensure we can continue to meet the customer service expectations of our customers and stakeholders, by investing in the digital services they value and prioritise.

These outcomes align with our vision objectives to deliver quality services that our customers value, to be recognised as a good employer and to remain sustainably cost efficient. More significantly, our proposed investments are informed by and are aligned with what our customers have told us. They expect us to get the basics right, with their top three priorities being price/affordability, reliability of supply, and maintaining public safety. They also want affordable and accessible services.

The end-to-end program of work was developed and will be delivered using a formal governance framework consistent with the industry standard business and technology project management methodology. The overall program of work is larger than that undertaken over the current AA period, and has been staged to balance the resource profile and allow for the most efficient and successful delivery.

This IT Investment Plan sets out the context for our IT investment (Section 1), our plan for the next AA period (Section 2) and consistency with the National Gas Rules (Section 3).

1. Context

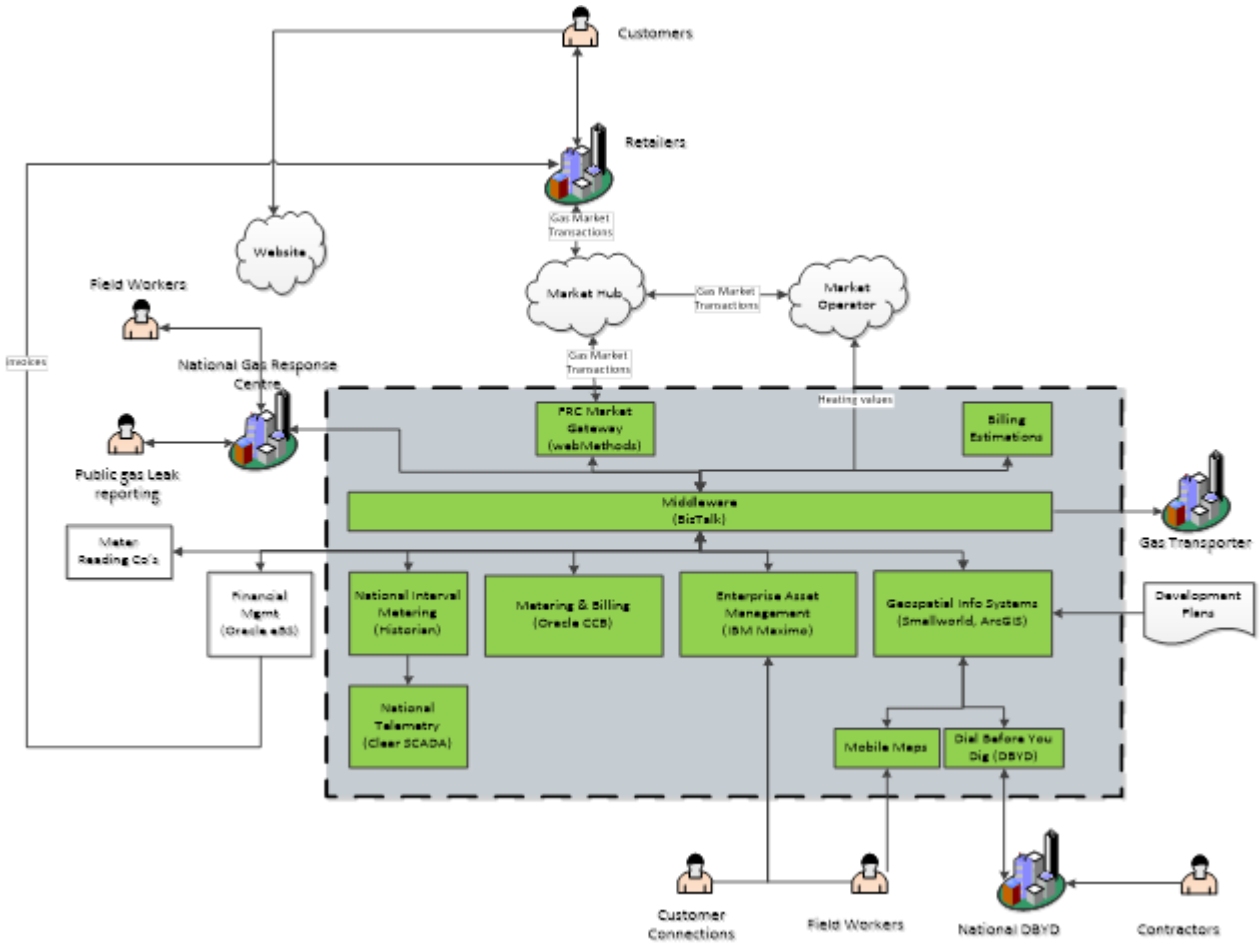
1.1. Core IT architecture

Our IT systems provide the following functionality to allow us to deliver a safe and reliable supply gas to our customers:

- managing market transactions;
- issuing and controlling field work;
- monitoring and recording gas deliveries to customer sites;
- facilitating emergency response services;
- monitoring network condition;
- analysing network capacity;
- recording the configuration and location of assets;
- providing information to our customers and the community; and
- interacting with our customers.

We operate and maintain a highly integrated IT architecture as shown in Figure 1.1.

Figure 1.1: AGN IT infrastructure



Our key business systems are outlined in Table 1.1.

Table 1.1: Overview of key IT and OT business systems

System	Functionality
Geospatial Information System (GE Smallworld, ARCGis)	Provides management of map-based (Cadastre), delivery point lifecycles, network configuration and connectivity, emergency response and mains extension and replacement planning
Networks Interval Metering Data System (Historian OsiPi)	Provides storage of SCADA data and billing information
Billing estimation model (APA custom)	Provides delivery point forward estimates, interval consumer management service and base load and TSF calculations
Dial Before You Dig (Mipela)	Provides management of national Dial Before You Dig enquiries and asset location notifications
Mobile maps (LatLonGO)	Provides the capability to view GIS maps on mobile devices, enabling a geospatial understanding of asset locations in the field
Metering & billing system (Oracle CC&B)	Provides transaction workflows, meter readings and delivery point billing
Enterprise asset management (IBM Maximo)	Provides planning, dispatching work, job completion details, delivery point status management, preventative maintenance, contractor payment and meter management services
FRC market gateway (Web Methods)	Sends and receives order requests, meter fixes and customer transfer requests
Telemetry system (Clear SCADA)	Provides real time data and alarms to enable effective remote monitoring of critical assets
Business intelligence platform (Power BI)	Provide the technology platform to combine multiple disparate sources of data to facilitate analysis and inform business management decisions
Middleware (BizTalk)	Enables tightly controlled data integration between multiple enterprise applications
Field data/mobility systems (including GSA Lite, SmartIQ, SFS & PowerApps)	Provides capability for real time data capture in the field to drive business efficiency and provision of mobility applications improving safety, compliance and customer service outcomes
Website/web	Portal system
Enterprise resource planning (S4/HANA)	Provides the platform for all accounting, budgeting and planning and tax functionality

We have a national program to coordinate development and maintenance of our IT systems across all jurisdictions in which we operate. This achieves economies of scale through streamlined implementation and business processes, standardised data models and data migration techniques, and by utilising existing hardware platforms.

Major projects initiated during the current AA period include upgrading our geospatial information systems (GIS), mobility integration and developing a business intelligence platform. These core systems allow us to leverage efficiencies in business operations through better data consolidation, standardisation of national processes and task automation.

In 2017 AGN, Multinet Gas Networks (MGN) and Dampier to Bunbury (DBP) came together as a group, to form Australian Gas Infrastructure Group (AGIG). AGIG inherited a portfolio of disparate systems across each of these entities at varying stages of their lifecycle. In late 2019, following MGN's successful IT separation from United Energy, we developed the AGIG IT Strategy and Roadmap. The Roadmap sets out a two-phased approach to stabilise and consolidate the technology environment across AGIG's businesses aimed at leveraging economies of scale and standardising and simplifying processes across the group. The program commenced in 2020 and continues through to the end of the next AA period.

We coordinate many of our programs, such as software application upgrades and updates, infrastructure renewal and cyber security uplift, across AGIG entities or across AGN businesses. Our application renewal program seeks to maintain our existing suite of IT applications at an acceptable industry standard by scheduling updates so that the ongoing IT renewal program is delivered in an efficient and seamless manner.

Given the national coordination approach, the majority of IT capex required to deliver the program of work for Victoria and Albury over the next AA period has been estimated in total (across AGIG or across all AGN distribution networks) and then allocated to the Victoria and Albury gas distribution business on the most appropriate basis. This is consistent with methods adopted in previous regulatory submissions, and has previously been endorsed by the AER[2]. Successful and efficient delivery of the national applications renewal program requires approval of this approach in all jurisdictions.

1.2. Vision objectives

Our vision is to be the leading gas infrastructure business in Australia. To help achieve this vision we have a set of vision objectives, which are to deliver for customers in terms of safety, reliability and customer service, be a good employer, and sustainably cost efficient.

Having fit for purpose and efficient IT systems plays a big part in achieving these vision objectives. IT systems support the day-to-day running of the business and allow us to operate the gas network safely and reliably. The running costs of IT are also a direct contributor to our efficiency. Rapid growth in the IT landscape requires a vigilant, continuous improvement approach to ensure IT systems performance is 'fit-for-purpose', robust, resilient to external threats and delivered at the lowest possible cost.

This IT investment plan is designed to support our vision objectives. In particular our IT investments over the next AA period will:

- Deliver for customers:
  - We will maintain and update our critical business systems in line with manufacturer requirements and further uplift our cyber capabilities to mitigate the substantial risks associated with IT failure or security breaches of our critical business systems. This in turn minimises safety risks to customers and employees, as well as unplanned outages and disruption of supply for customers.
  - We will improve data capture, collation and analysis to ensure the visibility and mitigation of safety and reliability risks and better enable our business to manage assets in line with our agreed risk profile (e.g. more real time information on asset components identified as showing signs of deteriorating reliability will allow this information to be integrated into the maintenance/replacement prioritisation and scheduling processes).

- We will improve digital customer services to meet the expectations of our customers, allowing them to interact with us in more ways and get timely access to information about their service and any network activities that might impact them.

- Help us be a good employer:
  - Continued alignment of our IT systems and infrastructure across AGIG will ensure our employees have access to the right tools and systems to undertake their work. This will allow employees to effectively communicate and collaborate across the group, reduce employee frustration and the potential for errors and support employee engagement and skills development.
- Keep us sustainably cost efficient:
  - By maintaining and updating our critical business systems in line with manufacturer requirements we will avoid significantly higher overall lifecycle costs (e.g. needing to hire expensive IT specialists for urgent work to correct system issues) and reduce the potential for compliance breaches and the associated financial penalties and costs (e.g. related to compromised staff and customer data).
  - By maintaining and updating our critical business systems as part of a nationally coordinated program we will achieve economies of scale and scope.
  - By investing in new systems and automated processes, we will provide tangible economic benefits to customers including, for example, through process efficiencies (reducing time and effort) and increasing project optimisation.

1.3. Stakeholder engagement

We are committed to operating our networks in a manner consistent with the long-term interests of our customers. To facilitate this, we conduct regular engagement to understand and respond to the priorities of our customers and stakeholders. Feedback from customers and stakeholders is built into our asset management considerations, and is an important input when developing and reviewing our expenditure programs.

Customer preferences and expectations have been explored and assessed through a series of independently facilitated workshops. All documentation from this extensive engagement is provided on our dedicated engagement website, Gas Matters[3].

Across all three of the Victorian gas distribution networks, we found customers' key priorities are affordability, safety and reliability, customer service and preparing for the future.

When customers interact with us they expect us to be responsive and provide effective resolution. While customers prefer phone for priority services like a gas leak, digital communications (SMS), which are not currently available, were preferred for updates on outages and new connections. SMS for communications appealed to many customers for its convenience and the ability to receive instant notifications. It is also a highly valued communication tool by CALD customers and senior Australians. Customers also told us they are looking for new digital ways to manage their gas usage and reduce their bills.

This plan, and the proposed IT projects outlined in it, are designed primarily to maintain the existing IT environment and services, while mitigating a range of IT safety and security risks, and transitioning core operational systems which are currently part of an outsourced arrangement. This

[3] https://gasmatters.agig.com.au/victorian-engagement-plan

in turn allows us to operate the network consistent with technical specifications, safety standards and compliance requirements, thereby helping maintain a safe and reliable service to customers.

We have developed a digital customer experience program for the next AA period to deliver on customer needs for more online and SMS functionality for interacting with us. A small part of our IT plans will support the introduction of remote metering and a digital metering trial.

Knowing affordability is a top priority, we will endeavour to deliver the IT projects outlined by this plan for the lowest sustainable cost, thereby minimising impact on distribution network tariffs.

Further information on our stakeholder engagement program is available in Chapter 5 of our Victoria and Albury Final Plan.

1.4. Basis of cost estimates

Cost forecasts for IT programs have been developed using a bottom-up methodology utilising a combination of tenders, historical costs for similar programs of work delivered, vendor cost estimates or advice from independent expert consultants.

All costs presented in this plan are direct unescalated dollars of June 2021 (i.e. excluding overheads and escalation) unless otherwise labelled.

2. Our IT investment plan

2.1. Overview

The program of work planned for the next AA period is designed to:

- maintain the current levels of IT services; and
- enable efficient and effective delivery of services in line with our customers' expectations

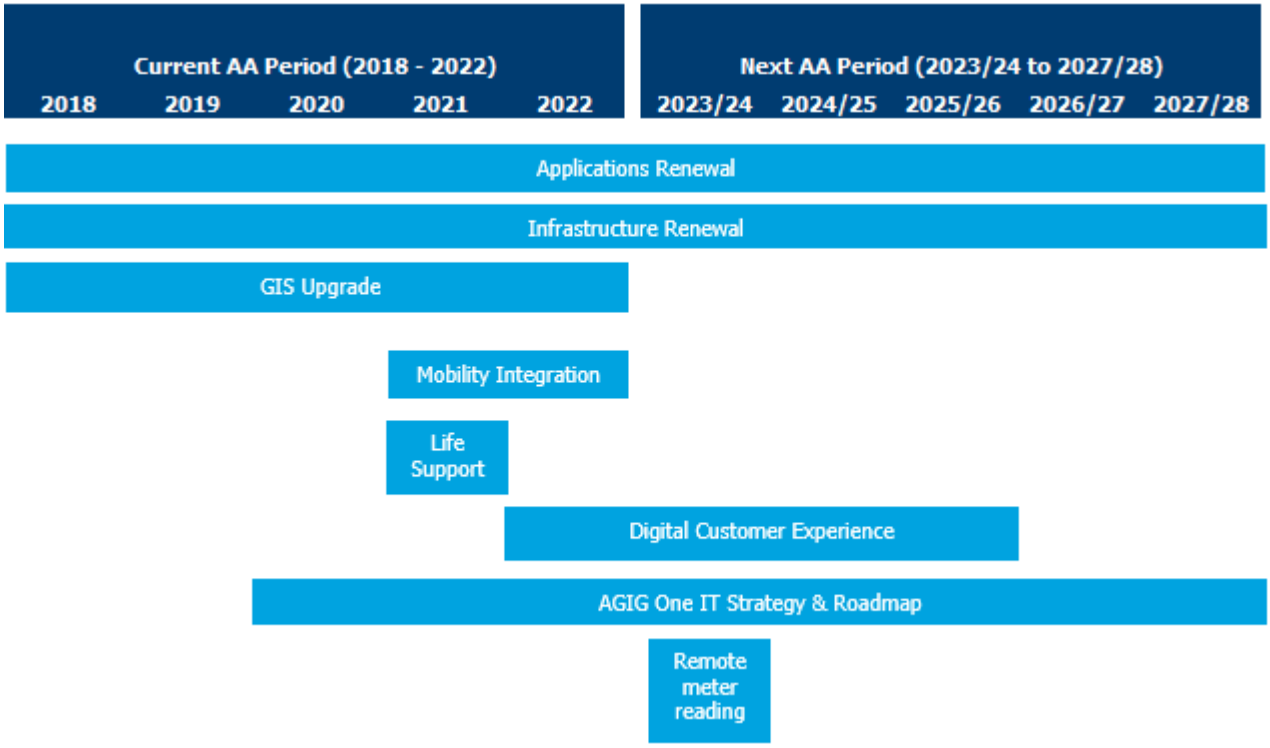
Much of our expenditure to maintain the current levels of IT services is recurrent in nature. This is because it involves updating/renewing existing software applications that retain substantially the same services, functionalities, capabilities and market benefits as existed prior to the updates. From time to time, large investment to replace or transition a core system/s is required. Toward the end of the next AA period, we have a significant program of work to transition and in-house a number of our core operational technology systems.

Other IT expenditure to enable efficient and effective delivery of services to customers, including offering new digital services in line with their expectations, is non-recurrent. This is because it involves one-off investment in new systems to allow us to operate the network and the broader business.

The focus of the national program of work across AGN networks has now moved to leveraging the existing systems and completing delivery of new systems. This will provide a deliverable IT program that allows us to innovate and improve. We will also continue alignment of our IT systems and infrastructure across AGIG.

Figure 2.1 shows the timeline of the full program of work, showing the projects being completed in the current period, as well as those planned for the next AA period.

Figure 2.1: Timeline of the IT program work planned for the next 5 year period



2.1.1. Key themes

The projects and programs planned for the next five year period are interconnected and together target six key overarching themes or outcomes. Figure 2.2 describes each of the six themes and Figure 2.3 shows how the program is connected and targeted at the six key themes and outcomes. Further to this, Appendix A explains how each program contributes to achieving each theme or outcome.

Figure 2.2: Overarching themes

Overarching themes of our IT Investment

Single Source of Truth

Encapsulates a central position for data and reduces the complexity of the current technology environment.

Helps manage risk of data quality issues impacting business decisions.

The consolidation of multiple integration touch points and applications simplifies the complexity previously encountered, and reduces the data integrity risks within regulatory, customer and business reporting.

Standard Business Processes

Standardised process model can be implemented to enable efficiency across the group including the management and use of applications, systems and communication platforms.

Rationalisation of applications across the group will lay the foundations for the ease of future service integrations whose implementations will yield economies of scale, improved customer service, efficiency, and reduced costs.

Compliance and Risk Management

Compliance with regulatory bodies and standards is of high priority to ensure duty of care for business, employees, and customers.

Such initiatives closely align with strong risk management delivery to ensure any risks to business success and efficiency, customer service or platform delivery are mitigated.

Of particular importance is the recent critical infrastructure/ cyber security legislation.

Shared Resource Efficiencies

Technology and business resources consolidated into one central location allows for reduced system complexity and enables efficiencies of scale to be achieved across the Group.

Sharing business and system resources enables sharing the fixed cost so reducing the overall costs to servicing our customers across the Group.

Rationalisation of applications across the group yields access to efficient resource utilisation, in turn providing improved customer delivery.

Strategic Imperative

By supporting and being part of a cohesive Group wide business and technology strategy, the initiatives in turn support the achievement of broader benefits to customers.

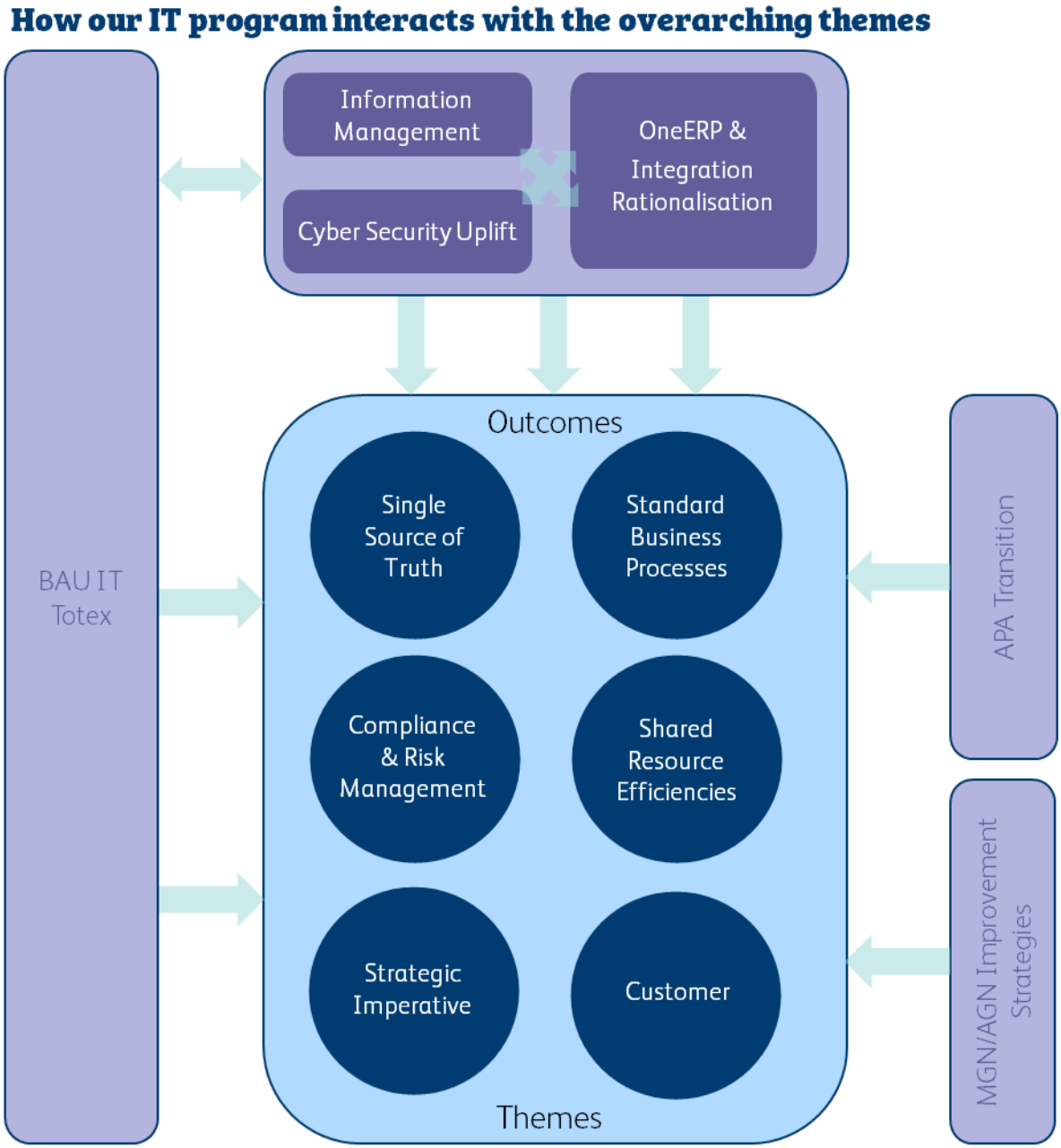
By establishing a link between the initiatives and the overall strategy we accentuate the need for the projects to work collectively to achieve the strategic goals.

Customer

The initiatives contribute to the overall risk management position of the Group, as well as enabling the provision of more timely and accurate information to customers and potential reduction in prices from efficiencies within the business.

With customers sustaining a top priority position in the Group's operations, it is imperative to reflect customer and stakeholder needs throughout the IT landscape.

Figure 2.3: Summary of program and themes



2.1.2. Summary of spend

IT capex in the next AA period is projected to be $71 million. This is $24 million more than the $47 million forecast for the current AA period. This is largely driven by a significant program of works required to transition and bring in-house a number of our core IT systems toward the end of the period.

Table 2.1 shows the split of recurrent and non-recurrent IT investment forecast for the next AA period, and a comparison of the total investment expected to be undertaken by the end of the current AA period (January 2018 to December 2022).

Table 2.1: Proposed IT investment $'000 2021

IT program of work	2023/24	2024/25	2025/26	2026/27	2027/28	Total next AA period	Total current AA period
Maintain current levels of IT services (recurrent)	10,173	8,758	9,690	6,802	7,040	42,462	39,008
Efficient and effective service delivery (non-recurrent)	3,726	1,857	909	10,306	11,495	28,293	8,200
Total	**13,899**	**10,614**	**10,599**	**17,108**	**18,535**	**70,755**	**47,208**

Tables may not sum due to rounding

These categories of recurrent and non-recurrent investment, and the projects included in each, are discussed in the following sections.

2.2. Maintaining current levels of service

IT traditionally supports the operation of our gas networks by procuring and maintaining hardware and software systems used to collect, organise and store business and network information. Recurrent 'stay in business' investment is required to ensure we maintain the current levels of IT services and mitigate the security and integrity risks associated with our core business systems. This helps mitigate any network risk that could arise from an IT system failure.

Maintaining current levels of services is largely achieved via our national, recurrent IT applications and infrastructure renewal programs. These applications and infrastructure renewal programs deliver a prudent cycle of major and minor system upgrades and infrastructure replacements as required.

Our cyber security activities support the mitigation of security risks. We will continue our program to uplift our cyber capabilities. This is critically important given the ever changing nature of cyber threats we face and the importance of ensuring that critical infrastructure in Australia, such as the networks and pipelines we own and operate, are resilient to cyber attacks.

2.2.1. Forecast recurrent IT capex overview

Over the next AA period we propose to invest $42 million on recurrent initiatives. This is consistent with the $39 million we expect to invest in the current AA period, and accounts for 60% of the total IT capex forecast.

Table 2.2 profiles the forecast recurrent IT investment over the next AA period and includes a comparison with the total recurrent IT investment we expect to make by the end of the current AA period.

Table 2.2: Proposed recurrent IT investment $'000 2021

Recurrent expenditure	2023/24	2024/25	2025/26	2026/27	2027/28	Total next AA period	Total current AA period
Applications renewal	2,011	4,684	4,564	2,363	3,026	16,648	11,265
GIS	928	294	1,587	1,587	294	4,690	15,484
Mobility	1,902	1,760	1,295	1,295	1,295	7,546	9,398
AGIG Strategy & Roadmap - Cyber	1,033	1,175	1,043	881	881	5,012	-
Infrastructure renewal	4,298	845	1,203	677	1,544	8,566	2,861
Total	**10,173**	**8,758**	**9,690**	**6,802**	**7,040**	**42,462**	**39,008**

The following sections provide an overview of the applications and infrastructure renewal programs.

2.2.1.1. Applications renewal (including GIS & Mobility) (V.22.IT)

The applications renewal program is recurrent 'stay in business' expenditure that involves periodic updates to critical business software applications, in particular, vendor version updates. The updates ensure we have reliable, resilient, compliant and efficient business processes and systems, which preserves the ongoing integrity of our services. It includes ensuring any known issues, including security vulnerabilities, can be addressed.

Benefits of the applications renewal program include increased scalability, flexibility and reliability, while also ensuring we continue to meet our regulatory and customer obligations. These updates are recurrent in nature as they result in the software retaining substantially the same services, functionalities, capabilities and market benefits.

Applications renewal is a national IT program. It delivers major and minor system upgrades and replacements as required for the following applications:

- GIS
- Networks interval metering data system
- Billing estimation model
- Dial Before You Dig
- Mobile maps
- Metering & billing system
- Enterprise asset management
- FRC market gateway
- Telemetry system
- Business intelligence platform
- Middleware - BizTalk
- Field data/mobility systems
- ERP system
- HCM system

In the current AA period we have incurred lower costs on the applications renewal program than anticipated. This is due to a combination of efficiency improvements and reprioritisation of resources to focus on critical updates. In summary, during the current AA period we have:

- prioritised technical and business resources to focus on the customer-critical SmallWorld GIS system update. This application was significantly outdated and required substantially more effort to bring it up to standard than we originally anticipated, having not been updated for many years, with vendor support having ceased in 2010;

- changed the originally anticipated upgrade cadence. The original profile of works was based on a current minus one (n-1)[4] rate of change. During delivery of upgrade projects it we realised n-1 could be achieved with fewer upgrades. This was verified against vendor technology roadmaps and allowed us to defer some investment;
- optimised works under the application lifecycle framework; and
- achieved efficiencies by finding new and consolidating existing service providers, as well as negotiating preferable procurement rates.

As a result, our expenditure during the current AA period is expected to be around $11 million, compared to the $25 million originally forecast.

In the next AA period, we will continue the good practice of updating our critical IT systems on an ongoing basis via our applications renewal program. The applications renewal expenditure forecast for the next AA period is $29 million.

The $29 million forecast for the next AA period is an uplift compared with the $11 million current period actuals due to the current period efficiencies discussed above, as well as inclusion of updates for both GIS and Mobility systems moving forward. We therefore consider the forecast for the next AA period represents a prudent and deliverable program that more closely reflects the likely ongoing cost of maintaining our critical applications. Table 2.3 shows the expenditure profile by application.

Table 2.3: Proposed applications renewal program investment $'000 2021

Applications renewal	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Geospatial Information System Upgrade	-	294	1,587	1,587	294	3,761
Geospatial Information System Conflation	928	-	-	-	-	928
Dial Before You Dig	-	180	180	-	180	540
Enterprise Asset Management	-	-	784	1,569	784	3,137
FRC Gateway (Webmethods)	199	398	199	199	398	1,392
Licenses Growth	200	214	230	238	238	1,120
Meter & Billing	1,319	2,337	1,722	-	1,133	6,510
Middleware (Biztalk)	-	930	930	-	-	1,860
Mobility Upgrade	293	293	293	293	293	1,467
Mobility Applications	1,609	1,467	1,001	1,001	1,001	6,080
Business Intelligence	293	293	293	293	293	1,467
HCM refresh	-	332	226	64	-	622
Total	**4,842**	**6,738**	**7,445**	**5,244**	**4,615**	**28,884**

[4] n-1 Refers to the specific software version number associated with a specific vendor software, where "n" represents the current version of the released and supported software, and -1 refers to an older version of the same vendor software which would still be supported. This ensures ongoing vendor support and mitigates the risk of security breaches, system outages and potential regulatory non-compliance. This enables appropriate levels of operation, data integrity and inter-operability between various vendor-provided technologies

Totals may not sum due to rounding

The applications renewal program proposed for the next AA period deliver a number of benefits. In summary the investment program will:

- substantially reduce the risk of system(s) failing or the integration between systems not operating as intended;
- ensure upgraded applications continue to provide required integrated functionality to support business processes;
- manage alignment with other co-existing applications;
- maintain systems security, protecting information assets from confidentiality, integrity and availability risks;
- improve software performance and efficiency and stability of IT systems over time;
- provide for the continuation of technology vendor support (this requires movement to a recent version of the software);
- improve the security and integrity of business information as vendors place greater emphasis on these solutions; and
- enable compliance with updated market requirements.

This applications renewal program has been designed using an industry-standard application lifecycle management methodology and a practical framework to determine upgrade timelines and priorities. Estimation assumes version upgrades are applied every three years. This encompasses a combination of major and minor upgrades, and reflects vendor technology roadmaps.

It is particularly important for successful transition that all application renewals are completed and up to date. This will minimise application risk and ensure appropriate vendor support for the Transition.

Further detail on application renewals is available in the Apps Renewals Business Case (V.22.IT) provided in Attachment 9.14 to the Final Plan.

2.2.1.2. Cyber Security Uplift (V.24.IT)

The cyber security program is a continuation of activities underway to uplift our cyber capabilities across AGIG to ultimately achieve and maintain MIL 3 maturity as measured against the Australian Energy Sector Cyber Security Framework (AESCSF) which sets out good practice in cyber security management for our industry.

In particular, the capex activities in the next AA period include the following key initiatives:

- Workforce management – onboard additional internal resources to support the establishment and operationalisation of roadmap initiatives and subsequent BAU activities.
- Incident management – establish and implement an organisational incident management framework to detect, analyse, and respond to cybersecurity events and build resilience.
- Identity and access management – establish and implement a comprehensive identity and access management framework to control access to AGIG's assets and protect the IT and OT infrastructures.
- Threat and vulnerability management – establish and implement an organisational threat and vulnerability program to detect, identify, analyse, manage and respond to threats and vulnerabilities.
- Situational awareness – develop a framework to manage situational awareness capabilities to form a common operating picture.

- Third party risk management – establish and implement a third party risk management framework to manage the cybersecurity risks associated with services and assets that are dependent on external entities.

These improvements will mitigate cyber and productivity impact risks in line with the MIL3 maturity level and ensure that we meet regulatory compliance obligations of the Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 and cyber security related obligations under our Foreign Investment Review Board (FIRB) conditions.

The cyber security program will cost $5 million capex in the next AA period, and is also supported by a number of opex initiatives which are further outlined in the AGIG IT Strategy & Roadmap business case.

Our Cyber Security program is included in the AGIG IT Strategy & Roadmap business case (V.24.IT) provided in Attachment 9.14 IT Business Cases.

2.2.1.3. Infrastructure renewals (V.23.IT)

The infrastructure renewal program is a 'stay in business' program that involves periodic renewal of network and end-user devices such as laptops, audio/visual equipment, telephony, internet links and servers that support critical business functions. The updates ensure we continue to maintain reliable, resilient, compliant and efficient network and end-user devices, and preserve the ongoing integrity of our services. It includes ensuring that any known issues, including security vulnerabilities, can be addressed. In the current AA period, end-user equipment management has been centralised across AGIG realising benefits of consistent device management and more competitive pricing on higher volume orders.

An important change in the current AA period is the implementation of a shared AGIG data centre. The shared data centre was first built during the separation of MGN IT from United Energy. This platform has since been utilised to support all of AGIG's corporate IT (which was previously spread across a number of third party data centres). This is a key foundational initiative under the AGIG IT Strategy and has supported the creation of a stable and aligned IT environment across AGIG's entities.

The forecast cost of infrastructure renewal over the next AA period is $9 million. This investment provides for AGN Victoria and Albury's allocation of shared infrastructure and direct costs of AGN office end user equipment (as allocated to Victoria and Albury).

Forecast expenditure on IT infrastructure renewals in the next access arrangement period is approximately $6 million higher than in the current period, as shown in Table 1.12. This uplift is due to the insourcing of IT infrastructure works. Infrastructure was previously provided through a service agreement with an outsourced provider. In 2021, we decided to deliver our own IT infrastructure program in house as part of the broader program to deliver a single national consolidated IT platform. This resulted in a move of the costs associated with IT infrastructure from opex to capex. This new arrangement is reflected in our base year opex.

Table 2.4 shows the expenditure profile by infrastructure.

Table 2.4: Proposed infrastructure renewal program investment $'000 2021

Infrastructure renewal	2023/24	2024/25	2025/26	2026/27	2027/28	Total
OS Currency	677	-	340	249	249	1,515
Active Directory Consolidation and functional uplift	84	-	-	-	73	157
Data Centre Strategy/ Upgrade/Replacement and Cloud Migration	677	-	340	249	249	1,515
Standard Operating Environment (SOE) image upgrade & deployment	183	-	-	-	183	366
SQL DB Currency	-	370	-	-	-	370
Collaboration Upgrades (SharePoint, MS Teams)	-	196	-	-	-	196
Nutanix Platform Replacement	1,408	-	316	-	654	2,378
Core network strategy and carrier upgrade/replacement	456	-	-	-	-	456
Citrix Farm Upgrade	417	-	-	-	-	417
Infrastructure Tools Replacement	283	137	87	-	-	507
Office Equipment Replacements	112	141	120	180	137	690
Total	**4,297**	**844**	**1,203**	**678**	**1,545**	**8,567**

2.3. Enabling effective and efficient delivery of services to customers

Fundamental to our vision objective of remaining sustainably cost efficient is our ability to identify ways of delivering services at a lower cost or in a more efficient manner. IT investments play a major role in this, as technological developments can often help us manage the network or provide customer service more efficiently.

We therefore adopt a continuous improvement approach in our technology environment, seeking to invest in IT improvements where practicable. Typically these investments involve developing new IT systems undertaking large scale overhauls of existing systems, meaning the expenditure is non-recurrent.

Our IT improvement investments aim to:

- reduce the cost of asset management – we look to drive further efficiencies in current business activities through improvements in asset management, including by introducing more sophisticated tools for planning expansion and replacement programs and for network operations;
- improve our analytical capability – we will build our analytical capability to better connect operational data and information with core business data by improving the collation, integration

and organisation of data and information from multiple systems and developing tools to facilitate data and information access and interpretation for forecasting and operational insights;

- increase efficiency through greater automation and alignment of our processes – we will continue to develop our field mobility and process automation programs to further automate current manual tasks and allow improved monitoring, more accurate data and information capture and improved integration of data and information into necessary systems; and
- meet changing customer expectations – we will upgrade our systems to enable us to deliver a greater number of customer services digitally in line with customer expectations of a modern utility and insights gained through our recent customer workshops.

Our recent focus has been on the potential for IT to enable more efficient operations. In the current AA period, we commenced and implemented standalone IT projects to improve our field mobility and to establish a business intelligence platform. We will continue to leverage, develop and build these capabilities over subsequent AA periods.

2.3.1. Forecast non-recurrent IT capex overview

Over the next AA period we propose to spend $28 million on non-recurrent initiatives. The new IT initiatives planned for the next AA period are:

- new customer digital services to deliver more of our customer services digitally;
- system enhancements to support remote meter reading and digital metering trial;
- improved Information Management to ensure we can continue to meet our information and reporting requirements in an efficient way; and
- transition and bring in-house a number of core IT systems toward the end of the period .

Table 2.5 profiles the forecast non-recurrent IT investment over the next AA period and includes a comparison with the total non-recurrent IT investment we expect to make by the end of the current AA period.

Table 2.5: Proposed non-recurrent IT investment $'000 2021

Non-recurrent expenditure	2023/24	2024/25	2025/26	2026/27	2027/28	Total next AA period	Total current AA period
Digital Customer Experience	1,425	885	909	-	-	3,220	52
Remote and Digital metering	1,251	-	-	-	-	1,251	*n/a
AGIG Strategy & Roadmap - Applications	1,050	971	-	10,306	11,495	23,822	7,018
Life Support	-	-	-	-	-	-	1,130
Total	**3,726**	**1,857**	**909**	**10,306**	**11,495**	**28,293**	**8,200**

* Note these non-recurrent initiatives are new for the next AA period, therefore a line-by-line comparison of projects between periods is not applicable.

Totals may not sum due to rounding

The following sections provide an overview of the non-recurrent IT investment initiatives.

2.3.1.1. Digital customer experience (V.21.S)

This project involves responding to customer needs to enhance the scope of digital communication with our customers. We will develop a flexible customer relationship management (CRM) solution with some SMS and self-service capability. In particular, this includes:

- catering for tailored responsive support, confidentiality and proactive reporting for life support and vulnerable customer segments. This is driven by increased customer needs as well as an increasing regulatory expectation of communication with vulnerable customers (accelerated in more recent times due to COVID-19); and
- updating customer communications and notification from the predominantly one-way, highly manual and paper-based processes, to digital communication. This is consistent with regulatory and customer expectations. The new digital services will increase the likelihood customers are aware of information relating to works at their premises or in their community, enable our customers to engage with us as and when they want, and ensure contemporary data security and privacy standards are met.

This CRM solution will cost approximately $3 million in capex[5] and will be fully delivered in the next access arrangement period.

For more detail on the new digital customer services, refer to business case V.21.S provided in Attachment 9.14 IT Business Cases.

2.3.1.2. Remote-read and Digital Metering (Attachment 9.8)

Our Meter Replacement Plan includes a remote digital metering reading program that includes the following initiatives:

- installing digital meters at 4,693 sites identified as inaccessible or difficult/dangerous to access;
- providing for an estimated 2,500 customers to opt-in to digital metering as desired[6]; and
- trialling digital meters in new estates for an estimated 2,500 customers, allowing us to explore the use and communication of more granular (i.e. daily) consumption information for both customers and our business.

This project involves system enhancements required to support the collection, storage and integration of meter data from the new remote-read meters. It assumes IT integration into Oracle CC&B from a vendor head-end system of meter index reads of the same format and frequency currently collected via manual, on foot meter reading (i.e. no interval data to be integrated into CC&B).

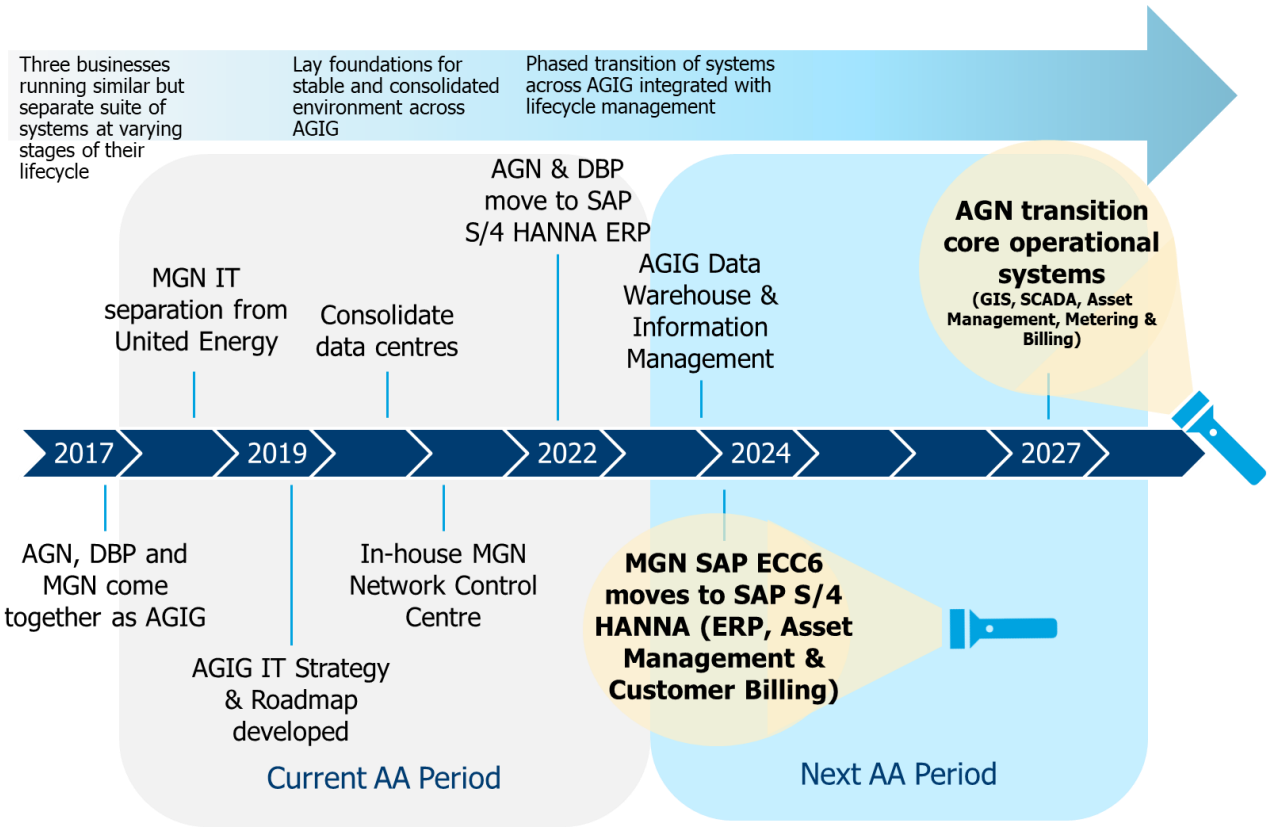
This solution will cost approximately $1 million in capex and will be fully delivered in the next access arrangement period.

For more detail on the remote-read and digital metering, refer to Attachment 9.8 Meter Replacement Plan.

[5] This project also requires $1.4 million in non-recurrent opex.

[6] In this case, both meter and meter reading costs recovered from users through an annual charge

2.3.2. AGIG One IT



2.3.2.1. Information Management (V.24.IT)

In 2019, we developed the AGIG IT Strategy to stabilise and align our IT across the AGIG businesses. A key component of this strategy which is necessary to achieve efficiencies from core system rationalisation (such as the OneERP project) is to have a single and consistent view of data coupled with a holistic data governance framework to manage the ongoing quality and security of our data. The information management program of work seeks to invest in a robust Enterprise Information Management framework (includes data architecture and governance) and improved data storage solutions to:

- homogenise how data is used across AGIG supporting a common understanding and standard to how we manage and use our data and positioning us to derive maximum benefits from the rationalising of applications;
- provide an integrated view of data and information flow across our businesses and enable shared efficiencies and benefits to be gained across the group, for example, through streamlined data management and reporting functions;
- understand future opportunities for reporting automation and advanced analytics.

The information management program will cost $2.0 million in the next AA period and is expected to be completed by 2025/26.

Our Information program is included in the AGIG IT Strategy & Roadmap business case (V.24.IT) provided in Attachment 9.14 IT Business Cases.

2.3.2.2. AGN Transition (V.24.IT)

This project involves a significant program of work to transition and in-house a number of our core operational technology systems towards the end of the period. These systems currently fall within a longstanding out-sourced contract arrangement for operations and management of AGN's

pipelines and distribution networks which comes to an end in July 2027. A similar suite of systems are already utilised within AGIG for our Multinet Gas and Dampier to Bunbury Pipeline businesses. In line with our strategy to consolidate our systems and processes across AGIG, kicked off with our OneERP project, we see benefits to our business and our customers in bringing these operational systems in-house, regardless of the future contracting model for operations.

AGN Victoria and Albury's share of the AGN Transition project is $28 million in total, with $22 million in the next AA period, and the project is expected to be completed in 2029.

Our AGN transition project is included in the AGIG IT Strategy & Roadmap business case (V.24.IT) provided in Attachment 9.14 IT Business Cases.

2.4. Deliverability of the IT plan

The end-to-end program of work was developed, and will be delivered using a formal governance framework consistent with our industry standard business and technology project management methodology. The program and project governance for business and technology projects provides a decision making framework that is logical, robust and repeatable. This not only increases the opportunity for success, but also allows us to prioritise (and reprioritise if necessary) projects to ensure prudent and efficient use of IT resources.

We have a successful track record of delivering large IT transformation projects during the current and previous access arrangement periods, such as the enterprise asset management, SCADA, GIS, metering & billing system and field mobility projects.

While the overall program of work is larger to that undertaken over the current access arrangement period, we have put in place key relationships with external vendors through our OneERP project to date that will continue to support the delivery of AGIG's IT Strategy and works have been staged to ensure we have a well-balanced resource profile of internal resources to allow for the most efficient and successful delivery. We have robust controls and vendor arrangements in place to ensure successful delivery of the planned program in its entirety, including:

- executive management support and strong program/project governance;
- a sound project management methodology including robust risk analyses which are revisited regularly throughout the life of the project;
- stakeholder engagement in planning phases; and
- internal and external capacity with the appropriate skills and experience.

During the current AA period, the Technology Services team has been restructured and expanded to align more closely with the business and improve technology services delivery.

2.5. Summary of the current AA period

In the current AA period we forecast we will invest $47 million in IT. This is around $23 million (32%) below our approved allowance of $70 million. As discussed in section 2.2.1.1 (and below), this lower-than-forecast expenditure is due to a combination of efficiency improvements and prudent deferral of projects while we focused on more customer-critical systems.

Though delivery of some projects was delayed, by the end of the current period we will have:

- completed major upgrades to our geographical information and metering and billing systems; and minor updates to several other critical applications;
- completed a field mobility integration project to enhance the mobile communications within our field workforce. This includes integrating enhanced mobile communications into the EAM System

(Maximo) and GIS; and implementing prudent and efficient end to end business processes that automate EAM and GIS functionality through mobility;

- rolled-out a core business intelligence platform to provide core functionality on which future capabilities can be developed and benefits realised;
- developed digital capabilities by improving our website;
- completed system upgrades to ensure we can comply with new life support regulatory obligations;
- completed many of the foundational initiatives of our AGIG IT Strategy, such as consolidating our data centres, enhancing cyber security and delivering a new enterprise reporting system for AGN.

Our IT investment in the current AA period, by project, is summarised in Table 2.6.

Table 2.6: Summary of IT investment in the current AA period, $'000 2021

Project	BC #	Approved	Actual 2018	Actual 2019	Actual 2020	Actual 2021	Forecast 2022	Total
Applications Renewal	V46	24,812	2,558	3,811	1,947	174	2,075	10,565
Business Intelligence	V47	12,359	285	222	-	26	166	700
Mobility Integration	V48	11,603	637	629	112	2,973	5,047	9,398
GIS Upgrade	V49	18,067	1,014	2,418	3,957	6,791	1,304	15,484
Infrastructure Renewal	V50	1,468	-	1,266	756	370	469	2,861
Digital Capabilities	V104	1,472	-318	-	87	-	283	52
Life Support	N/A	-	-	-	-	1,118	12	1,130
AGIG IT Strategy	N/A	-	-	87	1,157	3,505	2,269	7,018
Total		**69,783**	**4,177**	**8,433**	**8,016**	**14,958**	**11,625**	**47,208**

The lower-than-expected investment during the current AA period is largely driven by:

- a reduced number of upgrades required to maintain n-1 currency of systems compared to forecast;
- further optimisation achieved under the Application Lifecycle Framework;
- cost savings in two of our largest projects (GIS Upgrade and Mobility Integration);
- implementing a tactical Business Intelligence platform as a first step based on the existing Microsoft stack (Power BI) allowing us to develop intelligent data and reporting in a number of areas at relatively low cost; and
- efficiencies achieved as a result of finding new, and consolidating existing service providers, as well as negotiating preferable procurement rates.

A key factor in the slower than expected start to the program was the coming together of AGIG in 2017. Over the current and prior AA periods, AGN was working through a large program of nationalisation of its IT systems. This unknown and significant change in business structure which saw the introduction of new businesses (MGN and DBP) in the group, each with their own suite of IT systems at varying stages of their lifecycle, meant a focus shift for IT. The first key piece was to separate the MGN IT systems from United Energy. This meant a pause and reflection in some of AGN's work program, in particular the larger "non-recurrent" projects such as Business Intelligence and Mobility Integration.

Following the successful separation of MGN, the focus shifted to developing an IT Roadmap and Strategy for all three businesses. The AGIG IT Strategy was completed late in 2019 and is now being delivered. With consideration of the AGIG IT Strategy, we will continue to utilise the tactical BI solution in place for AGN, and therefore we are forecasting much lower spend than approved. We are now well progressed in the delivery of our Mobility Integration across AGN. The solution we have implemented will continue to be utilised as AGN's systems are transitioned to a consolidated AGIG environment.

3. Consistency with the NGL and NGR

Our networks are operated in accordance with the National Gas Law (NGL) and NGR. The overarching objective of the NGL is set out in the National Gas Objective (NGO), which states that the objective of the NGL is to "*promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply*".

Our proposed investment in the next AA period is consistent with this objective because it will enable us to maintain and prudently extend our IT systems and business processes in a manner that will ensure the ongoing safety, reliability and security of supply is managed in a cost effective way, which is in the long-term interests of consumers.

The proposed expenditure also complies with the NGR.

It is compliant with the new capex criteria in rule 79 of the NGR because it is:

- such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice to achieve the lowest sustainable cost of providing services (rule 79(1)(a)); and
- Justifiable under rule 79(1)(b) and 79(2), because:
  - the Asset Investment & Planning Management project is justifiable under rule 79(2)(a) because it yields a positive economic value.
  - the other proposed projects are necessary to maintain and improve the safety of services, maintain the integrity of services or to comply with a regulatory obligation or requirement (rule 79(2)(c)(i)-(iv)) as described in the table below.

Table 3.1: Consistency of the proposed IT program with rule 79(2)(c) of the NGR

#	NGR criteria	Justification of the proposed expenditure
79(2)(c)	**The capital expenditure is necessary:**	
(i)	to maintain and improve the safety of services	Applications Renewal Program – Ongoing updates to key operational IT systems reduces their risk of failure or security breaches. For many of these systems, failure could result in significant risk to safety for both employees and the general public. New digital customer services – Developing digital methods of customer communication, including critical tailored and confidential support for life support and vulnerable customer segments, will ensure that services are able to be provided efficiently in a safe manner.
(ii)	to maintain the integrity of services	Applications Renewal Program - Ongoing updates to key operational IT systems reduces their risk of failure or security breaches. Failure of any of these systems will risk the integrity of our pipeline services Cyber Security Uplift - Addressing cyber risks will reduce the likelihood and impact of a cyber incident. A major cyber incident could result in a loss of operational control and an inability for AGN to recover on its own. AGN Transition - Addressing business risks associated with maintaining disparate IT systems, management and procurement arrangements will compromise our ability to maintain an IT environment that is robust and resilient to cyber threats (and effectively deliver cyber security training that accurately covers the breadth of our IT environment to our employees). This could leave us vulnerable to a cyber-attack, resulting in a loss of operational control, and a potential breach of our regulatory obligations.

#	NGR criteria	Justification of the proposed expenditure
79(2)(c)	**The capital expenditure is necessary:**	
		Infrastructure Renewal – Renewing basic IT services allows employees to effectively perform their duties, thereby ensuring that core operational functions continue to be performed in a timely manner.
(iii)	to comply with a regulatory obligation or requirement	Applications Renewal Program - Ongoing updates to key operational IT systems reduces their risk of failure or security breaches. This therefore ensures that regulatory obligations (e.g. Retail Market Procedure requirements for processing timeframes) are not breached due to system unavailability. New digital customer services - The planned CRM solution is necessary to allow us to comply with our regulatory obligations, particularly with regard to communicating with vulnerable customers in line with the AER Statement of Expectations of energy businesses: Protecting consumers and the energy market during COVID-19 (and an anticipated continuation of these expectations going forward). Infrastructure Renewal enables compliance with regulatory obligations, particularly data provision requirements under the RMP. Data Architecture, Reporting and Governance – enables compliance with regulatory and privacy obligations, particularly customer billing, asset management and accurate data provision and reporting, as well as controlled access and storage of sensitive data and information.
(iv)	to maintain the capacity to meet existing levels of demand for services	New digital customer services - Improved CRM is necessary to enable us to service existing levels of customer demand.

Forecast costs are based on the latest market rate testing and reflect the lifecycle management and estimation approach described in the following sections. The estimate has therefore been arrived at on a reasonable basis and represents the best estimate possible in the circumstances.

3.1. Project management and application lifecycle methodologies

We utilise an industry standard business and technology project management methodology, which is managed through formal governance. This methodology divides the projects into key stages – concept, develop, plan, deliver and close. Each stage consists of key tasks and activities to ensure consistency and standardisation across projects. The project methodology provides a consistent, standard and quality assured project implementation framework, ensuring that the work is carried out in a prudent and efficient manner.

The business and technology project management methodology is provided in Appendix A.

We also follow an industry standard application lifecycle framework to manage applications through the implementation, operations, optimisation and retirement phases of their lifecycle. This framework provides an efficient and effective approach to maintaining the security and stability of the applications while optimising lifecycle stages. This framework includes the project management methodologies to implement the applications, and ongoing lifecycle activities to operate and optimise the applications - including upgrade cycles.

The application lifecycle management framework is provided in Appendix B.

3.2. Estimation approach and cost allocation

To ensure project estimates are developed in a consistent manner, we use an estimation tool (aligned with the project methodology) to forecast the work effort and cost estimates for all projects included in this IT investment plan. The tool uses actual values from the current AA period for resource work effort estimates, with all actual values used being sanity checked to ensure any changes to the way historical projects were carried out are taken into account.

The material and direct labour costs, and applicable planning, design and commissioning charges, are based on historical actual costs of similar projects and on vendor quotes that are subject to a competitive tendering process[7]. This assumes the use of an efficient combination of internal and external resources to deliver each project.

The historical values and work effort estimates are then used as inputs into the final estimates, which are subject to stringent review and endorsement by members of the IT Estimates Review Committee. The work effort, cost and timing of projects are monitored throughout the project lifecycle to ensure on time and on budget delivery. Further information on this governance process is provided in Appendix A.

Once the total project cost has been determined, the forecast costs are then allocated to the AGN businesses that use each system on the most appropriate basis available. We consider the most appropriate basis for this is the number of customers served. This is same method adopted in previous regulatory submissions, and has previously been endorsed by the AER[8].

For this submission, the IT capex required to deliver the program of work for AGN Victoria and Albury over the next AA period has therefore been allocated to the AGN Victoria and Albury gas distribution businesses based on the number of customers served, relative to the total customers for all AGN businesses, and the proportion of revenue (representing size of business) for AGN across all of AGIG's operations. Wherever possible, allocation of direct costs have also been made. As at 31 December 2021, Victoria accounted for 54.8% and Albury accounted for 1.8% of AGN's total customer numbers, and AGN accounted for 50.7% of AGIG's total revenue. As such, forecasts in this plan generally include 56.7% of AGN's total costs of each project, or 28.8% (56.7% of 50.7%) of AGIG's total costs of each project[9].

[7] in accordance with the APA Procurement policy and guidelines - available upon request.

[8] For example in approving the GIS upgrade as part of our previous AA submission, the AER acknowledged that these projects formed part of a national program, with an "appropriate division of costs" between jurisdictions, "*Draft Decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 6 – Capital expenditure*", November 2015, pg. 6-42.

[9] There are a couple of exceptions to this. 1) the Cyber Security IT costs are shared equally between the AGIG businesses, with a separate portion of AGN only costs, directly allocated to AGN. 2) The Cyber Security OT costs are shared between MGN and DBP only (as AGN's OT is currently managed outside of AGIG).

Appendix A: Overarching themes by project

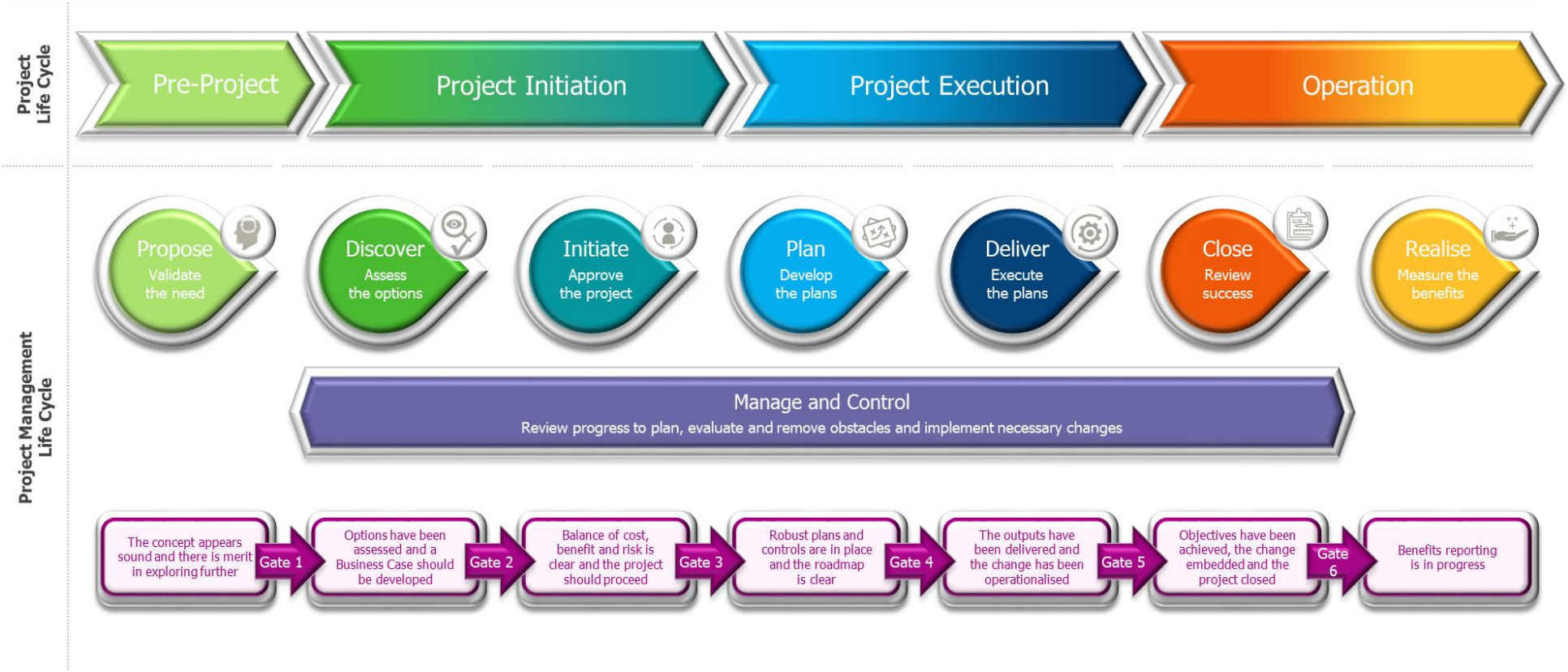
	Cyber Security Uplift	OneERP & Integration Rationalisation	Data Architecture, Reporting & Governance	AGN Transition	BAU IT Totex
Single Source of Truth 	Allows identity management of personnel and control of access rights to data and information. This also enables availability, confidentiality, and integrity.	An enterprise wide ERP solution captures core business information necessary for decision making and smooth running of the business. Enables simpler, cheaper integration by simplifying the technology landscape and streamlines the consolidations of applications.	Enterprise Data Model (EDM) supports a common data language and ensures data is captured and consumed consistently.	By removing the third party layer, between AGN and its source data, facilitates the future move to single source of truth.	Ensures data exists in the most efficient central location, on premises or cloud. Ongoing grade and rationalisation of applications will reduce replication of data.
Standard Business Processes 	Enables consistent Business Continuity Planning and Disaster Recovery for Cyber events across the three entities.	Enables the consolidation of resources and the transferability of skills across the Group. Enables simpler, cheaper integration by transforming inefficient adhoc processes for efficient ones and allows simpler, more cost effective integration.	Standardised governance and information and document management practices enabled by group wide policy and processes.	By taking ownership of those systems and the shared services arrangements, AGN is able to standardise processes and leverage the AGIG shared services.	Rationalisation of applications across the Group enables for standardised and consistent business processes.
Compliance & Risk Management 	Ensures alignment with regulations set by the Australian Energy Sector Cyber Security Framework (AESCSF), Australian Energy Market Operator (AEMO) and the Security of Critical Infrastructure (SOCI) Act.	Permits the abidance of standard regulatory requirements under AER and ASD. Facilitates adherence to regulatory requirements and optimisation of cyber security risk profiles. Reduces the risk of multiple data conversion and transformation processes.	Enables document and data security categorisation and retention. Facilitates secure access to information and reduces risk of poor data quality.	Lift and shift strategy to minimise risk in transition to insourced services, and ease the compliance reporting due to improved and timely access to the data.	Business continuity aided by use of cloud and on premise structures. Ongoing upgrade and maintenance of applications aligns with changing regulations.

	Cyber Security Uplift	OneERP & Integration Rationalisation	Data Architecture, Reporting & Governance	AGN Transition	BAU IT Totex
Shared Resource Efficiencies 	A single consistent approach to cyber security reduces replication of infrastructure and processes across the group.	Limits resource discrepancies across the Group, maintaining a central hub for all users. Sharing of fixed costs granting access to high end functionality not otherwise available. All entities receive access to resources in a consolidated space. Reduced complexity delivers lower operating and maintenance costs.	Single point of document management enables easier access to information across the Group. Centralised data warehouse for shared data access.	By taking ownership of those systems and the shared services arrangements, AGN is able to standardise processes and leverage the AGIG shared services.	Consolidation of applications in cloud environment reduces recurrent Capex costs. Ongoing consolidation of applications increases opportunity for sharing resources.
Strategic Imperative 	Compliance with new critical infrastructure legislation and ongoing mitigation of the cyber threat landscape.	OneERP central to the group wide IT strategy of consolidating and sharing IT resources. Implementation of SAP PO is an integral part of the OneERP project so enabling the overall Group strategy.	Strategic need to securely manage and share information within and across the Group businesses.	Strategic decision to insource APA services in order to reduce costs to our customers by bringing corporate services in house into our planned shared service centre.	Group cloud strategy is a requirement to facilitate ongoing efficiency benefits from the other business case.
Customer 	Maintains integrity and security of the gas pipe network.	Quicker access to consolidated information enables provision of timely information to customers.	Easier access to timely and accurate information in response to customer requests and feedback.	Lift and shift strategy to minimise risk of disruption of services to customers during the transition. It facilitates the customer demand for more targeted and timely information, enables a fast transition to an inhouse shared services model that reduces costs to our customers.	Efficiencies from the cloud strategy supports lower prices and ongoing maintenance of applications manages the risk of systems availability impacting customer service.

Appendix B: Technology Services project management methodology

B1: Project methodology

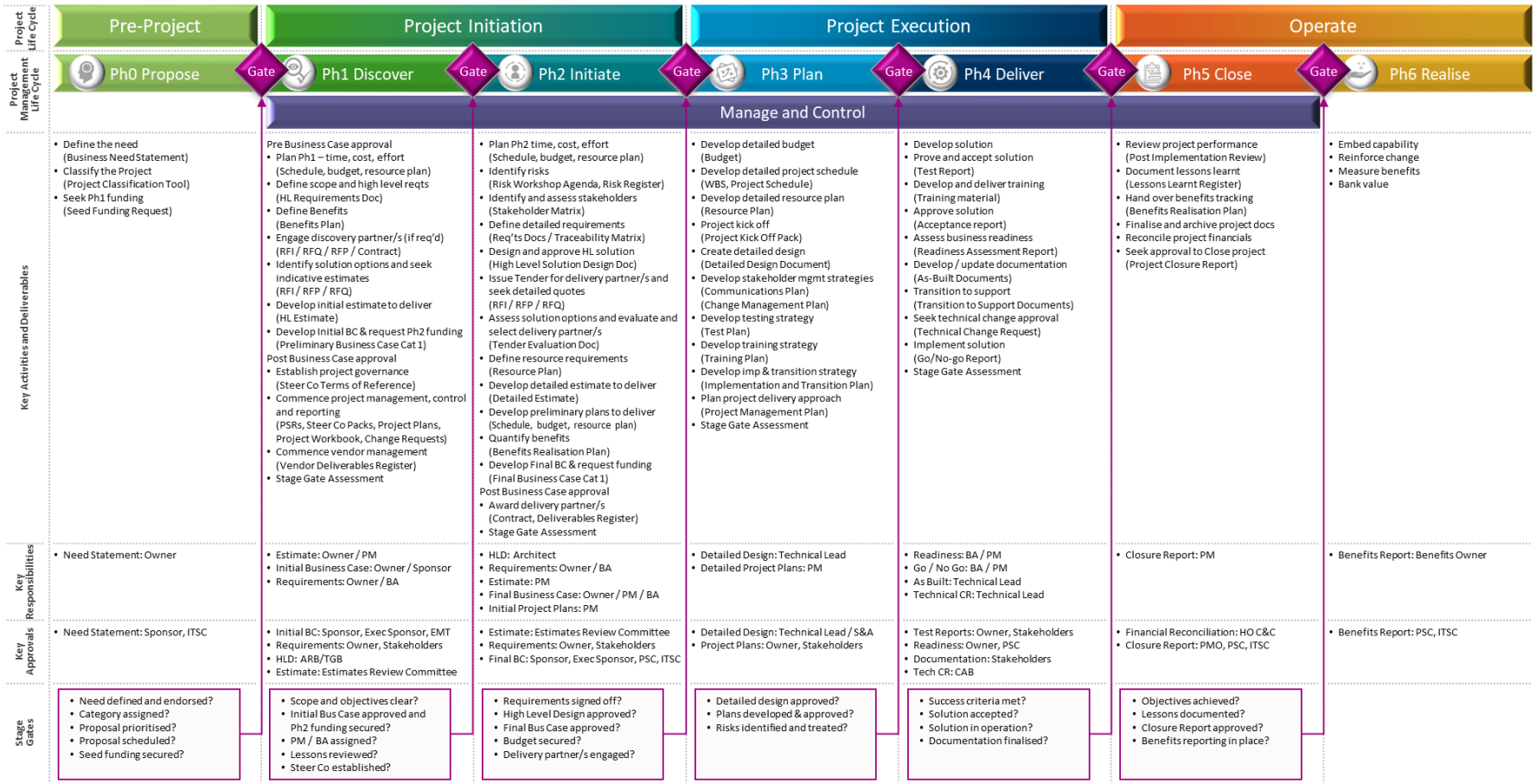
To manage all its IT projects, AGIG utilises an industry standard business and technology project management methodology, which is managed through formal governance. The project management methodology covers the full project lifecycle. The interaction between the project and project management lifecycle is illustrated in the figure below.



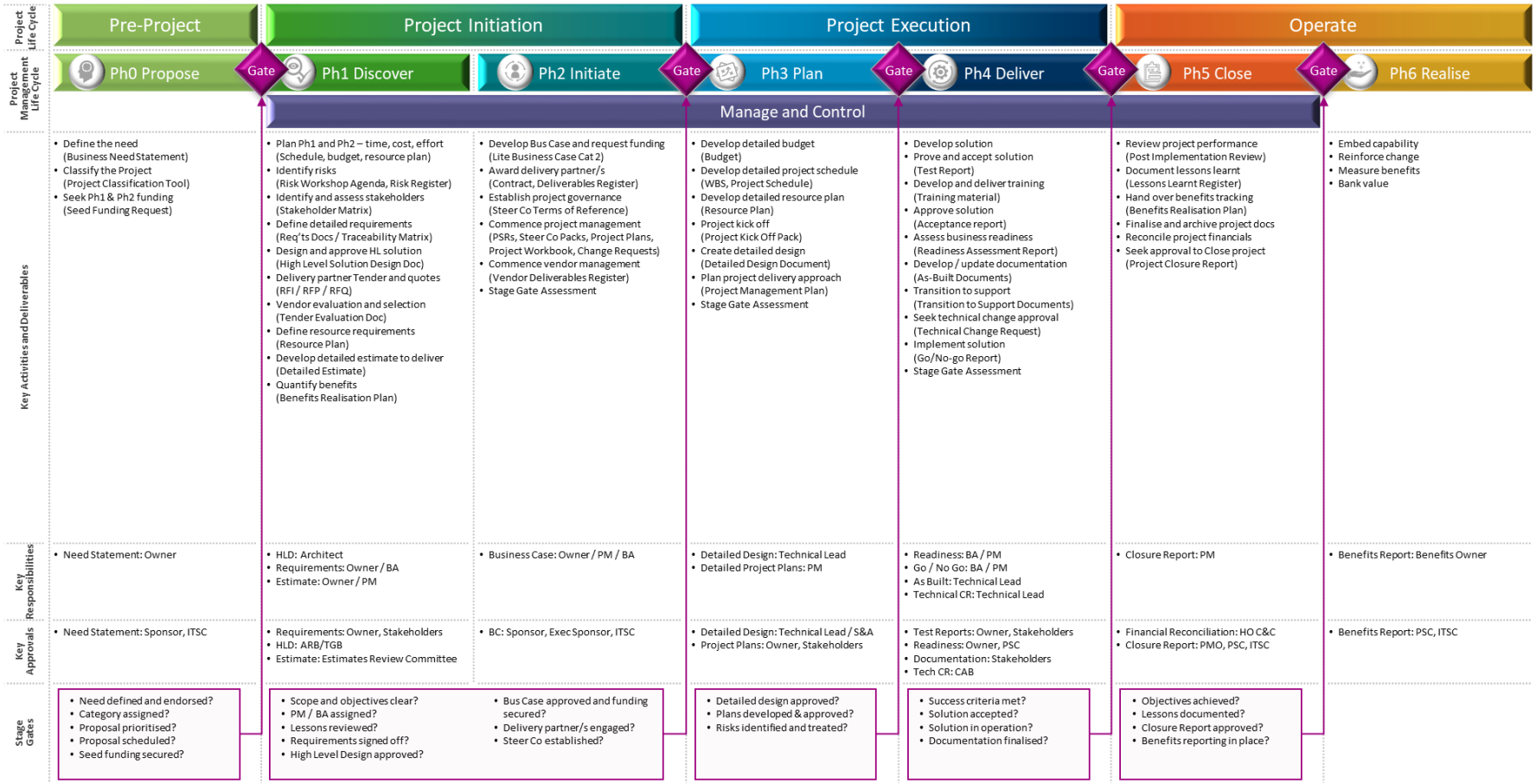
The key aspects of the project management methodology are outlined in the diagrams below. Projects are classified as Category 1, 2 or 3, depending on size, risk and complexity to ensure the project management methodology applied to the project is fit for purpose (i.e. complex, risky and expensive

projects should use strong levels of discipline and rigour to ensure project success, whereas less complex projects can scale back the level of process to align to their the size, complexity and risk).

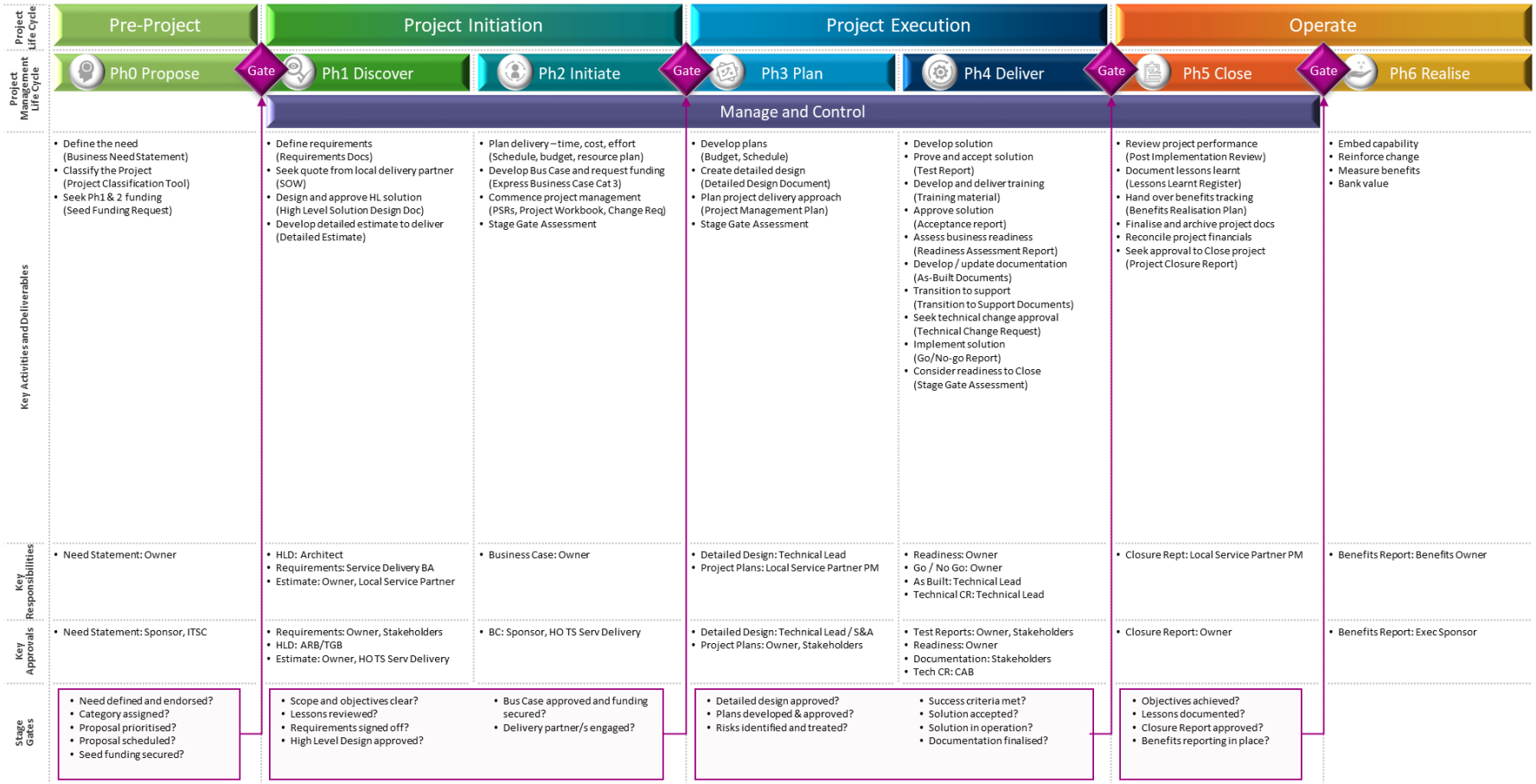
Project Management Methodology Cat 1 Projects (Complex)



Project Management Methodology Cat 2 Projects (Standard)



Project Management Methodology Cat 3 Projects (Simple)



B2: Project approvals

Executive management support and program and project governance

As will be seen from the composition of the various governance forums below, the most senior people in AGN, from Board members to the CEO to Executive Management Team members, are involved in approving and monitoring Technology Services projects.

The following mandatory review and assessment points exist within the governance framework:

1 Formal approval by an independent governance forum, e.g. the full AGN and APA Board or the Group Transformation Committee, depending of the size of the project.

2 Stage gate assessment of key deliverables, schedules and processes.

3 Risk assessment in each stage.

4 Progress review by Project Steering Committee (at least monthly).

5 Review of business case, to ensure benefits are still attainable.

6 Spot-check assessments.

7 Formal user acceptance testing and sign-off.

8 Post implementation reviews identifying lessons learned and enhancing the corporate methodology.

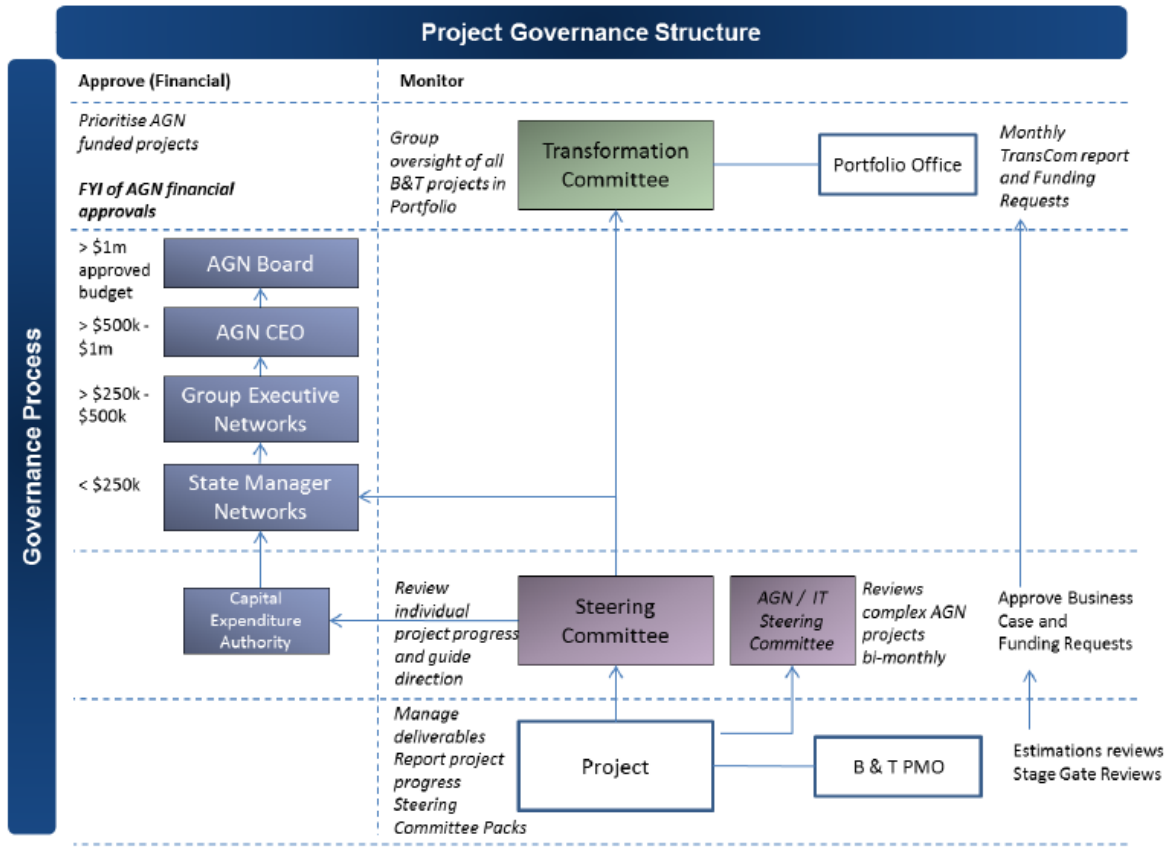
9 Closure reports.

Technology Services project governance structure

The Technology Services project governance structure ensures the projects undertaken are the most appropriate, support the Network business and IT strategy and provide business benefits and risk mitigation.

The governance structure is scaled to ensure approvals occur at the right level of the organisation, and smaller projects are not unnecessarily burdened with onerous governance processes.

Project governance structure



B3: Project governance

Any projects that have an expected end-to-end budget of over a policy-agreed amount must be approved at AGN Board level.

Executive Management Team

The Executive Management Team consists of the executives and the chief executive officer. The EMT provides strategic direction and facilitates decision making around IT. All Technology Services projects must be approved by the EMT, which is essentially the investment committee for Technology Services projects.

The Committee:

- prioritises business and technology projects;
- approves funding;
- verifies project alignment with strategic objectives; and
- has authority to start and stop projects/initiatives.

IT Steering Committee

The IT Steering Committee acts as the progress review committee for technology services projects approved to be delivered in the current budget period and are responsible for:

- endorsing all new projects;

- endorsing all requests to the Executive Management Team;
- ensuring project alignment with strategic objectives;
- the governance of all projects and initiatives; monitoring overall spend/savings, benefits, project health and dependencies;
- monitoring overall risks;
- starting and stopping projects/initiatives; and
- identifying productivity and business improvement opportunities, including the leverage of initiatives across the business, and drives out best practice initiatives

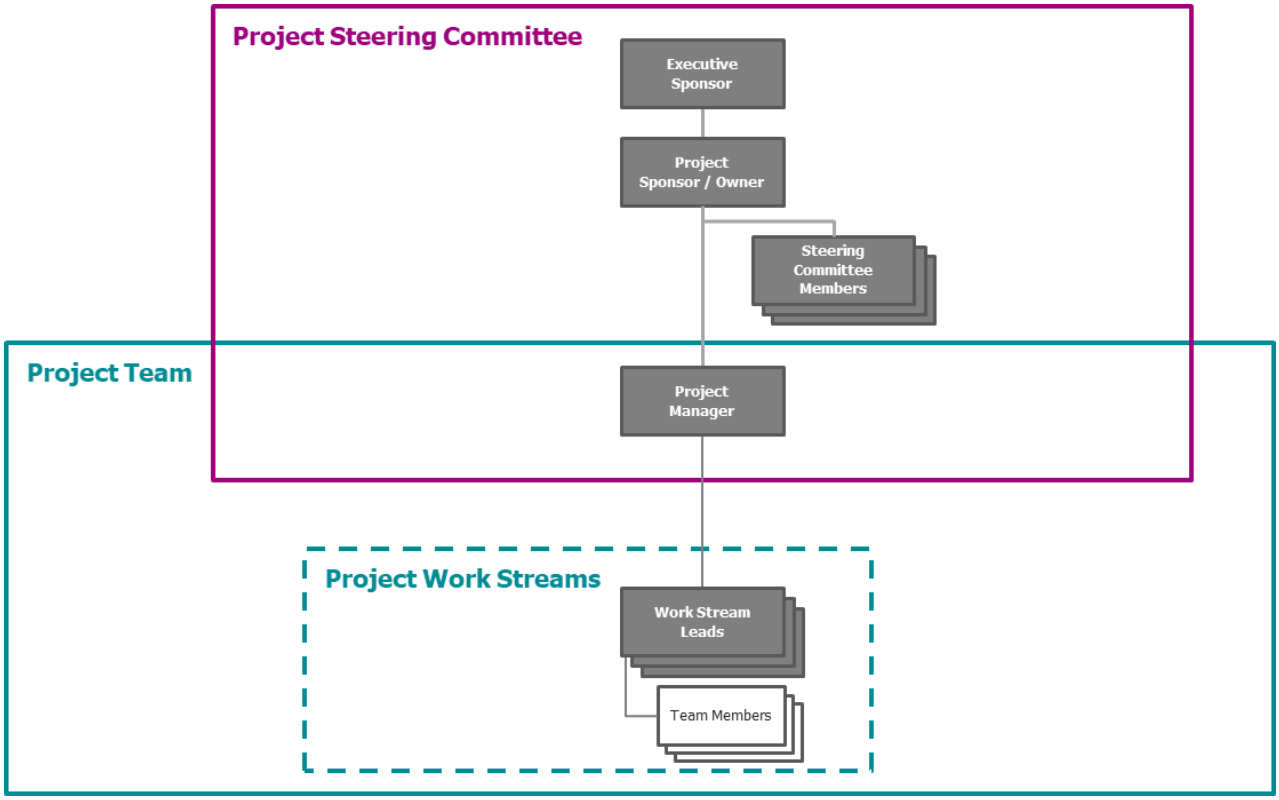
Project Steering Committee

The Project Steering Committee comprises relevant senior stakeholders from AGN who oversee delivery of a single, specific project. The PSC track the project's progress and guide its direction, to ensure it is in line with strategic objectives and is delivering according to agreed business need, priority, objectives, benefits and success criteria.

The Committee:

- Provide steerage, consider alternatives and make recommendations as appropriate on behalf of their business
- Approve recommendations that impact project implementation, obtaining approval from portfolio delivery Governance (if required)
- Provide strategic guidance on all key project deliverables
- Resolve key risks and issues escalated by the project working group
- Ensure lessons learned form previous relevant programs are applied to scoping of current program any new lessons are shared at the end of program
- Provide regular updates on the project to their respective Leadership Team member
- Support updates to Portfolio Delivery Governance as necessary

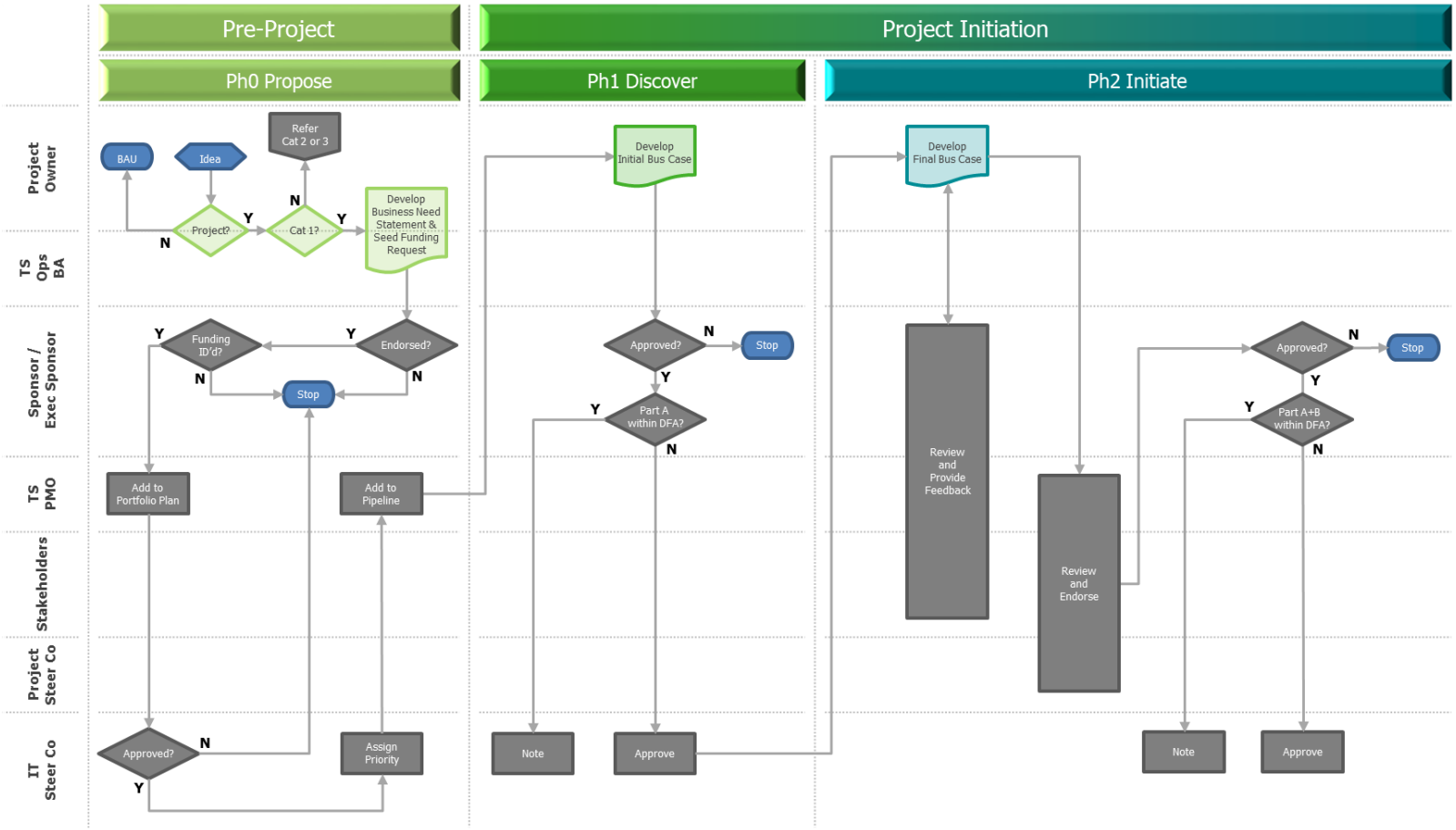
The relationship between the Project Steering Committee and the Project Team is depicted below:


Project Steering Committee
Executive Sponsor
Project Sponsor / Owner
Steering Committee Members
Project Team
Project Manager
Project Work Streams
Work Stream Leads
Team Members

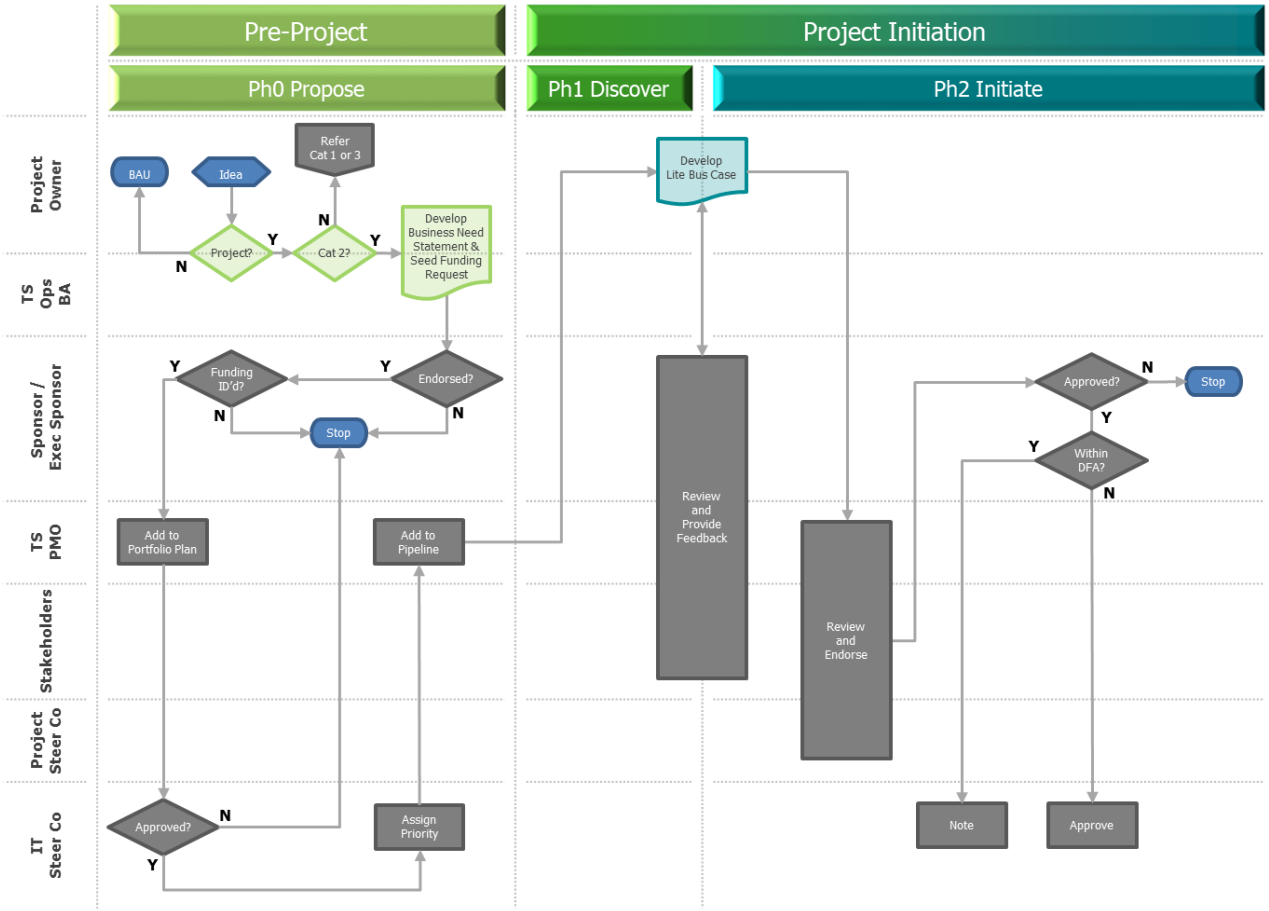
Project initiation and approval

The following diagrams illustrate the project initiation and approval across the governance forums for each of the project categories.

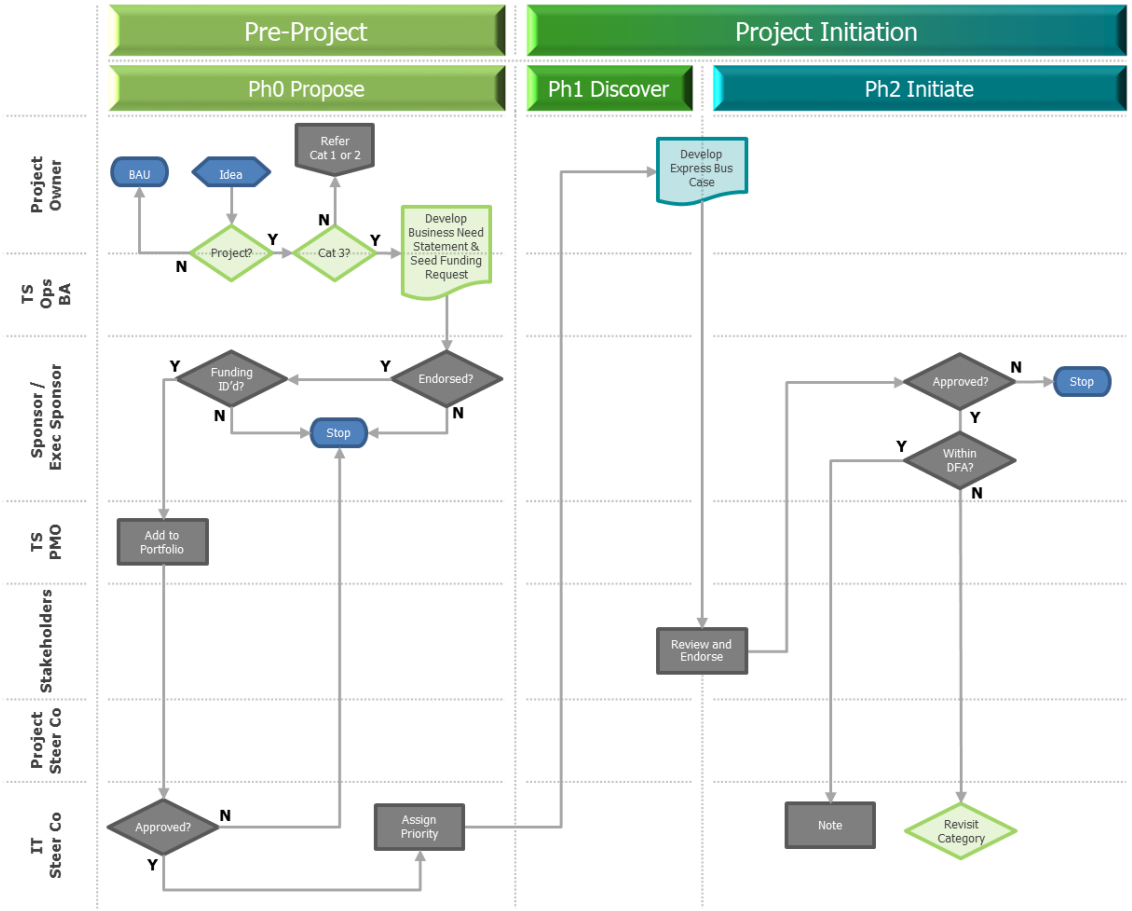
Project Initiation and Approval Cat 1 Projects (Complex)



Project Initiation and Approval Cat 2 Projects (Standard)



Project Initiation and Approval Cat 3 Projects (Simple)



B4: Good industry practice project management methodology

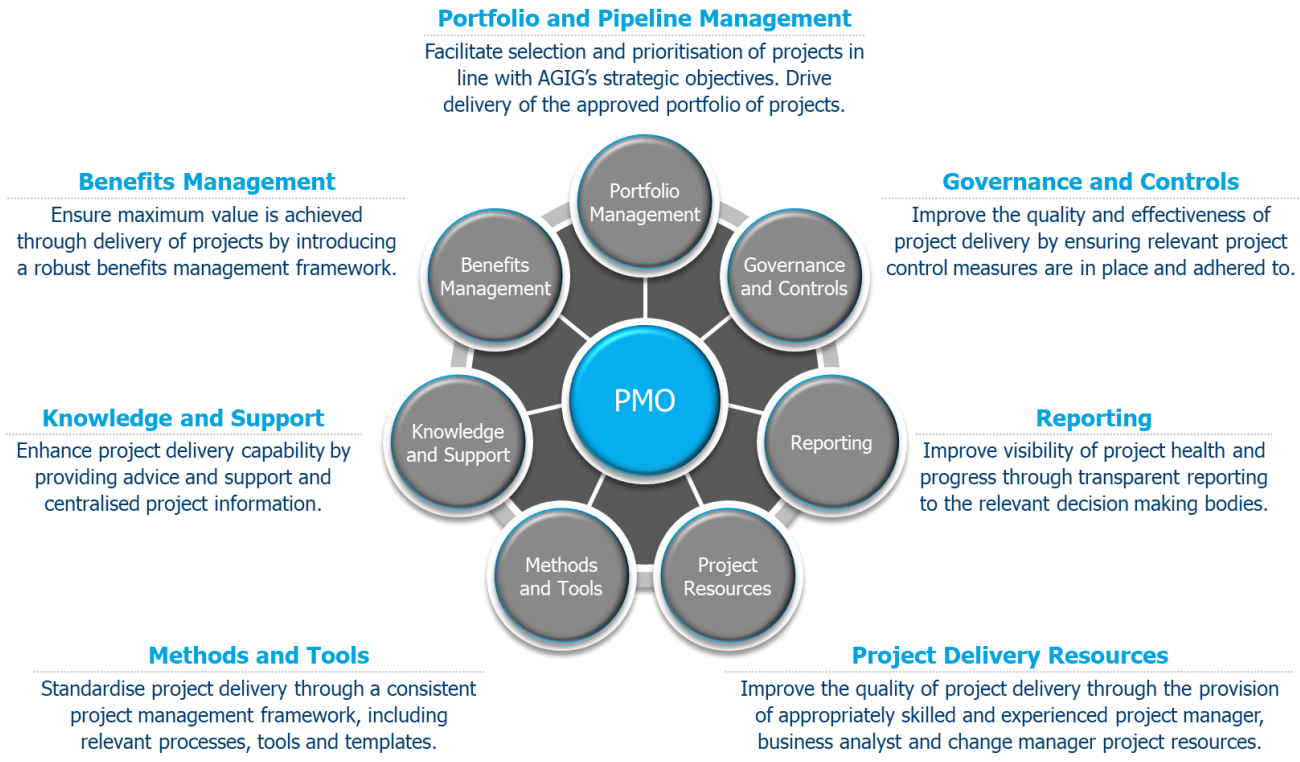
An organisational-wide project management framework underpins the program delivery. Risk assessments are required as part of the business case development, and are revisited at each stage of the project to ensure changes in the project, the business operating environment and/or the regulatory environment are always considered and addressed. This overall approach is supported by three core frameworks:

- The Project Management Framework (PMF) - providing a consistent and scalable approach to project management including artefacts and processes.
- The Change Management Framework (CMF) – providing guidance for the activities and artefacts required for change at each stage of the project lifecycle.
- The Project Assurance Framework (PAF) - providing guidance for health checks, stage gate reviews and post implementations reviews.
- The Portfolio Management Office (PMO) – facilitating delivery of the right projects with material technology impact, at the right time, in the right way.
- The Project team roles and responsibilities -

Portfolio Management Office

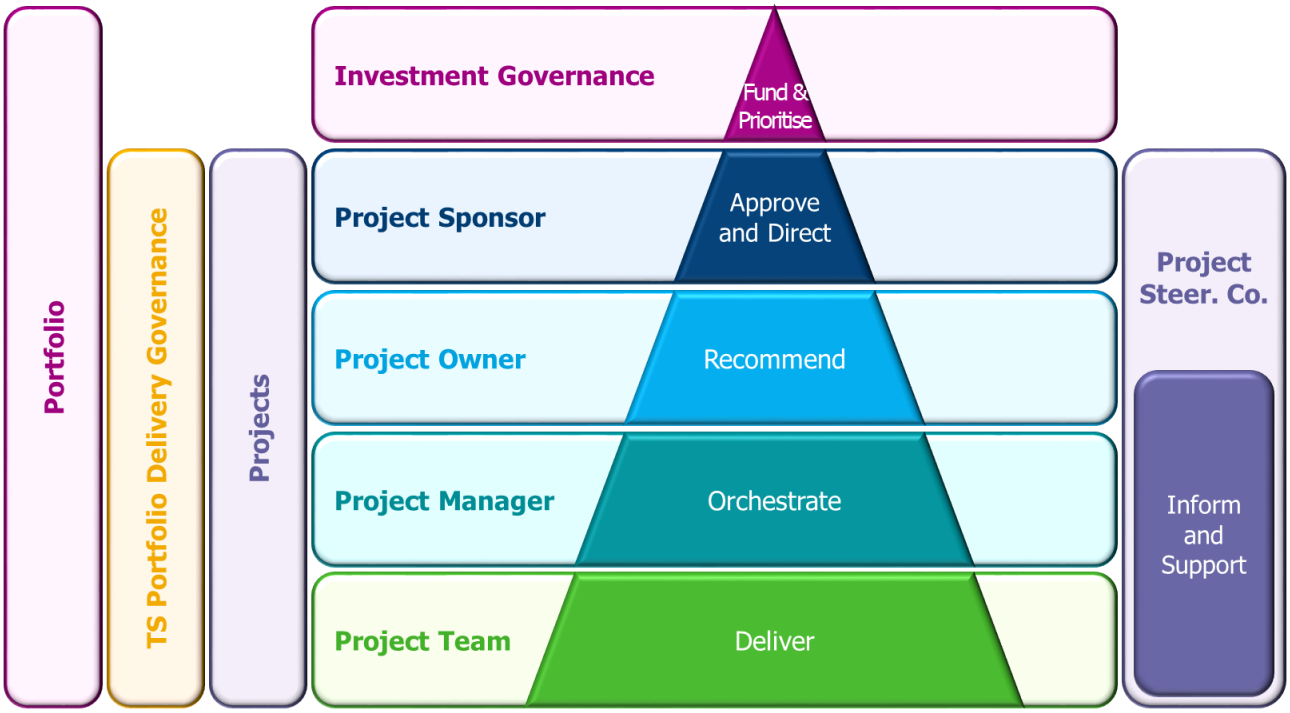
The PMO exists to enable AGN to achieve its strategic vision to be the leading gas infrastructure business in Australia, achieving top quartile performance on our targets. It does this by facilitating delivery of the right projects with material technology impact, at the right time, in the right way.

A summary of the PMO's functions and responsibilities is provided in the diagram below:



Project team roles and responsibilities

The project team roles and responsibilities are clearly defined and can be summarised as follows:

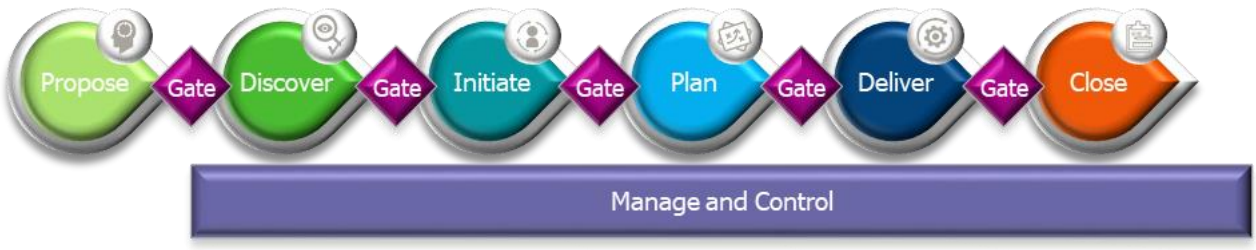


Role	Purpose	Key responsibilities
Project Sponsor	Accountability for, and senior leadership of, the project	• One and one only per project • Accountable for project success • Creates the vision • Defines success • Owns the Business Case • Advocates the change • Makes strategic decisions* • Provides strategic direction • Removes escalated obstacles • Reviews progress • Sells the idea • Enforces project management principles and methodologies • Owns project performance

Role	Purpose	Key responsibilities
Project Owner	Prime responsibility for project success	• One per project • Responsible for benefits delivery • Defines the business objectives • Defines the business outcomes • Owns the outcomes and benefits • Leads the change • Makes tactical decisions* • Drives project success • Escalates items for Sponsor decision • Monitors progress • Engages stakeholders • Reinforces project management principles and methodologies • Communicates project performance
Project Manager	Orchestrates all aspects of end to end project delivery	• One per project • Orchestrates project delivery • Translates objectives into deliverables • Defines the deliverables • Orchestrates outcomes delivery • Plans the change • Actions Sponsor and Owner decisions • Coordinates the project team • Identifies, tracks, reports threats • Tracks delivery and reports progress • Facilitates stakeholder engagement • Applies project management principles and methodologies • Reports project performance

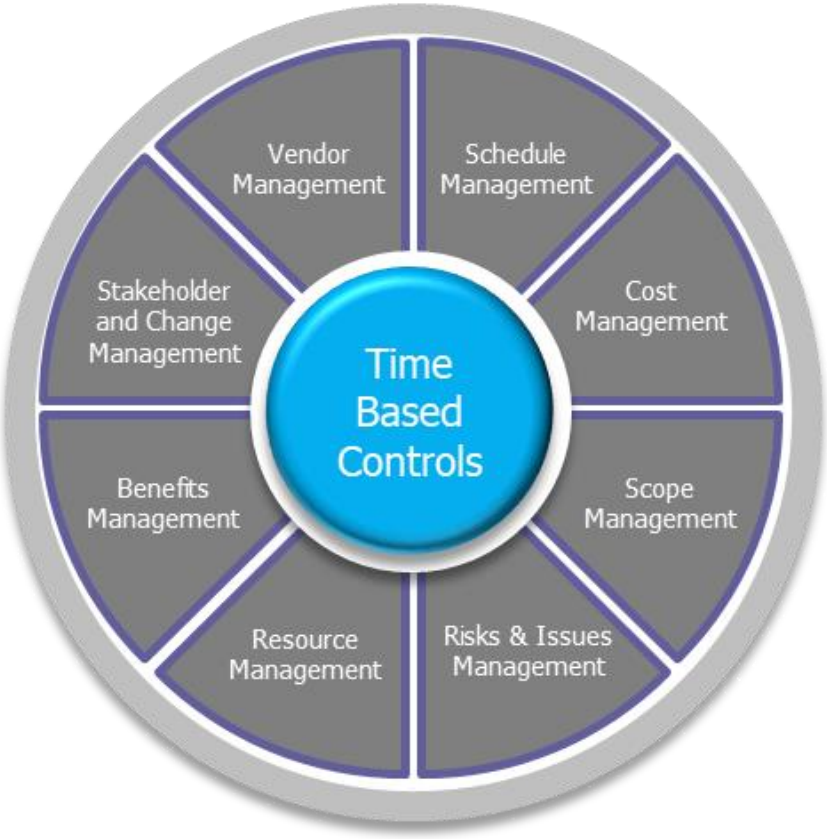
Project Management Framework (PMF)

The PMF is made up of five project management stages following proposal for a new project:



Each stage has distinct areas of focus and key artefacts for completion. To exit each stage, stage gate criteria must be met to ensure key deliverables and processes within a stage are completed satisfactorily before the next stage can commence, and to ensure the project is still viable.

There are also a number of time-based controls which embed routine tracking of project progress and performance, and to manage and control deviations from approved plans:



Change Management Framework (CMF)

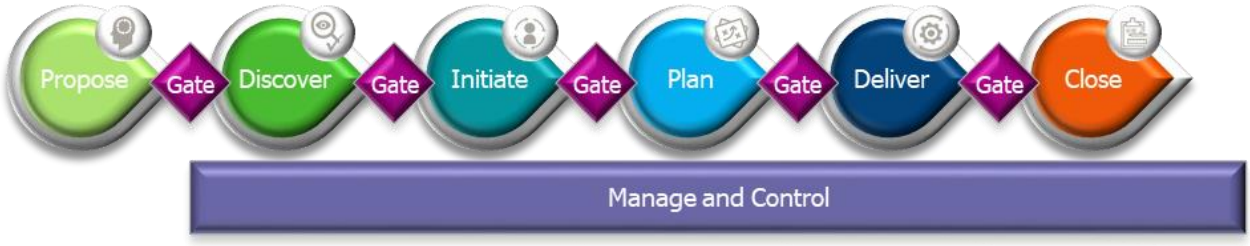
The CMF is a structured approach to transitioning individuals, teams and the organisation from the current state to the desired future state and aims to maximise the value and likelihood of achieving business outcomes and minimising disruption for our people and customers.

Similar to the PMF, it is a disciplined methodology and follows a staged approach as per the diagram below:

Change Management Framework	Define	Design	Deploy	Sustain	Measure
Objective	*Define the case for change*	*Prepare for the change by designing the approach, and developing the change plans*	*Ready the business for the change*	*Embed the change in the business*	*Measure actual vs expected results*
Activities	• Identify the change complexity and high level impacts • Define change success measures • Identify key stakeholders and the sponsorship model • Engage the sponsor • Develop the Change Canvas	• Assess change readiness • Develop the change plans • Engage the business	• Execute the change plans • Gain business approval for go-live	• Execute embed activities from change plans • Transfer ownership to the business • Input to lessons learnt	• Gather stakeholder feedback • Measure identified success factors • Input into Benefits Report
Deliverables	• Change Canvas • Stakeholder Analysis	• Impact Assessment • Change Risk Assessment • Training Needs Analysis • Change Strategy and Approach • Change and comms plan • Training Plan	• Communication artefacts • Training and training artefacts • Change activities • Change readiness assessment	• BAU handover • Lessons learnt	• Contribution to Benefits Report • Change review document

The Project Assurance Framework (PAF)

The PAF ensures consistent application of the project management governance, artefacts and methodologies required to progress a project from stage to stage.



In addition to providing the basis for progression of a project, the Project Assurance Framework will guide

- Stage-gate assessments between each phase
- Quality Assurance assessments mid-phase, for all post-Propose phases
- Internal and external audits
- Post implementation reviews.

Appendix C: Application lifecycle management

We utilise an industry-standard application lifecycle management methodology and a practical framework to determine upgrade timelines and priorities. The diagram below outlines the key aspects of this framework.