

AusNet



Transmission Revenue Reset TRR (2027-32)

ICT Strategy

Friday, 31 October 2025

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Executive Summary

This document outlines the strategic direction and investment plan for AusNet Services' digital capabilities for our electricity transmission services in the RY27-32 regulatory period. This has formed the basis of our proposed ICT recurrent and non-recurrent capex for the RY27-32 period.

Digital capabilities are vital for delivering secure electricity to Victorians. Our mission critical systems and underlying infrastructure enable us to monitor and control the stability of the power system in real time, assist us to efficiently manage transmission assets and network performance, and fulfil our obligations to provide accurate settlement data from transmission meters. In addition, our ICT systems enable us to provide business critical services across AusNet's electricity transmission, electricity distribution and gas services, ensuring that we operate efficiently and in the best interests of customers.

AusNet will be uplifting digital capability by the end of the current regulatory period to meet business requirements to align with peers. **Figure 1** shows that AusNet transmission services has been spending less on digital capabilities relative to our peers over the last decade. In the RY27-32 period, we will be investing more in digital capabilities as we seek to catch up to our peers across capabilities such as cyber security, AEMS, asset management and transmission metering.

Figure 1 – ICT capex by transmission network RY18 to RY32 (\$, real 2025, excluding overheads)



Note: Costs are direct only and do not include overheads and escalations. The dotted lines represent forecasts based on available information at the time of this proposal. RY refers to regulatory year. RY16 to RY24 based on information published in Regulatory Information Notices. For other TNSPs, forecasts from RY25 onwards are based on forecasts set out in RIN workbook 1 of the respective Revenue Proposal. For Transgrid, a separate dotted line has been included to reflect the expenditure set out in relation to the System Security Roadmap Operation Technology Upgrades (SSR) project. NGNO refers to Powerlink's Next Generation Network Operations project.

Sources: AER, Transgrid – Determination 2023-28, January 2022, accessed [here](#); AER, Powerlink – Determination 2023-27, February 2021, accessed [here](#); AER, ElectraNet – Determination 2023-28, January 2022, accessed [here](#); Powerlink, Powerlink 2027-32 Revenue Proposal (Draft), September 2025, accessed [here](#); Transgrid, System Security Roadmap Operational Technology Upgrades: RIT-T Project Assessment Conclusions Report, accessed [here](#); AusNet

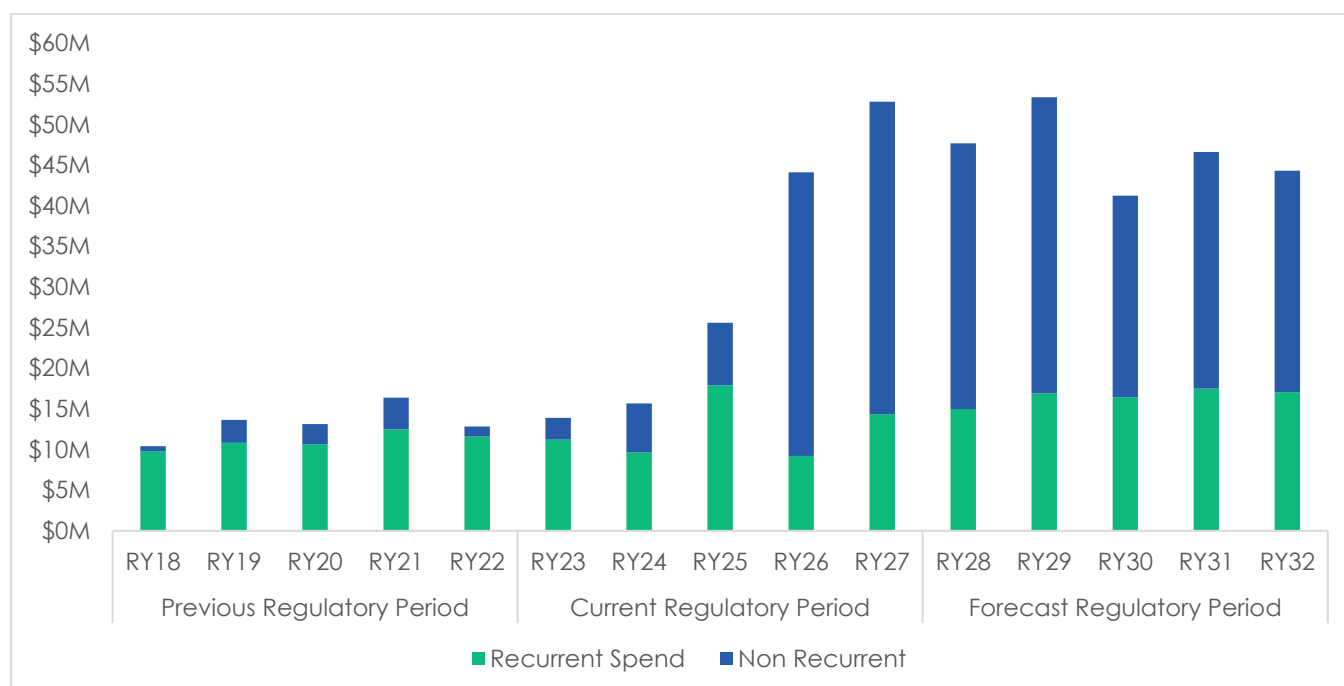
The key drivers of investment in ICT capability include:

- **Enhancing cyber security and digital resilience** - AusNet's cyber security strategy must keep pace and align with the broader enterprise and industry direction, as well as the Australian government and Industry frameworks for managing these risks. Further we need to maintain the operability of our existing digital applications and infrastructure that support the security of the power system and business wide functions.
- **Efficient operation of ageing network** - Our network is aging, making the data and tools used for asset management decisions crucial. Investing in these tools enhances network reliability by extending asset life, improving asset condition insights and optimising asset performance.
- **New capabilities to operate through the energy transition** - The shift to renewable energy in Victoria will accelerate in the RY27-32 period, leading to a less secure power system characterised by variable, intermittent and dynamic generation. This requires an uplift in our control and monitoring capabilities to ensure security and reliability of transmission services for Victoria. Additionally we need to support efficient dispatch of generation through improved planning of outage
- **Stakeholder experience and market outcomes** - The expectations of our landholders and associated stakeholder groups are rising, meaning we need to uplift our practices and associated digital systems. We also need to ensure accurate settlement of the wholesale market by uplifting our capabilities to detect errors in meter data.

We are proposing ICT expenditure of \$233.2 million over the RY27-32 regulatory period, consisting of \$150.3 million of non-recurrent capex and \$82.9 million of recurrent expenditure. The associated operating expenditure is \$58.7 million, made up of \$16.5m non-recurrent opex for implementation and configuration of Software-as-a-Service platforms (as per accounting guidelines) and \$42.3m for ongoing licencing and support. This expenditure represents transmission network cost allocation, after application of AusNet's Cost Allocation Methodology (CAM) for allocation of shared system costs across networks.

Figure 2 compares recurrent and non-recurrent capex over the previous RY2017-22, current RY2022-27 and new RY2028-32 regulatory periods. It shows that proposed recurrent capex in the RY2027-32 periods is consistent with previous periods, and that we are increasing our non-recurrent capex in the RY2027-32 period. This is to ensure we keep pace with peers in our digital capabilities as we face an acceleration in disruption.

Figure 2 – Comparison of AusNet's capex over regulatory periods (\$m, 2025)



Note: Costs are direct only and do not include overheads and escalations. In RY26 and RY27, it differs from the ICT capex forecasts utilised in other parts of this proposal because it reflects the latest forecast of digital capex spend per AusNet's 5-year plan (and the up to date and accurate forecast for assessing trends in ICT capex).

Table 1 sets out the programs that comprise the program. The two material programs relate to the uplift in capabilities for Advanced Energy Management Systems and the investment in cyber-security to meet the highest protections under industry standards.

Table 1 – Summary of proposed ICT programs and costs (\$m, real 2025, transmission network allocated costs)

Program	Description	Recurrent capex	Non-recurrent capex	Non-recurrent opex	Recurrent opex
Digital Resilience - Applications	This program ensures that our mission critical and business critical systems are supported through proactive vendor updates and patching. We will reactively perform updates on non-critical systems when cyber vulnerabilities are detected or if the system fails.	\$33.6	-	-	\$3.2
Digital Resilience - Infrastructure	The program ensures that our mission critical and business critical infrastructure are proactively refreshed. We will reactively refresh non-critical infrastructure when cyber vulnerabilities are detected or upon failure.	\$28.9	-	-	\$0.3
Cyber security	The program maintains and uplifts our cyber capabilities to meet the highest protections under industry standards and manage our critical infrastructure risks to as low as reasonably practical.	\$20.4	\$34.7	-	\$18.0
Advanced Energy Management System	The program includes uplifting our capabilities to control and monitor the transmission network in real time, manage planned and unplanned outages, and optimise decision making. The key driver of the program is the increased risk to the power system as we transition to a renewable power system, and increased planned outages that could adversely impact wholesale prices.	-	\$73.8	\$3.3	\$11.8
Asset Management and Field Enablement	The program seeks to uplift capabilities including centralising asset data, monitoring asset health and performance, improving asset rating intelligence and enabling predictive maintenance – all aimed at improving the accuracy of risk insights and replacement decisions. The key driver of the program is the need to prudently and efficiently manage the increasing number of ageing assets at a time when the operations of the network are becoming more complex.	-	\$27.0	\$4.3	\$4.6
Transmission Metering	The program seeks to modernise the digital systems that AusNet uses to capture transmission meter data, record asset information, and test the accuracy of	-	\$11.3	\$5.1	\$4.3

	settlement data. This reflects the growing complexity of metering data from bi-directional flows and the value of accurate meter reads for settlement.				
Customer and Landholder Experience	This program seeks to improve landholder customer engagement through enhanced systems, automation, and integration. The key driver of the program is the increasing scale and complexity of landholder engagement driven by major transmission projects, evolving landholder and customer expectations, and new regulatory obligations.	-	\$3.6	\$3.8	\$0.1
TOTAL		\$82.9	\$150.3	\$16.5	\$42.3
		\$233.2m		\$58.7m	
		Total Capex		Total Opex	

1. Context

Information and communications technology (ICT) refers to all infrastructure, applications, systems and devices that together provide our business with the digital capabilities required to provide secure electricity to Victorians. Importantly, it includes systems and measures to ensure that our digital ecosystem remains continuously reliable and resilient, including secure from cyber-threats, and provides the new capabilities required to control and efficiently manage the network as we accelerate our renewable energy transition.

1.1. Criticality of ICT for transmission

Digital capabilities are required to operate and control transmission networks in Australia. All networks use digital systems and infrastructure to monitor and control transmission assets, and to respond to outage and security events. They also enable efficient planned outages and responding to outage events. Digital systems are also vital for planning the network including condition assessments of critical assets, and planning maintenance and replacement activities.

As a multi-utility, digital systems are integral to our broader business functions for the electricity transmission, electricity distribution and gas network services. We have enterprise-wide tools that enable us to meet our regulatory obligations and provide financial and corporate support to operate an efficient and effective business.

1.2. Evolution of AusNet's ICT

AusNet's ICT management has evolved and matured over the last decade as we have responded to the trends, opportunities and challenges in the digital world. **Table 2** below describes the journey that we have undertaken and the next stages that we plan to advance our ICT management and delivery organisation.

Table 2 – Evolution of AusNet's ICT

Period	Business Environment	AusNet theme	Strategic focus areas	Outcomes
2017-22	Uncertain and more complex	Consolidation and cost management	• Maintain and consolidate IT applications and environments • Targeted business deployment of new capabilities	➤ Controlled ICT cost ➤ Limited capability investment
2023-27	Growing disruption	Enable business transformation	• Rollout of new ICT operating model • Enhanced cyber security and digital resilience • Progress real time operations and responsive network management	➤ Manage dynamic business environment
2028-32	Accelerated pace of disruption	Digitalise to uplift capability and enable energy transition	• Industry best practise cyber security maturity • Modernise network operations • Enhance asset management • Maintain resilient, secure and compliant digital systems	➤ Secure and resilient network operations ➤ Efficient optimisation of asset decisions

In the RY2017-22 regulatory period, we focused on optimising and maintaining our existing digital landscape as we controlled costs in a more complex business and digital environment. This saw limited deployment of new capabilities for our transmission network, and minimised costs for our customers.

In the RY2023-27 period, our strategy has been to enable business and network transformation as we entered a more disruptive phase in the operation of our transmission network from the energy transition. This is requiring increased investment in new digital capabilities; moving from a maintenance phase into a re-investment phase.

We are on course to have completed a number of key foundational investments in the current period, including:

- Delivery of cyber security enhancements, to achieve Security Profile 2 (SP2) against Version 1 of AEMO's industry standard Australian Energy Sector Cyber Security Framework (AESCSF).
- Migration to the latest version of our Enterprise Resource Planning (ERP) system, providing a platform to enable increased functionality and efficiency for asset management and business processes.
- Incremental Improvements to our Advanced Energy Management Systems (AEMS) capabilities including new systems for planned outages.
- Migration of applications to the cloud, where assessed as prudent after taking into consideration system criticality and security, and the costs of migration and ongoing opex. This sees an optimal current balance of cloud and on-premises systems.

To efficiently manage ICT costs, and to enable access to a broader pool of ICT expertise, in the current period we have implemented a Strategic Digital Partnership operating model, partnering with two global information technology services organisations to deliver base-business digital operations and maintenance, and to provide project delivery capability. This model has enabled AusNet to leverage the global expertise and talent pools of these organisations, and to manage resourcing in line with required investments.

As described in Section 2, in the RY2027-32 period the operating environment will be marked by further and pronounced disruption. There is a critical need to maintain the resilience of our existing digital systems from growing cyber attacks. We also need to uplift our capabilities to manage a more complex network as renewables accelerate in Victoria. Our assets are approaching the end of their technical life. Effective asset management is critical to maintaining network safety, reliability, and cost efficiency. Finally, we see the need to uplift capabilities to meet stakeholder expectations and to improve our ability to ensure transmission data meter is providing accurate market settlement data.

1.3. ICT and Risk Management policies

AusNet has policies and guidelines that provide the framework for how we employ ICT capabilities to deliver our services. Central to this framework is investment evaluation, to ensure that there is a clear demonstration that an ICT solution is an efficient and prudent option to deliver business needs in respect of network and non-network functions. All ICT investments follow AusNet's capital investment approval and governance processes.

The framework also provides principles for evolving our ICT architecture efficiently over time, recognising that the digital landscape is continually changing, providing both opportunities and challenges. This involves identifying the optimal delivery of our ICT capabilities including considerations of costs, cohesion, and interoperability. Risk management is a key consideration, particularly relative to cyber security, and ongoing system reliability and supportability.

Additionally, through 2025 we have enhanced our criticality assessment and risk management framework for digital systems and applications, resulting in applications and systems being classified into three categories;

- **Mission Critical** – These are applications and systems that are essential to providing electricity to Victoria as defined by the risk of significant NEM disruption from a widescale power outage. A key example of a risk to a Mission Critical system is the inoperability of SCADA leading to loss of electricity network control.
- **Business Critical** – These are systems that would cause significant business disruption, resulting in regulatory compliance exposures, reputational risks, and significant increases in costs. A key example of a Business Critical system is the Enterprise Resource Planning (ERP) system which is central to asset management, finance and compliance.
- **Business Operational and Administrative** – These are systems that while important for ongoing business function and efficiency, they are not directly related to the energy network operability and an outage would not create widescale business disruption.

These criticality classification categories underpin our assessment of risk, in terms resilience and cyber security, posed by the applications and systems. These categories also guide our approach of either proactively updating when vendors provide notice of upgrades or patches, or reactively undertaking updates on systems when vulnerabilities or functional failures are identified. The application of this criticality assessment and risk management framework is detailed in our Digital Resilience – Applications and Infrastructure business cases.

1.4. Multi-utility and impacts on ICT

AusNet's business model includes transmission and distribution network services together with a gas network service. This is key context for understanding our evolution and strategy for technology as our decisions reflect the multiple needs of the business, and the potential for economies of scale in operating ICT assets across our business.

From a technical perspective, it would be difficult to implement a stand-alone solution for ICT assets such as infrastructure, applications and cyber-security investments. In any case, there are often cost savings from being able to use a common technology solution to meet multiple needs. For applications and systems that support multiple networks, AusNet's Cost Allocation Methodology (CAM) provides the means for fairly allocating costs across our networks. Where investments or systems are solely for a specific network, costs are fully allocated to that network.

All costs detailed in our RY2028-32 proposal represent the allocations to the transmission network, after application of the Cost Allocation Methodology.

2. Digital drivers and strategy

The first step in developing our ICT program for the RY2028-32 period was to understand the changes in our business environment and to identify our stakeholders expectations. This then enabled us to detail the strategic objectives that guided the development of our ICT portfolio.

Our business environment is changing at an accelerated pace, driving the need for new ICT capabilities to maintain energy security and meet demand for our services. At a macro level, the rapid switch to renewable energy to mitigate climate change is impacting the complexity in managing a secure and resilient transmission system in Victoria. The digital landscape is changing rapidly with an increasing reliance on digital systems to enable a secure network and efficient business operations, but at the same time leading to greater risk of cyber attacks. Finally, we see an emerging need to manage our ageing network infrastructure.

2.1. Drivers

The starting point for developing our ICT portfolio was to identify changes in our operating environment, the needs of our transmission business, and to clearly understand our customer and stakeholders' expectations.

Enhancing cyber security and digital resilience

AusNet's digital systems and infrastructure support power system security and enable the business to meet compliance obligations. A successful cyber attack could compromise control over the ICT systems used to operate our network, potentially causing widespread and prolonged disruption of electricity. AusNet, as an organisation, is classified as a "High" criticality service provider under the Australian Government's classification of services, recognising the criticality of transmission electricity services to the welfare and livelihood of Australians.

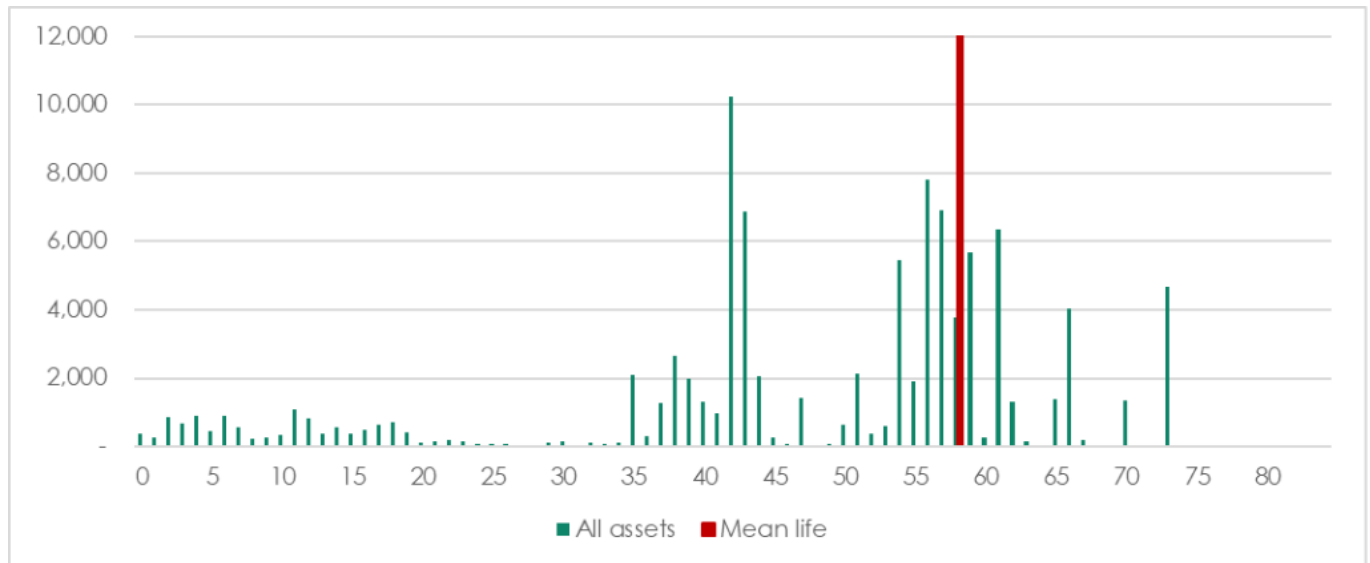
We are experiencing an evolving and increasing cyber threat landscape. We have responded by aligning with AEMO's industry standard (the AESCSF), with AusNet having achieved the Security Profile 2 (SP2) relative Version 1 of the AESCSF in the current regulatory period. However, the threat landscape is evolving and required risk management expectations increasing, leading to updated Version 2 AESCSF being released in 2023. In the RY2027-32 period, we are increasing our capabilities to meet the Security Profile 3 (SP3) as defined in the Version 2 of the AESCSF. This will see AusNet align with the highest protection standard, an appropriate standard for our classification under the AESCSF as highest criticality.

In addition, through 2025 we have enhanced the criticality assessment and risk management framework that underpins our approach to managing the resilience of our existing digital applications and infrastructure. In the RY2027-32 period, we will proactively refresh Mission Critical (applications and systems that are essential to providing electricity to Victoria) and Business Critical (applications and systems that would result in significant business disruption) applications and infrastructure. We will reactively refresh lower criticality systems and infrastructure when cyber vulnerabilities are detected or failure occurs.

Efficient operation of an ageing network

AusNet's transmission network is ageing with many assets approaching the end of their technical life. **Figure 4** shows that overall, close to 20% of the asset fleet is at or exceeding their expected lives.

Figure 4 – Transmission asset age profile by age (population)



The increasing number of assets approaching or exceeding their expected lives shows the increasing risk to electricity services and the need to ensure that AusNet has the appropriate systems and tools to enable prudent condition-based asset assessments. Our current asset management systems are inefficient, resulting in increased workload for asset engineers to manage operational risk and evaluate investment and maintenance decisions.

In the current period, we have invested in foundational asset management capabilities. We have made data enhancements through improved data quality and standardisation of asset records, and developed machine learning risk models for priority asset classes.

Despite the foundational investment, we have inefficiencies in our asset management systems including instances of incomplete or incorrect asset records, challenges with systems and processes to analyse condition data, lack of integration and connectivity across systems, and disaggregated modelling leading to inconsistent and fragmented information. To most efficiently manage our aging assets in the RY27-32 period, investments will be required in data processes and systems that align to good industry practice and that of our peers.

New capabilities to operate through the energy transition

Over the next decade, the Victorian power system will accelerate its transition to renewable energy, with the closure of coal plants and new solar and wind resources being added to the generation stock. Renewables will grow from 31 per cent of electricity production to 65 per cent by 2030 and 95 per cent by 2035 under Victorian Government targets.

Growing renewable energy increases the risk and duration of system blacks (entire outage of electricity across Victoria) and station blacks (outages in large parts of Victoria). This is because the power system is inherently less secure as we move from a largely synchronous generation base to inverter-based technologies like solar, wind, and batteries. Unlike traditional thermal generators that spin massive turbines and provide inertia, inverter-based resources rely on software to convert direct current to alternating current. This leads to power system insecurity through lack of natural resistance to frequency fluctuations and increased risk of oscillations that destabilise the grid. In addition, the dynamics of bi-directional flow from rooftop solar and embedded generation create further complexity to operating our physical infrastructure that was traditionally designed for one-way flow.

Through the current regulatory period we will have made incremental uplifts to our capabilities in Advanced Energy Management Systems (AEMS). The AEMS is a technology platform used by AusNet's transmission service to monitor the transmission network in real time, control the network, manage planned and unplanned outages and optimise decision making.

However, the acceleration in renewable energy in Victoria over the next decade requires a significant lift in AEMS capability in line with our peers to ensure that we can minimise the growing risk of system and station blacks. In the RY2027-32 period we are seeking to uplift our capabilities in wide area outage management, SCADA enhancement, alarms management, and data and model management. We are also investing in capabilities that improve the effectiveness of the control room.

Stakeholder engagement and improved market outcomes

While AusNet transmission has limited direct involvement with end use customers, we have regular engagement with landholders to maintain and build transmission infrastructure. Through our obligations as a transmission meter provider, we also play an important role in ensuring that settlement data is accurate for generation and load customers.

In respect of landholder engagement, we are seeing a need to uplift our engagement capabilities through improved digital systems. AusNet's network spans over 10,000 private property holdings and engages with approximately 6,000 to 7,000 unique landholders. As the energy transition accelerates, the scale and complexity of landholder engagement is increasing, driven by major transmission projects, evolving landholder and customer expectations, and new regulatory obligations. Current systems, while foundational, are fragmented and manual, limiting AusNet's ability to manage relationships, track complaints, and coordinate field operations effectively. In the RY2027-32 period we will be improving data integrity and automation, improve our communication and notification systems, improve field crew visibility and reporting, and improving the security of information we hold on our landholders.

In terms of our obligations to provide a transmission metering services, we found that the complexity of data is significantly increasing due to bi-directional flows, giving rise to increased error in market settlements. Currently, we have limited capabilities to proactively mitigate the risk of potential errors in transmission meter data. In the RY2027-32 period, we are proposing to uplift our capabilities to access raw and corrected meter data, and to analyse the information.

2.2. Digital objectives

In developing our digital program, we considered the broader objectives of the RY2027-32 TRR including keeping the network safe and reliable, ability to operate a more complex network, coordinating investments to support growth, and navigating deliverability challenges. In establishing our expenditure program, we considered how existing digital capabilities help achieve these objectives, and the new capabilities that could be efficiently utilised to deliver the broader objectives.

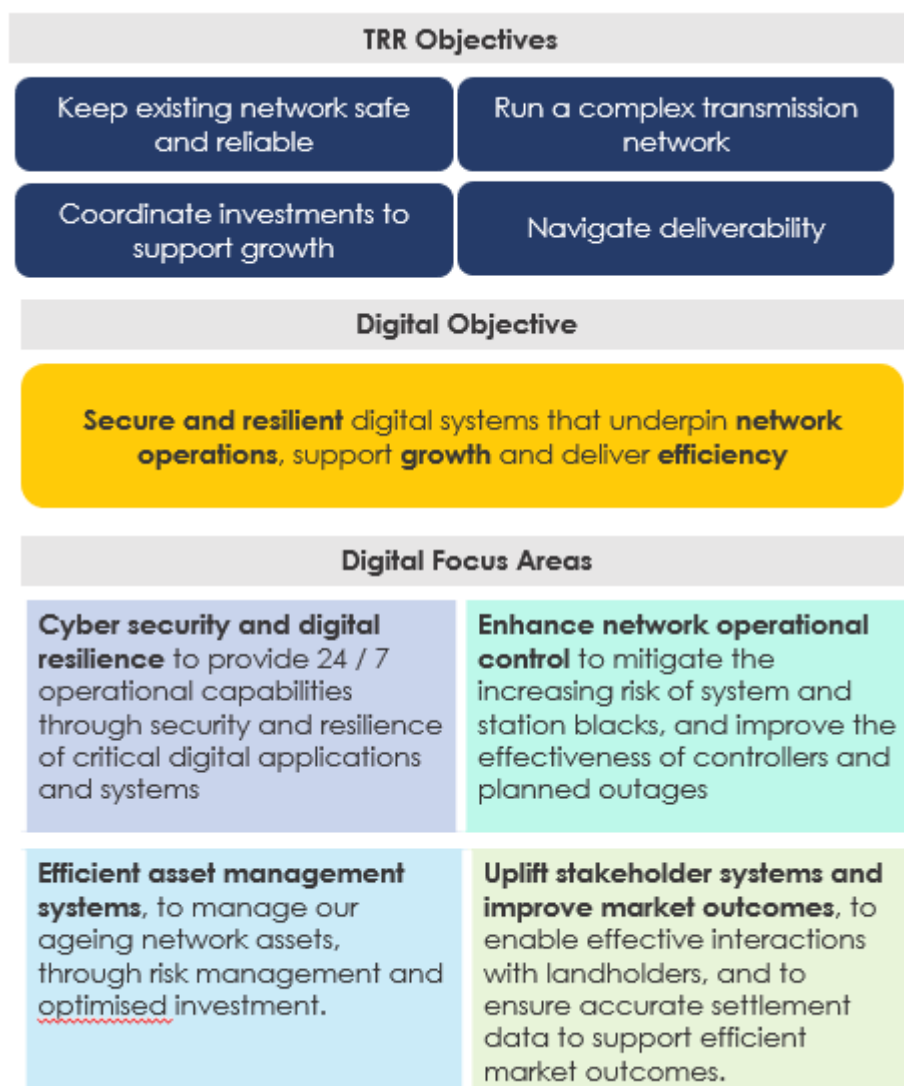
This helped us form our digital objective to provide "Secure and resilient digital systems that underpin network operations, support growth and deliver efficiency". This reinforced the concepts of digital systems and infrastructure that retained currency, and which assist AusNet to meet our business drivers including a more complex network, ageing network assets, deliver large growth projects, and ensuring efficient market outcomes.

The key focus areas that underpin this objective, and address the drivers of change discussed in Section 2.1, are:

1. Cyber security and digital resilience to provide 24 / 7 operational capabilities through security and resilience of critical digital applications and systems
2. Enhance network operational control to mitigate the increasing risk of system and station blacks, and improve the effectiveness of controllers and planned outages
3. Efficient asset management systems, to manage our ageing network assets, through risk management and optimised investment.
4. Uplift stakeholder systems and improve market outcomes, to enable effective interactions with landholders, and to ensure accurate settlement data to support efficient market outcomes.

Figure 5 provides a visual of how the broader themes of the RY2028-32 TRR align with the Digital objective and focus areas.

Figure 5 – Alignment of TRR objectives with the ICT vision and objectives



2.4 Approach to developing ICT forecasts

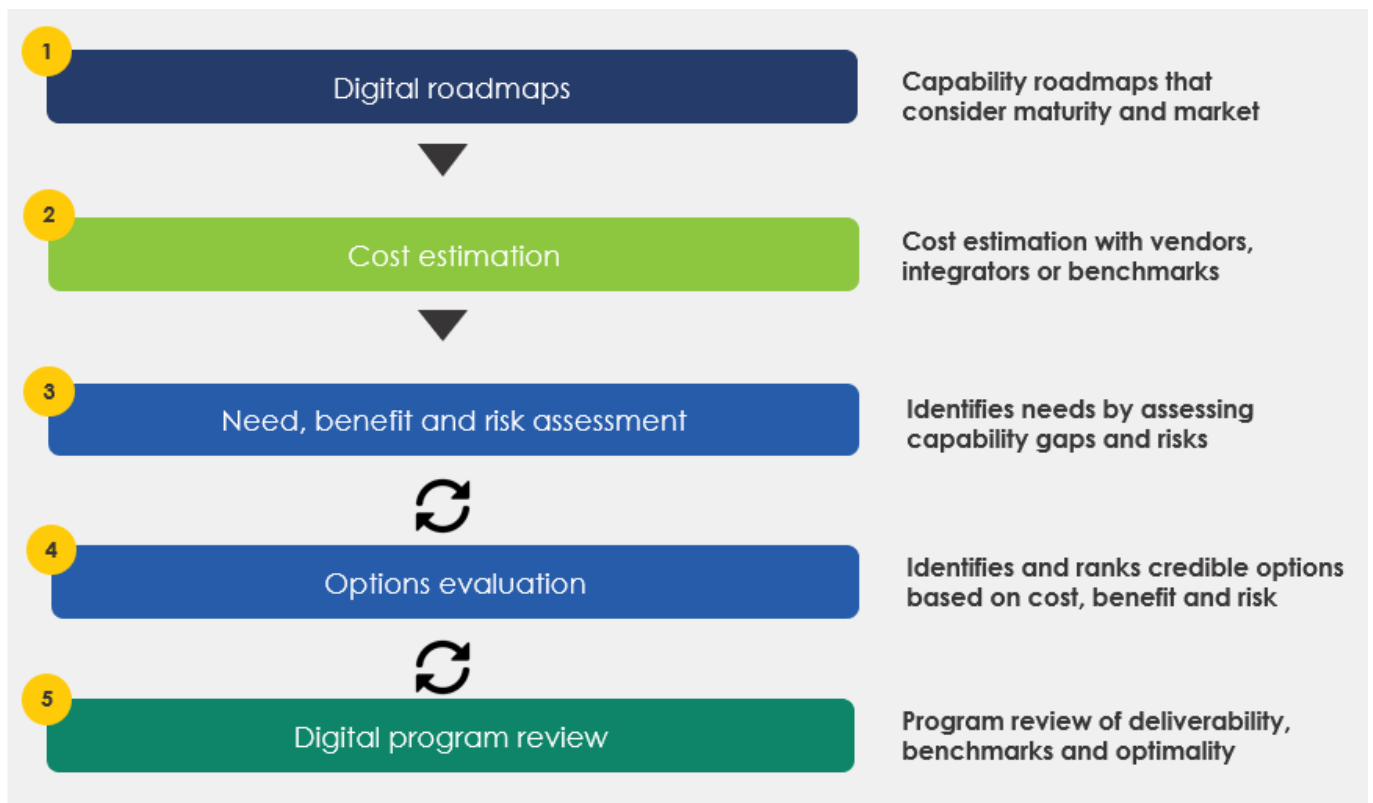
The objectives of the digital program provided a framework for identifying our investment needs in the RY2028-32 regulatory period. Our approach sought to reflect the AER's assessment methodology outlined in its 2019 Guidance Note - Non-network ICT capex assessment approach for electricity distributors. We have identified programs based on the AER's definitions of recurrent and non-recurrent categories and aligned our business case assessment with the AER's guidance.

Our approach is described in **Figure 6** below. This consisted of:

1. Digital roadmaps – We developed long term architecture roadmaps that considered current functions and maturity, drivers of change for our transmission business, ICT guidelines, capability uplift opportunities, and platform and product choices.
2. Cost estimation – We identified the cost of platforms and products identified in the long-term roadmap based on engagement with delivery partners and vendors, benchmarking relative to prior projects, and application of AusNet's digital project estimation tooling.
3. Needs, benefit and risk identification – As part of our business case assessment, we deep dived into elements of our roadmap to more clearly identify needs with reference to identified gaps in capability, and assessed the potential benefits and risks.

4. Options assessment – In each of the above business cases, we identified three to four feasible options to meet the identified need with reference to scope and timing. Consistent with AER guidelines, for recurrent projects we used cost and risk assessment to identify a preferred option. For non-recurrent projects we used net present value analysis that identified benefit drivers, and which quantified the benefits such as avoided security, reliability and safety risks, improved productivity and reduced costs, and market benefits.
5. Digital Program – We assessed the portfolio of projects from the business case with reference to deliverability of the program as a whole and relative maturity to peer transmission networks. We also considered whether the program struck the right balance between costs and services.

Figure 6 – Development method for TRR RY2028-32 ICT program



3. Investment program

Our proposed ICT expenditure for the RY2027-32 period has been categorised into 7 discrete ICT programs that deliver the strategic objectives described in Section 2.

Table 3 below summarises the proposed programs by recurrent and non-recurrent capex, and additional associated opex for implementation, and ongoing licences and support. Implementation opex represents non-recurrent expenditure for implementation and configuration of systems procured as a Software-as-a-Service (SaaS), consistent with International Financial Reporting Interpretations Committee (IFRIC) accounting guidance. All costs represent transmission network allocation, after application of AusNet's Cost Allocation Methodology (CAM).

In the following sections, each of the programs is described in further detail. Full details of each program are provided in the associated business cases, included in AusNet's TRR 2027-32 proposal.

Table 3 – Proposed ICT program costs for FY2027-32 period (\$m, real 2025, transmission network allocated costs)

Program	Recurrent capex	Non-recurrent capex	Non-recurrent opex (implementation)	Recurrent opex (licencing & support)
Digital Resilience - Applications	\$33.6	-	-	\$3.2
Digital Resilience - Infrastructure	\$28.9	-	-	\$0.3
Cyber security	\$20.4	\$34.7	-	\$18.0
Advanced Energy Management System	-	\$73.8	\$3.3	\$11.8
Asset Management and Field Enablement	-	\$27.0	\$4.3	\$4.6
Transmission metering	-	\$11.3	\$5.1	\$4.3
Customer and Landholder Experience	-	\$3.6	\$3.8	\$0.1
TOTAL	\$82.9	\$150.3	\$16.5	\$42.3

3.1. Digital Resilience- Applications

AusNet has over 200 technology systems and applications that help us deliver an affordable and reliable electricity service to our customers. They support key functions such as operating our network securely and reliably, assisting efficient asset planning, and ensuring our business is run efficiently.

The proposed recurrent capex is to manage resilience risks and cyber vulnerabilities from operating our digital applications. Technology systems are largely dependent on support from the product supplier (ie: vendors). Vendors often update their product to reflect changes in the market and will typically not support outdated versions. In the absence of vendor support, the systems and applications are more vulnerable to failing in service and to cyber-security risks.

AusNet's policy is to apply a criticality assessment approach to manage the cyber and resilience risks of digital applications. We categorise digital applications based on whether they are Mission Critical (high risk to energy system security), Business Critical (high risk of business wide disruption) or Business Operational and Administrative (risk to specific business functions). These criticality classification categories underpin our assessment of risk, and guide our approach to either proactively updating systems when vendors provide notice of upgrades or patches, or reactively undertaking updates on systems when vulnerabilities or functional risks are identified.

Our options assessment examined whether we should apply a proactive or reactive approach to each category of digital applications by examining the level of risk in the RY2027-32 period. We developed four options including:

- Option 1 - Not proactively updating any systems and reactively updating when vulnerabilities or failure occur.
- Option 2 - Proactively updating Mission Critical systems only, and reactively updating all other systems when vulnerabilities or failure occur.
- Option 3 - Proactively updating Mission Critical and Business Critical systems, and reactively updating remaining systems when vulnerabilities or failure occur.
- Option 4 – Proactively updating all systems.

The preferred option was Option 3 on the basis of balancing required expenditure with mitigation of material risks. The proposed program for the RY2027-32 period is \$32.0 million of proactive capex (\$real 2025) on Mission Critical and Business Critical system upgrades, and \$1.6 million (\$real 2025) on reactive capital expenditure for business operation and administration systems.

3.2. Digital Resilience - Infrastructure

Digital infrastructure includes compute servers, storage servers, telecommunications and end user devices. Infrastructure is the foundation to operating AusNet's technology systems that enable AusNet's capability to securely control the Victorian transmission network, efficiently plan and maintain assets, and efficiently run our business.

This business case relates to maintaining digital resilience through recurrent capex on digital infrastructure housed 'on premise' in our Richmond and Rowville data centres. It is required that the majority of infrastructure is supported 'on premise' due to the criticality of transmission services to all Victorians.

The proposed recurrent capex is to manage resilience risks and cyber vulnerabilities from operating our digital infrastructure. This includes undertaking life cycle refreshes of hardware such as compute and storage servers, refurbishing data centre facilities such as air conditioners, refreshing telecommunications infrastructure, and replace end user devices such as laptop computers.

As with digital applications, AusNet's policy is to apply a criticality approach to manage the resilience and cyber resilience risks of digital infrastructure (see Section 3.1 above). These classifications guide whether infrastructure is proactively refreshed at end of life / support or reactively replaced when vulnerabilities or failures occur. We define end of life / support by the end of vendor mainstream support or warranty, end of extended support, loss of patch/parts availability, or failure.

Our options assessment examined whether we should apply a proactive or reactive approach to each category of digital infrastructure by examining the level of risk in the RY2027-32 period. We evaluated four options:

- Option 1 – reactive approach, replacing only upon failure or vulnerability
- Option 2 – proactively upgrade Mission Critical infrastructure to remain within vendor extended support
- Option 3 – proactively upgrade Mission and Business Critical infrastructure to remain within vendor extended support
- Option 4 – proactively upgrade all infrastructure to remain under vendor mainstream support

The preferred option was Option 3 as it best balances cost with mitigation of material energy security and business disruption risks. Under this approach, infrastructure will operate until the end of vendor extended support, leveraging patch and parts availability to maximise asset value, while user devices will be managed reactively upon failure.

The proposed program for the RY27-32 regulatory period is \$28.9million (\$ real 2025) for lifecycle refreshes of hardware and infrastructure within the data centre, telecommunications upgrades, and facility management of the data centres including fire suppression equipment and air conditioning.

3.3. Cyber-security

AusNet is increasingly reliant on technology assets to deliver electricity to our customers and to run our business efficiently. The rapid integration of distributed energy resources, advanced metering, automation, and real-time data exchange is transforming the energy ecosystem into a more dynamic, interconnected, and interdependent environment. While this digital transformation is essential to enable a low-carbon and efficient future, it also broadens the cyber-attack surface and exposes critical infrastructure to increasingly sophisticated and persistent threats.

As a Transmission Network Service Provider (TNSP) operating critical electricity infrastructure essential to the Victoria and Australia, AusNet represents a potential target for nation-state and criminal actors seeking to disrupt essential services, compromise operational technology (OT) environments, or exploit supply chain interdependencies.

In response to the escalating cyber threat landscape, the increasing digitalisation of energy systems, and the developments in the sector's cyber security framework requirements, AusNet has developed a comprehensive, risk-based Cyber Resilience Strategy and roadmap. This strategy is designed to strengthen and uplift cybersecurity capabilities, thereby enhancing the resilience, reliability, and safety of AusNet's operations.

Our Cyber Resilience Strategy is aligned with the Security of Critical Infrastructure (SOCI) Act and AEMO's Australian Energy Sector Cyber Security Framework (AESCSF). In the current period, AusNet has invested to achieve notable improvements in our cyber security capabilities, achieving Security Profile 2 (SP2) under Version 1 of the AESCSF.

Recognising the evolving threat landscape and need to continuously mature capabilities, AusNet has adopted Version 2 (V2) of the AESCSF. Developed collaboratively by AEMO, government, and industry, AESCSF V2 aligns with international standards and addresses emerging technologies and threats. While the framework does not prescribe specific Security Profiles (SPs), AEMO recommends that participants target higher levels of maturity commensurate with their criticality and risk exposure.

We assessed the need for investment to maintain the existing systems and practices (recurrent expenditure) as well as investment in new systems and practices (non-recurrent expenditure) to manage cyber security maturity levels:

- Option Number 1 - Recurrent expenditure Option 1: actively manage without vendor support (counterfactual option)
- Option Number 2 - Recurrent expenditure Option 2: perform lifecycle refreshes
- Option Number 3 - Non-recurrent expenditure Option 1: achieve AESCSF Version 2 Security Profile 2 (V2 SP-2)
- Option Number 4 Non-recurrent expenditure Option 2: achieve AESCSF Version 2 Security Profile 3 (v2 SP-3)

Option 4 was the preferred option. As a high-criticality market participant, AusNet considers it prudent and necessary to operate at an elevated level of cybersecurity maturity. Accordingly, this business case recommends investment to uplift AusNet's cyber capability maturity to achieve Security Profile 3 (SP3) under AESCSF Version 2. The costs of the preferred option comprises \$20.4 million for recurrent capex, \$34.7 million for non-recurrent capex and \$18.0 million of recurrent opex.

3.4. Advanced Energy Management System (AEMS)

The AEMS is a technology platform used by AusNet's transmission service to monitor the transmission network in real time, control the network, manage planned and unplanned outages and optimise decision making. It is critical to mitigate the risk of system blacks and station blacks that would cause widescale outages for Victorians. It is also essential for AusNet to undertake planned outages in an efficient way to ensure that market prices can be as low as possible for customers.

By the end of the current RY2022-27 period, AusNet will have incrementally uplifted its capabilities in AEMS. However, our capability gap assessment indicates a need to further uplift our AEMS capabilities in the RY2027-32 period to maintain the reliability and security of the national electricity system, consistent with the National Electricity Objective.

Over the next decade, the Victorian power system will accelerate its transition to renewable energy. While the shift to renewable energy is essential, it increases the risk to the power system increasing the likelihood of system and station blacks. In addition, we expect that planned outages will increase significantly in the RY2028-32 period as we undertake upgrades and replacement, and as the network continues to age. We recognise that planned outages can lead to higher wholesale prices by constraining lower cost generation.

We have undertaken a capability gap assessment to ensure the AEMS can meet the challenges of an acceleration in renewable energy and increase in planned outages. We have been guided by peer assessment which shows that we have relatively low maturity on a spectrum of AEMS capabilities compared to other transmission networks in Australia. Through the capability gap assessment, we identified four broad needs in the 2028-32 period requiring an uplift to our AEMS capabilities:

- Uplift emergency and contingency response (system black) – we see a need to uplift our wide-area monitoring and simulation training to mitigate the growing risk of system blacks.
- Mitigate risk of increased unplanned outages (station black) – we have identified a need to improve the accuracy of our ratings and model management and to improve visibility of the impact of rooftop solar on our terminal substations.
- Improve effectiveness of controllers in a more complex environment – to meet the increased cognitive load of controllers we see a need to uplift our training and knowledge, data and tools to ensure that we minimise the need to increase resources.
- Opportunities to improve planned outages – We see a need to uplift our Transmission Access and Switching Management (TASM) system to more effectively manage increasing the number of planned outages on the network. This will reduce the constraints on low cost generation dispatch.

Based on the needs, we identified a suite of initiatives that would address the capability gaps. We then undertook a net present value assessment of four pathway options.

- Option 1 provided a counter-factual where we would maintain the current state of our AEMS without any capability uplift in the 2028-32 period.
- Option 2 was a set of initiatives that would improve our maturity across capabilities to a level on par with peer networks, but not increase our maturity in areas where we are high maturity such as SCADA.
- Option 3 included the uplift initiatives in Option 2 but also extended our maturity to keep pace with peers as they continue to enhance capabilities.
- Option 4 included additional initiatives that would enable AusNet to be a leader in AEMS capabilities.

The options assessment considered benefits including the avoided cost of system events and station blacks, reduced need to hire new staff, reductions in the market pool price, and avoided safety events. While Option 4 maximised benefits, the net present value showed that Option 3 was best value in terms of net present value. Consistent with Option 3, we are proposing \$72.3 million capex.

3.5. Asset management and field enablement

AusNet owns and manages almost 2.7 million assets across Victoria, with one of the oldest in the National Electricity Market (NEM), with many assets nearing the end of their technical life. Ongoing investment is required to maintain network safety and service levels. Management of these assets must account for the differing deterioration rates they experience, driven by the varying environmental and usage conditions they face.

AusNet needs to consider how to manage our assets efficiently and has identified the following areas that require focus:

- Instances of incomplete or incorrect asset records (historic records including as built drawings)
- Data captured by field crew inspections is hard to process
- Clunky inspection data collection and recording procedures

- Lack of integration and connectivity across asset data systems
- Asset risk and investment modelling tools are disaggregated and inconsistent across the business

These limitations hinder timely and informed investment decisions, require extensive manual intervention to manage operational risk, and ultimately increase costs for customers. Recent benchmarking confirms AusNet's data governance maturity lags peers, reinforcing the urgency for improvement.

To manage our ageing infrastructure effectively, we have evaluated a range of options to invest in data-driven asset management and field enablement capabilities. These include capabilities covering centralisation of asset data, monitoring asset health and performance, improving asset rating intelligence and enabling predictive asset maintenance. While our replacement decisions are already robust, these initiatives aim to improve the efficiency and insights that improve those decisions.

We examined four options including:

- Option 1 – Retain current systems (no further investment)
- Option 2 – Uplift asset data collection and storage only
- Option 3 – Capability uplift to good industry practice
- Option 4 – Capability uplift to industry leading systems and practices

Option 3 was the preferred option as it directly addresses all the focus areas and delivers the highest NPV, significantly reduces risk, and aligns with AusNet's strategic goals. It includes nine separate initiatives that will address the five identified gaps in asset data, data collection practices and asset risk and investment modelling tools to enable AusNet to achieve their asset management objectives. The forecast capex is \$27.0 million, along with \$4.3 million opex for project implementation and \$4.6 million opex for on ongoing licences and support.

3.6. Transmission metering

AusNet's transmission business is the metering coordinator (MC) and metering provider (MP) under the National Electricity Rules (NER) for all relevant connection points on its transmission network. In total, we have over 730 NMLs (transmission meter that is not a check meter) and 882 transmission meters. As a metering coordinator (MC), we have regulatory obligations under the NER to ensure meters provide accurate data for the purpose of market settlement and network billing. Meter data is also used to comply with regulatory reporting obligations for greenhouse emissions reporting. Finally, meter data supports planning and operation of the transmission network, for example through information on power quality.

Accurate data is essential to resolve settlement disputes, maintaining confidence in market outcomes, and ensuring that participants pay — and are paid — in accordance with the energy they have traded or transported. We estimate that the wholesale energy value allocation amounts to about \$7.4 billion per annum, or approximately \$9.3 million per NML.

This business case is for digital technologies to support the transmission metering service. We are proposing non-recurrent capex for new technology systems that assist AusNet to meet our regulatory obligations for the delivery of validated and substituted data to AEMO for the purpose of market settlement. In this respect we note that the shift to multi-directional flows significantly increases the complexity of transmission meter reading and data processing. This escalates the likelihood of errors, and hence a capability uplift in our meter data systems and processes is required to maintain the accuracy of settlement data.

In addition to the need for accurate data, we have identified a need to improve our current meter register and to use data from metering for operational purposes through a streaming service.

We identified three options for technology systems which assessed costs and benefits including:

- Option 1 was to continue with our existing arrangements where we rely on an external service provider for MDP without any investment in new meter reading, storage, data and register systems.
- Option 2 was to invest in new systems including a meter reading system, a meter data storage system and data analytics, a streaming system, and a meter register.

- Option 3 sought to test if the removal of the streaming service would increase the net present value of the investments.

Option 2 was the preferred option largely due to the benefits of improved data accuracy for market settlement and greenhouse reporting, improved operational benefits from power quality data, and reduced employee effort. The forecast capex is \$11.3 million, forecast opex for project implementation is \$5.1 million, and forecast opex for ongoing licence and support is \$4.3 million.

3.7. Customer and landholder experience

AusNet's transmission network spans over 10,000 private property holdings and engages with approximately 6,000 to 7,000 unique landholders. As the energy transition accelerates, the scale and complexity of landholder engagement is increasing, driven by major transmission projects, evolving landholder and customer expectations, and new regulatory obligations. Current systems, while foundational, are fragmented and manual, limiting AusNet's ability to most effectively manage relationships, track complaints, and coordinate field operations effectively.

The need for investment is underscored by rising strategic and operational risks. Poor engagement can lead to access refusals, delays, and reputational damage, while regulatory non-compliance carries financial penalties. Landholders expect timely, detailed notifications, opportunities to negotiate access, consistent local contacts, respect for farming operations, fair compensation, and safety support. However, gaps in current capabilities - including inadequate data systems due to limited integration, manual updating and complaint management processes, and disconnected engagement - prevent AusNet from meeting these expectations efficiently.

Additionally, increasing network investment, particularly in asset replacement and augmentation, will significantly expand the number of landholders impacted and the volume of access required. This amplifies the need for scalable, integrated landholder relationship management systems to maintain social licence and support project delivery. Without improvements, AusNet faces higher costs, more refusals, and reduced operational efficiency.

Three options were assessed to determine the most prudent and efficient approach to improve our customer and landholder management systems:

- Option 1 - Retain current systems (no further investment): Continue with manual, fragmented processes, accepting higher operational risk and compliance costs.
- Option 2 - Integrated Transmission Landholder Engagement solution - enhanced systems, automation, and integration
- Option 3 - Self-service Transmission Landholder Engagement solution - adds a self-service portal and AI-driven insights to Option 2

Our recommended option is to implement Option 2. This option balances cost and risk reduction and delivers the highest NPV. The scope would build on existing systems to deliver improved engagement, data accuracy, and operational efficiency, while maintaining flexibility for future enhancements. The forecast capex for Option 2 is \$3.6 million, project implementation opex is \$3.8 million, and forecast opex for ongoing licences and support is \$0.1 million.

4. ICT portfolio checks

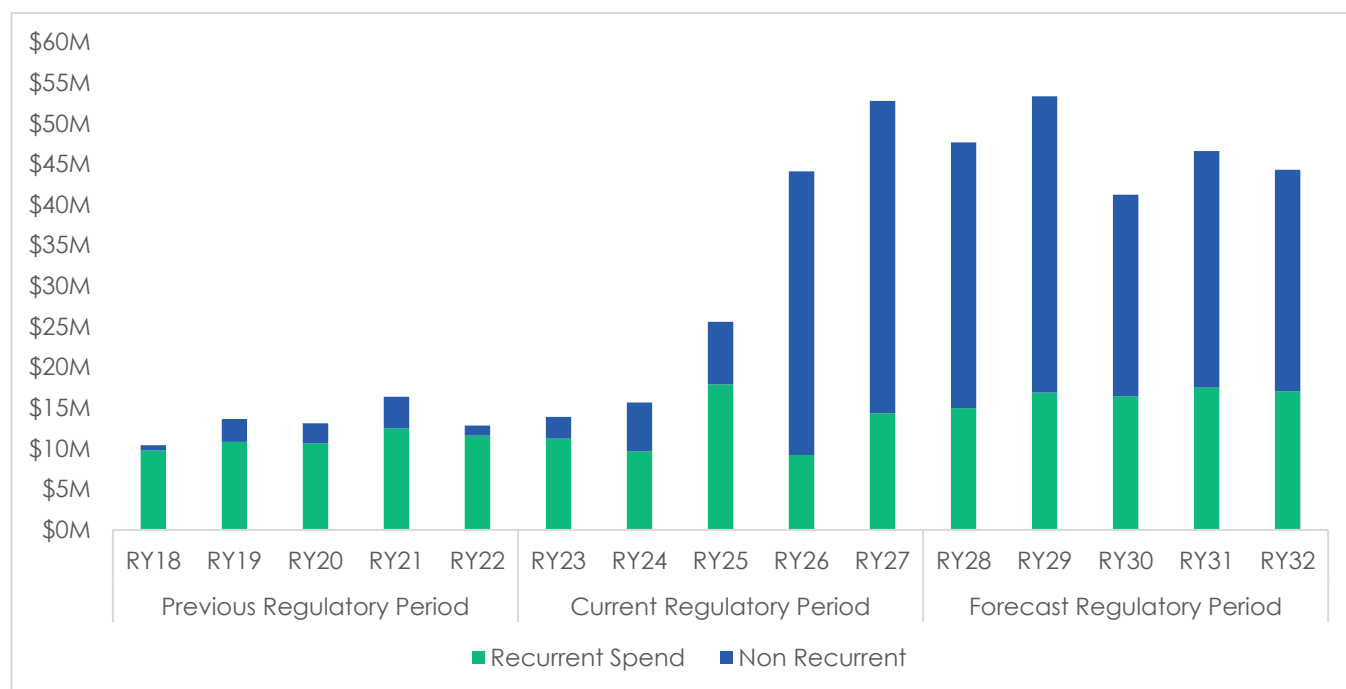
The purpose of this section is to demonstrate that the proposed ICT portfolio for the RY2028-32 period is efficient and prudent, and is deliverable by the organisation.

4.1. Comparison to previous periods

A relevant starting point for assessing efficiency and prudence is to compare the proposed expenditure in the FY2027-32 period to the current and previous periods, and identify the reasons for any variation.

Figure 7 shows the annual capex by recurrent and non-recurrent capex in the current and forecast regulatory period. The increase in the latter years of the current regulatory period and through the forecast period reflects the need to for investment in new ICT capabilities after a period of existing systems maintenance (as detailed in Sections 1 and 2). This investments are required as we face increasing challenges in ensuring power system security, managing cyber-security and ensuring network asset health as our assets approach the end of their technical life.

Figure 7 - Non-recurrent and recurrent capital expenditure from RY18 to RY32 (\$ million, real 2025 excluding overheads)



Note: Costs are direct only and do not include overheads and escalations. In RY26 and RY27, it differs from the ICT capex forecasts utilised in other parts of this proposal because it reflects the latest forecast of digital capex spend per AusNet's 5-year plan (and the up to date and accurate forecast for assessing trends in ICT capex).

The comparison shows that recurrent expenditure has been relatively consistent over time, and remains so in the proposal period. We note that recurrent capex would be expected to rise over time as more applications and systems are implemented, and require continual renewal and updating. We also note that recurrent capex includes the new cyber initiatives we implemented in the RY2023-27 period as we reach the AESCSF Version 1 SP2 standard. Maintaining non-recurrent capex at consistent levels reflects AusNet's efficient management of our digital landscape, and that our procurement strategies are enabling us to obtain value for money from our vendors when completing system refreshes.

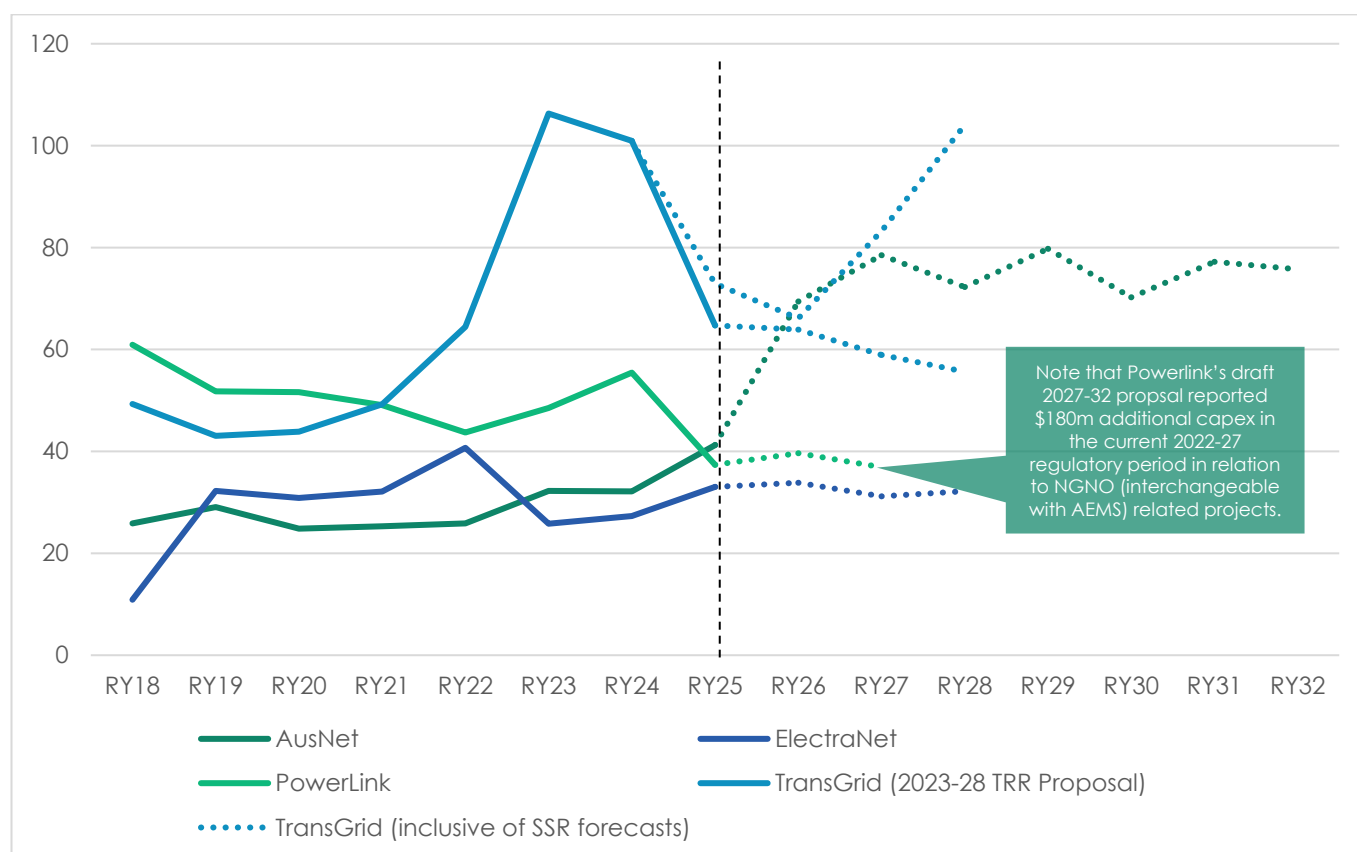
The total expenditure increase across the three periods is driven by non-recurrent expenditure, reflective of the need for enhanced and expanded digital capabilities as detailed in Section 2. Our proposal sees the level of capability enhancing non-recurrent expenditure being delivered in RY2026 and RY2027 continuing into the RY2027-32 period, recognising the need to uplift capabilities.

4.2. Comparison to peers

We have further assessed our ICT expenditure relative to peer networks, based on reported historical and forecast capex. Our individual business cases also provide a qualitative view of our capabilities on cyber, AEMS and asset management such that we can assess if we are leading, keeping pace, or lagging behind our peers.

Figure 8 below shows actual and forecast ICT capex for peer transmission networks from RY2018 to RY2032. Note that data is incomplete, given the varying timelines of network reporting and proposal submissions.

Figure 8 – ICT capex for Transmission Network Service Providers – RY20 to RY32 (\$real, 2025, excluding overheads)



Note: Costs are direct only and do not include overheads and escalations. The dotted lines represent forecasts based on available information at the time of this proposal. RY refers to regulatory year. RY16 to RY24 based on information published in Regulatory Information Notices. For other TNSPs, forecasts from RY25 onwards are based on forecasts set out in RIN workbook 1 of the respective Revenue Proposal. For Transgrid, a separate dotted line has been included to reflect the expenditure set out in relation to the System Security Roadmap Operational Technology Upgrades (SSR) project. NGNO refers to Powerlink's Next Generation Network Operations project.

Sources: AER, Transgrid – Determination 2023-28, January 2022, accessed [here](#); AER, Powerlink – Determination 2023-27, February 2021, accessed [here](#); AER, ElectraNet – Determination 2023-28, January 2022, accessed [here](#); Powerlink, Powerlink 2027-32 Revenue Proposal (Draft), September 2025, accessed [here](#); Transgrid, System Security Roadmap Operational Technology Upgrades: RIT-T Project Assessment Conclusions Report, accessed [here](#); AusNet

The comparison shows AusNet had the lowest annual capex of peer transmission networks between RY2019 and RY2023. This is reflected in our qualitative capex assessment of our capabilities across AEMS and asset management, with very limited expenditure on uplifting our capabilities in these areas. In the last 2 years of the current period, we will be uplifting our capabilities as we respond to more complexity in the power system, maintain cyber and digital resilience, and invest in asset management systems to maintain asset reliability. We expect to increase our capabilities in the RY2028-32 period, noting that peers have also committed to investments that will be similarly enhancing capabilities when their regulatory proposals are submitted (such as Transgrid's and Powerlink's communicated AEMS programs).

4.3 Portfolio deliverability

Recognising that AusNet is proposing an increase in ICT investment in the FY2027-32 regulatory period, as a final portfolio check we have evaluated the deliverability of the overall program.

As detailed in Section 1, in the current regulatory period we implemented a Strategic Digital Partnership operating model, partnering with two global information technology services organisations to deliver base-business digital operations and maintenance, and to provide project delivery capability. This model enables AusNet to leverage the global expertise and talent pools of these organisations, and to readily scale up and down resources to match the required investment pipeline.

Recognising the near-term business drivers for digital capability enhancements, as described in Section 2, through RY2026 we have scaled up our ICT delivery capacity with our digital partners. This is reflected in the investment profile shown in Section 4.1, with RY2026 forecast to be a material increase from prior years. We note that year to date progress suggests we will be on track to deliver the program for RY2026.

To support this increased investment, and to efficiently and effectively manage the increased digital partner teams, AusNet has additionally restructured and bolstered the Digital and Technology organisation. The organisation has established dedicated delivery governance, including a portfolio management office to manage program delivery, along with in-house architecture and business analyst teams. Collectively, these groups oversee effective and coordinated delivery performance.

With this increased delivery and governance resourcing in place, and RY2026 spend on track to deliver investment comparable with the annual spend in the RY2027-32 proposal, AusNet is suitably positioned to deliver the overall proposal portfolio.

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