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The Economic Impact of the Aura Network

A report for Telstra

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The Aura Network roll out represents a step-change in Australia's backhaul fibre networks delivering sizeable economic benefits for the Australian economy

Committed Network



Express Path

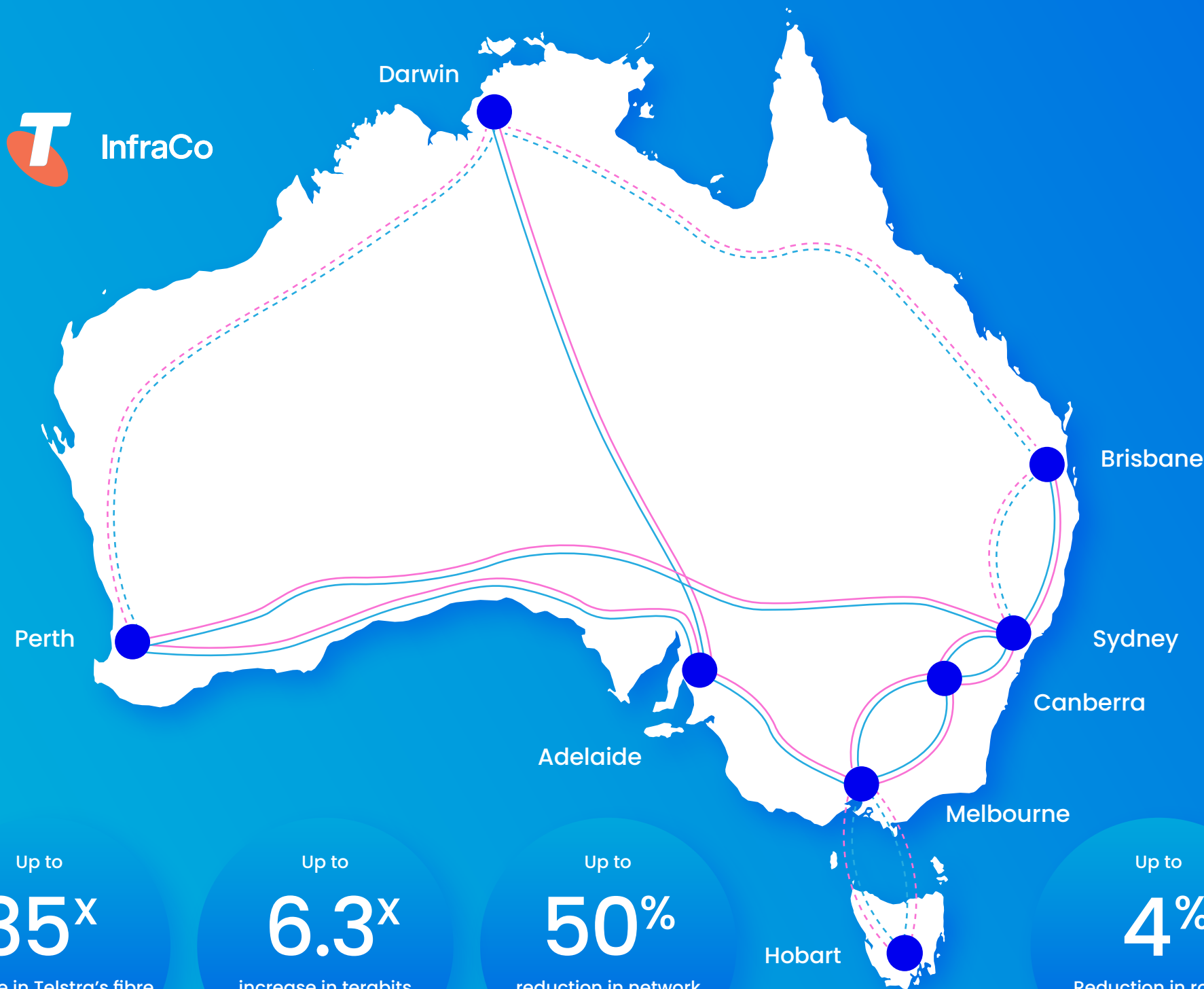


Foundation path

Potential Routes



Path subject to demand



Up to
35^x

increase in Telstra's fibre capacity per Path¹

Up to
6.3^x

increase in terabits per second

Up to
50%

reduction in network impacts²

Up to
4%

Reduction in round trip speed³

Aura Network higher fibre capacity impacts

By financial year 2040 it is estimated that the network will deliver...



\$29b

Uplift to GDP



\$5b

Uplift to regional GDP



84,000

Jobs supported



\$7b

Additional opportunity from Potential Routes



Alignment with government priorities

Aura Network construction and operation impact



8,900

Jobs supported during construction



190

Long-term jobs supported during operations



\$2b

Contribution to GDP

Executive Summary

Australia’s future prosperity will increasingly be underpinned by the ability to move petabytes of data seamlessly across the nation and into the global supply chain.

Telstra InfraCo’s Aura Network, previously known as the Intercity Fibre Network, is a generational, nation-building investment that can underpin Australia’s long-term productivity and digital competitiveness. Under the initiative, Telstra has committed \$1.6 billion into key fibre initiatives including building a world class high capacity, low-loss fibre network with a vision to connect every Australian capital city, enhance connectivity to regional Australia and potential to underpin Australia’s important role within the Asia-Pacific digital landscape.

The Aura Network is a digital highway that provides long-distance, high-capacity city-to-city fibre links, which underpins the rapid growth of data generated by cloud computing and emerging technologies such as AI, IoT, and edge-computing applications. Importantly, it can enable local entrepreneurs and industry to compete across the region and globally.

A new digital backbone for Australia

Built with a Dual Cable Diverse Architecture, the Aura Network features two parallel cable systems:

Express Cables provide direct, high-capacity connections between capital cities and key data hubs, including data centres and subsea landing stations.

Foundation Cables extend connectivity to regional communities through more than 2,000 on- and off-ramps, creating opportunities for regional industries.

The first live routes, Melbourne–Canberra–Sydney, are operating in the corridor that has over 90 percent of Australia’s operational data centres. Once complete, the Aura Network can serve as Australia’s new national fibre backbone, delivering multi-terabit capacity and resilient connectivity to secure the nation’s digital future within the Asia-Pacific.

Powering the AI and digital economy with transformational capabilities

Australia is one of the most significant data centre economies in the Asia-Pacific region to support cloud, AI and other emerging technologies. However, AI and the digital economy are not just about compute or connecting the internet, it’s about the ability to transport petabytes of data between data centres, clouds and edge locations within Australia and across the globe. The Aura Network is expected to be critical to future-proofing Australia’s digital infrastructure to handle the explosive growth of data from cloud computing, AI, IoT, and edge applications. Australia’s cloud market is projected to triple from \$18 billion in 2024 to \$55 billion by 2034,¹ while generative AI could deliver \$115 billion in economic benefits by 2030,² and the technology sector expected to contribute \$250 billion to the Australian economy by 2030.³

Customers spanning hyperscalers, carriers, neoclouds, governments, data-centre operators, and resource companies can benefit from

up to 35× greater capacity per path and 50% fewer network impacts compared with typical terrestrial networks.

As the digital economy accelerates and becomes increasingly global, minimising latency has become a critical priority. To remain competitive in today’s digital-first marketplace, organisations must enable real-time decision-making, seamless remote operations, and scalable, data-driven applications. The Aura Network can empower Australia to meet the escalating demands of a modern digital economy.

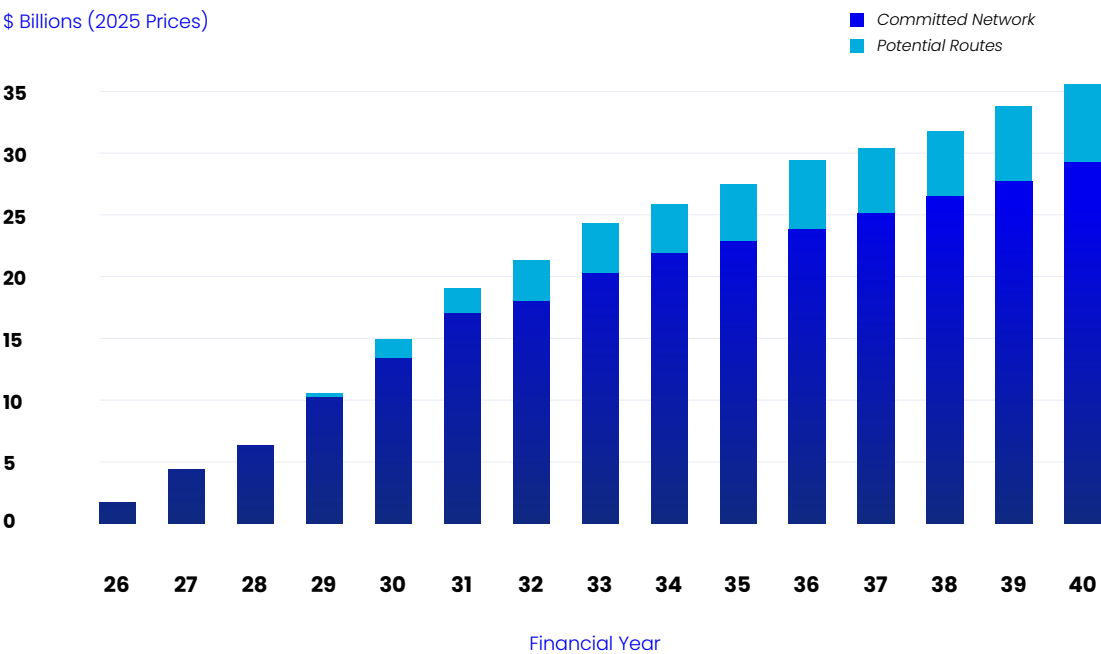
Enabling critical national use cases

The Aura Network can transform how Australian businesses and governments operate enabling them to securely innovate, scale and export. Key applications could include:

Mining: Enabling live video, high-resolution imaging, and predictive analytics for mining digital twins and autonomous trucks.

Defence: Delivering resilient, sovereign fibre links to Northern Territory defence sites, and supporting projects such as Tamboran Resources’ proposed US\$5 billion data centre.

Fig. 1. Impacts of the Aura Network on GDP, FY26 – FY40



Source: Oxford Economics analysis 2025

1. Expert Market Research, Australia Cloud Computing Market Size Report | 2025-2034.
2. Microsoft and Tech Council of Australia, Australia’s Generative AI opportunity, July 2023.
3. Tech Council of Australia, Roadmap to Deliver One Million Tech Jobs, 2021

Healthcare: Supporting genomic sequencing, telestroke services, and real-time tele-robotics through national hospital networks.

Agriculture: Enabling real-time satellite and drone analytics for precision farming and crop simulation, supporting an agritech market projected at US\$2.4 billion by 2033.

Education: Connecting supercomputing and AI resources such as the Pawsey Supercomputing Centre to campuses across Australia for immersive digital learning.

Driving economic growth and regional opportunity

Independent modelling by Oxford Economics estimates the Aura Network could deliver \$29 billion in additional GDP and 84,000 extra jobs by FY40 from the *Committed Network* alone. Expansion to the *Potential Routes* could generate a further \$7 billion, for a total of \$36 billion in GDP and over 100,000 new jobs nationwide. Regional Australia stands to gain \$5.1 billion in added GDP by FY40, with an additional \$1.5 billion with expansion to *Potential Routes*, particularly across agriculture, mining, and renewables as automation and data-driven operations accelerate.

Unlocking Australia’s full digital potential

The Aura Network directly supports national and state priorities in productivity, cybersecurity, regional development, digital transformation, and Australian innovation. It also facilitates workforce upskilling, as highlighted in the Productivity Five Pillars Inquiry and Economic Reform Roundtable. Completion of the project is critical to initiatives such as the Digital Government, Future Made in Australia and Cybersecurity Strategies as well as empowering smart city developments, and

preparations for the 2032 Brisbane Olympics – driving productivity, innovation, and job creation across Australia.

It is also vital to support the material investment currently being made in data centres. Australia already ranks among the top 10 for live built-out data capacity,⁴ and could rise to third globally based on the development pipeline. To support this activity, sustained investment in high-capacity connectivity is essential as data centres cannot operate in isolation – they rely on fibre connectivity.

Without expansion of the *Potential Routes*, AUD \$7 billion in GDP could remain unrealised.

Realising the full benefits of the Aura Network requires:

- Streamlined planning and approvals across federal and state jurisdictions.
- Coordinated access to public corridors and shared infrastructure.
- Strategic partnerships between government and industry.
- Sustained government commitment to advancing Australia’s digital economy and sovereign capabilities – particularly given the nation’s strategic role in global supply chains. This includes a stronger emphasis on digital inclusion, ensuring Australians and businesses benefit equitably from the new connectivity infrastructure.
- Targeted skills development to build and maintain the network and its digital ecosystem.

By building this digital backbone, Australia can ensure its cities, regions, and industries are future-proofed and connected, securing a generational opportunity to lead in the AI and digital economy.

4. CBRE, *Why Australia for Data Centres*, August 2025.



Introduction

As Australia’s leading telecommunications company, Telstra plays a pivotal role in the nation’s digital infrastructure. Telstra has created a standalone digital infrastructure division, comprising Telstra InfraCo and other investments, and is prioritising its focus on digital infrastructure under Telstra’s Connected Future 30 strategy. Its robust fixed and mobile network support essential communication for residential consumers, commercial enterprises, and government entities as well as the connectivity needs of other carriers, hyperscalers, satellite operators and other large tech companies. By investing heavily in network deployment and modernisation, Telstra stands at the forefront of driving Australia’s digital transformation.

Telstra has committed \$1.6 billion to new digital infrastructure, primarily funding the initial roll out of the Aura Network. This is a vital, generational asset that will deliver high-capacity, low-latency, highly secure connectivity between mainland Australian cities and regional centres across the country, and form part of the global supply chain by enabling connections between data centres and international subsea networks. This advanced fibre optic network has the capability of becoming Australia’s new backbone network, supporting the growing demand for data as the next generation of technologies become mainstream, including AI, robotics and cloud communications. It will enable businesses, government agencies, and consumers to operate seamlessly and efficiently in an increasingly connected and digitised world.

Telstra InfraCo’s *Committed Network* currently consists of laying almost 14,000 km of fibre that will connect all mainland capital cities and support improved connectivity to regional Australia.

The Aura Network is a key piece of infrastructure which will help to fuel the country’s economic growth and future-proof Australia’s digital economy for decades to come.

1.1 Introduction to economic impact analysis

Oxford Economics have conducted an independent assessment of the economic impact of Telstra InfraCo’s Aura Network over the next 15 years. 15 years represents a reasonable length of time to appraise the impacts of the network as it allows sufficient time for uptake, whilst there is still a good degree of confidence in the assumptions and forecasts over this period.

This report examines how the rollout of the new network will contribute to Australia’s economy both through the impacts of its construction and operation, as well as the wider impacts on economic growth from higher capacity and resilience.

We estimate these impacts quantitatively across two distinct methods as outlined by Fig. 2 below.

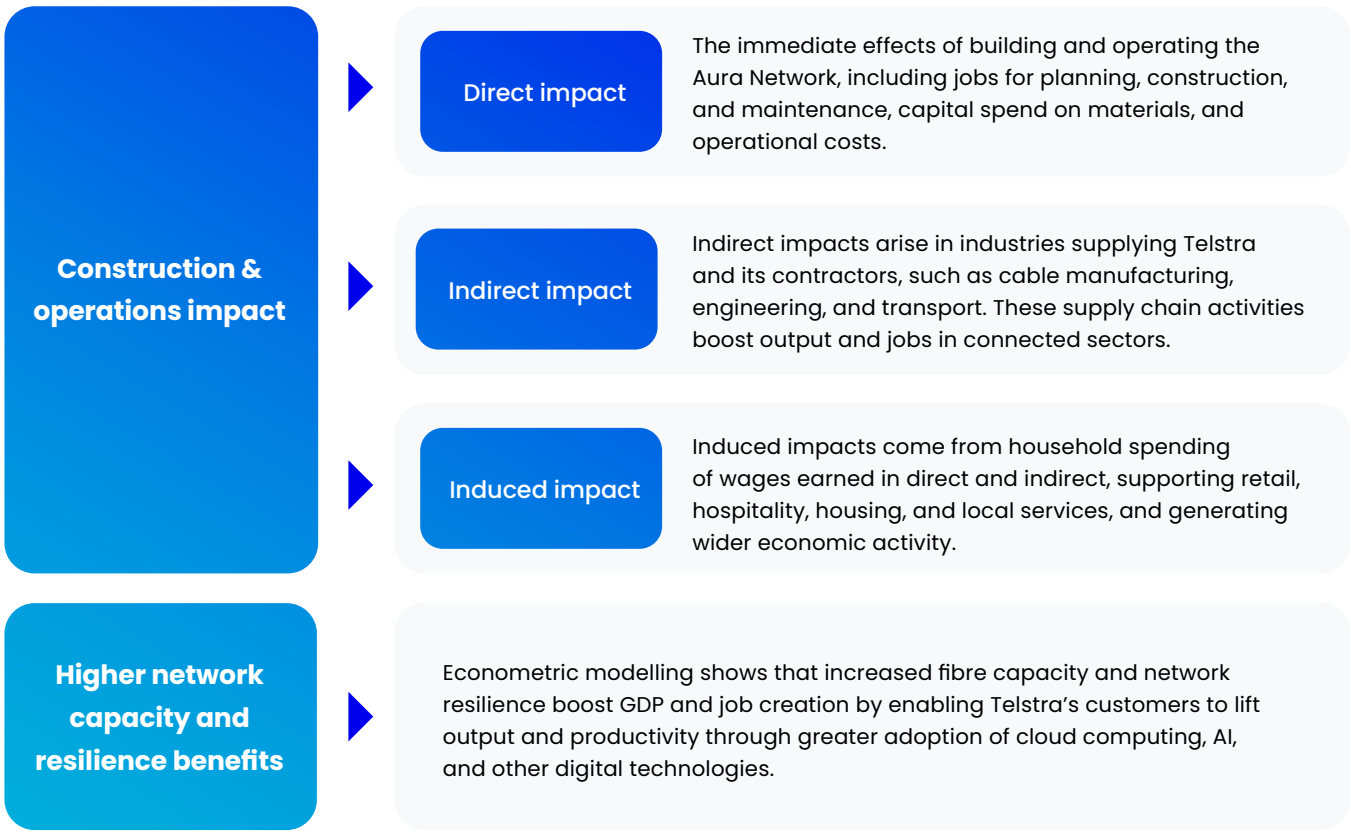
The **construction and operations impacts** of the Aura Network capture the economic activity generated by the building of the network and its subsequent operations. This includes the direct, indirect and induced impacts, which capture not only the impacts of Telstra InfraCo and its contractors, but also the impacts through the complex supply chain to support the build and maintenance of the network, as well as the impacts of wage-induced spending of employees in local economies.

The **higher network capacity** captures the long-term supply-side benefits that the Aura Network

provides to the Australian economy. The Aura Network will enable, amongst other things, greater leveraging of advanced technologies, digital transformation of private and public services and advancement of the digital economy. For example, enabling Pilbara autonomous haul fleets to access richer data streams such as live video,

high-resolution imaging, and predictive modelling can trim unplanned downtime and increase truck utilisation, raising productivity and output across iron ore mining. These will enhance Australia’s productive potential in the long run leading to GDP and job growth spread across many areas of the country.

Fig. 2. Approach to modelling the economic benefits of the Aura Network



The remainder of this report is structured as follows:

- Section 2** demonstrates the importance of Australia’s fibre networks.
- Section 3** outlines the criticality of the new Aura Network.
- Section 4** presents the higher capacity benefits of the network.
- Section 5** assesses the direct and indirect economic impact of the construction and operation of the network.
- Section 6** discusses the key enablers required to unlock the benefits.

Australia’s Digital Infrastructure: Fibre Networks

The connectivity infrastructure of fibre networks can be simplified down into three broad network types: the [International Network](#), the [Backhaul Network](#) and the [Access Network](#) – each serving different purposes (see Fig. 3).

The [International Network](#) consists of connectivity networks outside of Australia’s borders which includes the international subsea cables that connect Australia to the rest of the world as well as the connectivity infrastructure within the borders of other nations. For example, if US data needs to reach Australia, the traffic would travel through international subsea cables and would land in Australia via Cable Landing Stations (CLS) before moving onto the domestic fibre networks, and eventually onwards where that data is required.

The [Backhaul Network](#), constitutes the fibre connectivity that links Australia’s cities and/or regions together as well as providing connectivity between key digital infrastructure such as data centres, cables landing stations, points of interconnect and satellite ground stations.

The Backhaul Network is purpose-built to typically meet the demands of large organisations such as hyperscalers, occupants within data centres, and other providers of digital infrastructure, addressing their unique infrastructure and critical connectivity requirements. It has traditionally been built terrestrially, but is now extending to subsea, such as the SMAP deployment that will connect Sydney, Melbourne, Adelaide and Perth.

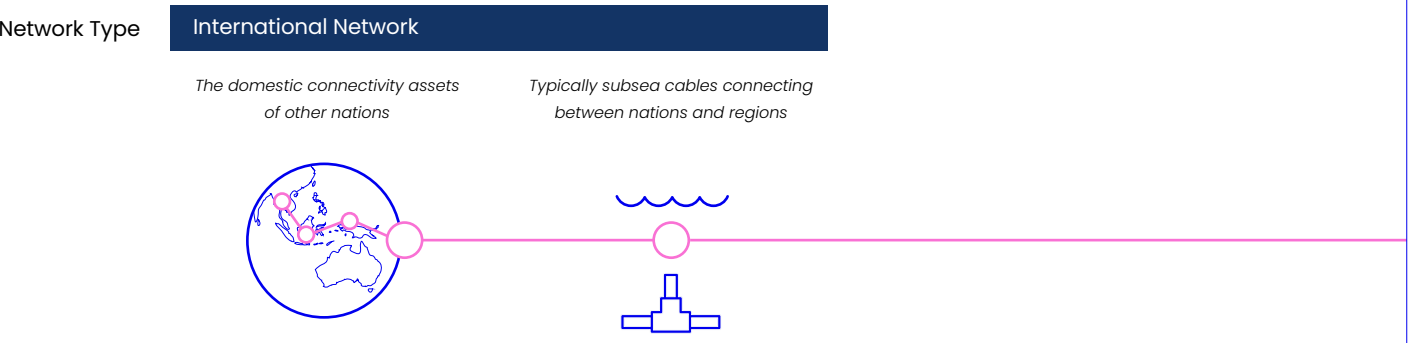
The Aura Network forms part of the Backhaul Network, providing terrestrial long-haul connectivity between major cities and enhance connectivity to regional Australia via regional on-and off-ramps.

The [Access Network](#), also known as the “last-mile,” is typically provided through local fibre (such as NBN fibre to the premise network), mobile towers or satellites enabling households, businesses, and government agencies to connect their digital services through a wide range of devices. This connectivity spans a diverse range of customer end-points from everyday home routers and household devices like laptops, mobile phones, and TVs to more sophisticated smart equipment such as Internet of Things (IoT) devices and enterprise end-points like autonomous mining vehicles.

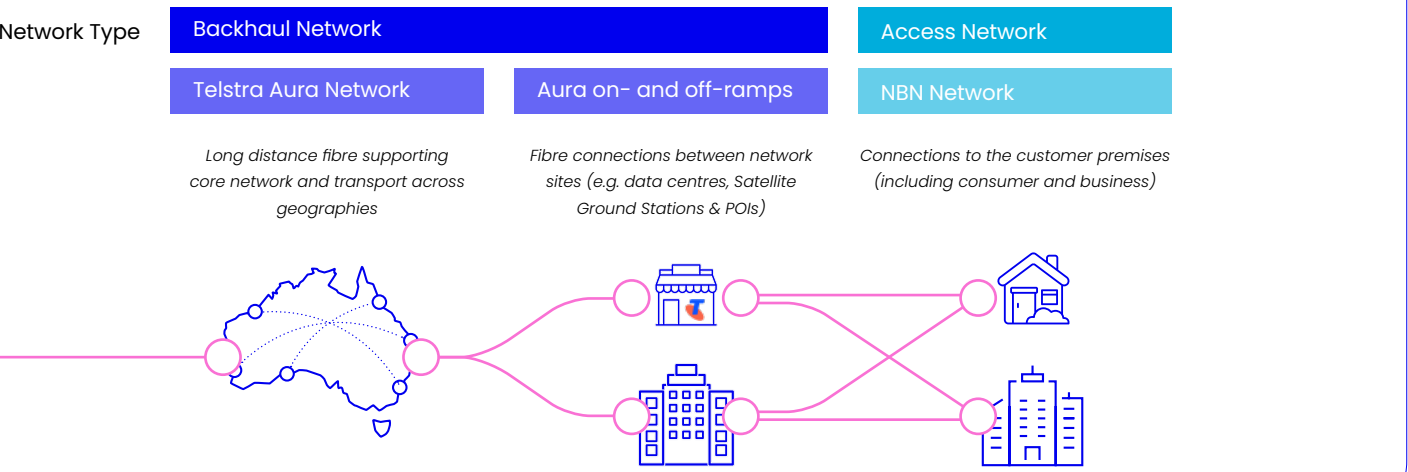
Combined, these three network types serve as essential infrastructure providing the digital connectivity that underpins the Australian economy, integrating applications, homes, businesses, data centres, telecommunication providers and end-users into a unified ecosystem.

Fig. 3. The Aura Network’s role within the digital infrastructure networks

International fibre



Domestic fibre



Differences between the Aura Network and the NBN

The Aura Network and the NBN serve distinct but complementary roles in Australia from a customer perspective.

The Aura Network and the NBN serve distinct but complementary roles in Australia from a customer perspective.

The NBN primarily focuses on delivering internet access to homes and businesses nationwide with targeted investment into the Access Network, by acting as wholesaler to carriers such as Telstra, Optus and TPG. To provide this last-mile connectivity, the NBN leverages a mix of existing telecommunications infrastructure and various technologies, including Fibre to the Premises (FTTP), Fibre to the Node (FTTN), Hybrid Fibre Coaxial (HFC), and satellite connections. The NBN primarily moves traffic from a premise back the 121 Points of Interconnect (POI) across Australia. From there the

NBN traffic is typically carried across other networks to move between the Points of Interconnect and move across Australia.

By contrast, the Aura Network, is more like a national information superhighway, that focuses on delivering long distance, high-speed city-to-city fibre links and supports the NBN network in moving its NBN traffic and between Points of Interconnect and across Australia.

Together, these networks form parts of the various links in the overall connectivity chain that support Australia’s broad spectrum of internet and connectivity needs, from residential users to large-scale global tech.

2.1 Australia’s need for the next generation
intercity fibre network

Australia’s economy is entering a data-intensive phase in which enhanced focus on productivity will drive persistent focus on automation and digitisation, and advanced technologies including AI, multi-cloud, IoT and high-definition streaming are becoming ubiquitous. The uptake of data and data protection expectations is also expected to precipitate stronger emphasis on data sovereignty. Australia’s potential as a secure, high-performance hub for the Asia-Pacific is also materialising, with Sydney and Melbourne the 4th and 7th largest data centre markets, respectively, in APAC.⁵ Fibre infrastructure that has higher capacity and is faster, more geographically dispersed and demonstrably resilient is critical to support data centre industry’s increasing connectivity requirements.

There are five interconnected factors driving the need for increased capacity of Australia’s backhaul fibre network:

Data demand growth

Enterprise cloud: Over 90 per cent of Australian organisations already use multi-cloud architectures,⁶ with global network traffic predicted to increase five to nine times by 2033.⁷

AI: 84% of Australian knowledge workers use Generative AI at work, which has the potential to deliver up to \$80 billion in productivity benefits by 2030.⁸ To unlock this value at scale, the Aura Network can provide the high-capacity bandwidth required to support the deployment and expansion of AI applications across industries and regions.

Increasing bandwidth requirements: Increasing streaming volumes and at higher resolutions, digital commerce and immersive services continue to raise baseline bandwidth expectations for households and SMEs.

Data centre growth

Cloud and data centres: Microsoft has announced an AUD 5 billion expansion in its hyperscale cloud computing and AI infrastructure in Australia⁹ while Amazon plans to invest AUD 20 billion¹⁰ into cloud regions and supporting green energy projects. Independent analyses indicate national data-centre capacity will more than double from 2024 to 2030.¹¹ This enhanced data centre capacity requires robust backhaul connectivity to ensure seamless integration into the broader digital infrastructure ecosystem.

Expansion of advanced wireless networks

Mobile technologies (5G, 6G): The three major carriers are accelerating nationwide 5G roll-outs. Over the seven years to the end of FY25, Telstra has invested AUD 12.4 billion in mobile networks nationally and has committed a further AUD 800 million to expand 5G over the next four years.¹² Optus and TPG’s AUD 1.6 billion¹³ network-sharing agreement, signed in 2024, is focused on boosting regional coverage. Historically, each new mobile network generation has driven higher capacity and lower latency requirements, which could place greater demands on backhaul fibre infrastructure.

LEO and GEO Satellites: Australia ranks 4th among OECD countries in satellite broadband adoption, with 0.34% per 100 inhabitants – above

the OECD average of 0.22%,¹⁴ Low Earth Orbit (LEO) and Geostationary orbit (GEO) satellites are increasingly vital for connecting regional and remote regions, with Amazon’s Kuiper Network of over 3,200 LEO satellites to be launched by 2026 as one of many constellations aiming serve communities throughout Australia.¹⁵ These satellites connect to Satellite Ground Stations (SGS) which in turn requires high-capacity low latency fibre to move their traffic from typically regional SGS locations and into populated areas where the data is used or stored.

Subsea cable investment

New trans-Pacific and intra-Asia systems have been announced by companies such as Google, Meta, and Southern Cross as well as both the Australian and U.S. governments funding additional spurs off these new networks. These new systems will increase route diversity, reduce latency and strengthen sovereignty across the Asia-Pacific region – serving as a strong signal of the region’s accelerating future data growth.

The projected growth in data traffic, cloud and AI requires timely capital investment in digital infrastructure. Without this, Australia could lose investment offshore, affecting our global competitiveness and constraining Australia’s prospects. Expanding backhaul fibre capacity can anchor compute and data services onshore, positioning Australia to seize generational opportunities in AI, sovereign data capabilities, and the broader digital economy.

Resilience and security imperatives

Uptime: Latency needs to approach zero as new use cases evolve (including telemedicine and autonomous vehicles) and as customer expectations continually rise. The growing demand for resilient connectivity is reflected in customers increasingly requesting higher levels of redundancy, progressing from dual to quad diversity, particularly among larger clients.

Sovereignty and Cybersecurity: The demand for national data ecosystems is expected to grow as concerns around data protection intensify. At a regional level, escalating global security concerns are accelerating the development of new defence-critical infrastructure, including overbuilding existing networks to ensure redundancy. Australia’s political stability within the Asia-Pacific region makes it an attractive location for sovereign cloud and data storage if domestic digital infrastructure meets the stringent security standards including encryption, segmentation, supply-chain assurance and compliance with evolving critical-infrastructure regulation.

5. Cushman and Wakefield, *APAC Data Centre Update*, August 2025.
6. Forrester, *The State Of Cloud In Australia And New Zealand, 2024*, January 2025.
7. Nokia, *Global Network Traffic Report*, November 2024
8. Microsoft and LinkedIn (2024) 2024 Work Trend Index Annual Report; Microsoft & Tech Council of Australia (2023) Australia’s Generative AI opportunity
9. Microsoft, *A \$5 billion investment to help Australia seize the AI era*, October 2023.
10. Amazon, *Amazon investing \$20bn into Australia*, June 2025.
11. Mandala, *Empowering Australia’s Digital Future*, October 2024.
12. Telstra, *Telstra Annual Report 2025*, August 2025.
13. Singtel, *Optus and TPG Sign Network Sharing Agreement*, April 2024.

14. OECD, *Fixed and mobile broadband subscriptions per 100 inhabitants*, June 2024.
15. Amazon, *Project Kuiper partners with NBN Co to bring LEO satellite broadband to rural Australia*, October 2025.

The Aura Network

3.1 Overview of the Aura Network

Telstra InfraCo's Aura Network is expected to stand as a cornerstone of Australia's digital infrastructure ecosystem, delivering unparalleled connectivity across major cities and regional hubs, providing high-capacity and low latency empowering businesses to manage growing data needs and support critical applications.

The **Aura Network** is a long-haul fibre network that has been designed with a 'Dual Cable Diverse Architecture',¹⁶ which is two separate fibre networks (Express Path and Foundation Path) built simultaneously, connecting Australian capital cities with two diverse Paths between cities (see Fig. 4).

The **Express Path** is a high-performance network consisting of 72 fibre pairs of Ultra-Low-Loss (ULL) fibre and is designed to provide point to point connectivity between Australian capital cities. The ULL fibre enables a better signal to noise ratio over longer distances resulting in significantly higher transmission capabilities. Coupled with the benefit of over 30% fewer In-Line Amplifier sites and fibre that's more resistant to bending, there's less active equipment and reduced maintenance, meaning lower risk of network impacts for more reliable backhaul services.

The **Foundation Path** consists of 72 fibre pairs of Low-Loss (LL) fibre and is designed to connect not only the capital cities but also providing the infrastructure to connect to regional and remote

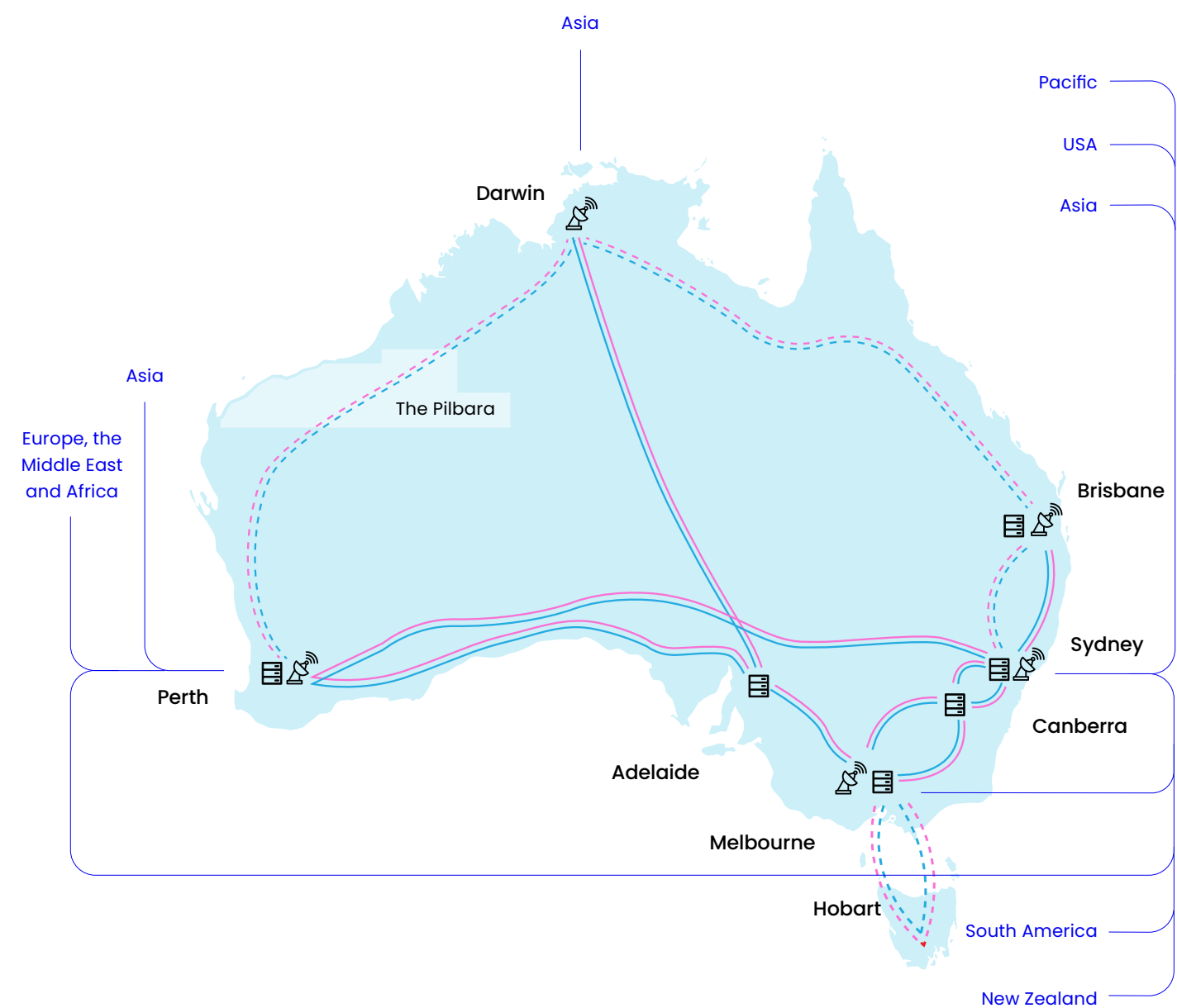
communities along the network paths across Australia. The Foundation Path includes over two thousand on-and off-ramps approximately every 5km, creating an opportunity for regional and remote areas along the network to access this world-class fibre technology. This design helps to reduce some of the costly connectivity barriers empowering regional communities with greater digital opportunities.

The *Committed Network*, the segment currently committed as part of Telstra's \$1.6 billion investment,¹⁷ will cover almost 14,000km and eventually connect all mainland capitals and provide access to regional and remote areas across the country via access points across the network.

Additionally, the *Potential Routes*, which is made up of Paths that are subject to demand, could cover a further 13,000km enabling the Aura Network to establish a fully integrated, next generation, high-capacity national communications ring.

In June 2025, Telstra InfraCo launched the first completed Route from Sydney to Canberra, which was followed up with Canberra to Melbourne in September 2025. As of October 2025, the Sydney-Canberra-Melbourne route is live and Telstra InfraCo has completed over 5,100km of network rollout.¹⁸

Fig. 4. Telstra InfraCo's Aura Network



16. Corning, Telstra InfraCo Express Intercity Fibre Network, November 2022.
17. ASX, Telstra future proofs Australia's digital economy with two nation-building projects, February 2022.
18. Telstra LinkedIn, Completion of 5,000km of the ICF network, September 2025.

Disclaimer: This map is an approximate illustration. We will optimise the project rollout by adjusting and phasing routes and kilometres deployed.
Source: Telstra InfraCo

Key product offerings as part of the Aura Network

Telstra InfraCo's Aura Network offers three main products to its customers:

Wavelength

(bandwidth of 100-400 Gbps)

Telstra InfraCo provides a dedicated lit optic connection where the technical equipment is fully managed by Telstra. This is ideal for customers wanting a fully managed high-speed point-to-point connectivity without needing to manage the underlying systems or fibre.

Direct Spectrum

(bandwidth of 3.8 to 15.2 Tbps)

Telstra InfraCo provides the required active equipment along the fibre network (e.g. In-Line Amplifier sites) and the customer provides their own equipment at each end of the fibre connection.

This provides a balance between both control and the flexibility of performance of the connection through Bring your Own (BYO) equipment and self-management of this equipment. Direct spectrum can be seen as the middle-ground between a Wavelength and Dark Fibre service. This is typically used by customers with technical capabilities.

Dark Fibre

(bandwidth of over 60 Tbps)

Telstra InfraCo provides unlit optic fibres and equipment space along the network (e.g. In-Line Amplifier sites and colocation racks) where customers install and manage their own equipment. Customers benefit from this service as it provides them the maximum control over their connection and configuration.

This is ideal for technically advanced customers - such as hyperscalers and telecom operators - who require dedicated, private infrastructure and demand high-capacity connections with maximum flexibility and control.

3.2 The enhanced performance of the Aura Network

The Aura Network utilises world class technologies and is expected enable improvements in capacity, resiliency and latency for users on the network. The improvements seen in these metrics are essential to not only enhancing customer experiences but also ensuring the network is equipped to handle the ever-increasing connectivity demands and being a future-ready infrastructure that can support innovation for

decades to come. A comparison between today's typical network connectivity and the new Express Network Path revealed improvements across key performance enhancements spanning capacity, resiliency, and latency, demonstrating a significant leap forward in network quality and reliability (see Fig. 5). In addition to the estimated improvement of reduced network impacts¹⁹ for each Path, all Routes are designed with diverse Path architecture which reduces single point of failure, increases operational efficiency and ensures customers remain connected.

19. Network impacts: Refers to the frequency and nature of transmission-related disruptions. A network impact does not necessarily result in a customer-facing outage due to the presence of protected services and built-in redundancy. These impacts may include performance degradation, infrastructure stress, or service continuity risks that are mitigated before reaching customers.





Fig. 5. Forecasted Aura Network performance benefits

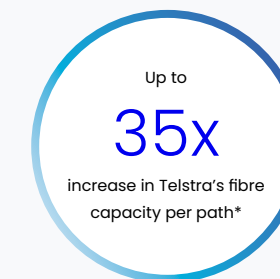
Fibre pair capacity

The Aura network will deliver the high-capacity infrastructure businesses need to harness digital technologies, data and innovation.



Network capacity

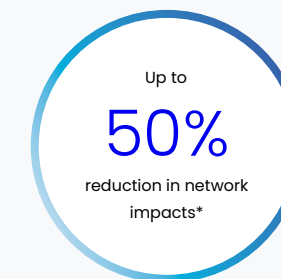
The Aura network will create a step change in new capacity across Australia, building on Telstra's existing fibre network capacity.



* Based on comparison with a standard 24 fibre pair configuration

Resilience

The Aura network is estimated to reduce network impacts through newer deployment standards and higher quality fibre.



* Improvement estimated based on a 10-year forecast of transmission network operation

Latency

The Aura network's latency will improve when compared to existing Paths through the use of cutting-edge, next-generation fibre equipment technologies and more direct routes.



* Based on analysis factoring in fibre type and planned route distances

Source: Source: Telstra supplied performance data (see Appendix A)

In addition to the above metrics the Aura Network will also provide improvements in security, network reach, greater customer choice and sustainability.

Security

The Express Network, which uses ULL fibre with advanced bend specification will better support the introduction of nascent quantum technologies, such as Quantum Key Distribution (QKD).¹⁸ QKD is expected to provide an additional layer of security against cyber-attacks in optical fibre networks compared to traditional encryption methods. Additionally, the Express Network features enhanced security, with cables terminating in dedicated, secure optical distribution frames within exchanges.

Greater Customer Choice

Customers will have more product choice when using the Aura Network when compared to existing long-haul networks. The terrestrial Direct Spectrum

product is a first for Australia and will offer a new way for customers to balance between both control and flexibility through Bring your Own (BYO) equipment and performance of the optic fibre. Additionally, due to the significant increase in fibre count being deployed, it now allows customers to be able to choose Dark Fibre products along Routes where this was previously unavailable due to network capacity constraints.

Greater sustainability

The Aura Network deployment also has significantly advanced the sustainability of fibre deployment by designing a cable that is 59% smaller and 54%²⁰ lighter than previous models, with a higher fibre count and easier handling. These improvements reduce energy use and raw material consumption during manufacturing, cutting 35,000 tonnes of CO₂ emissions²² and enabling longer cable lengths per drum, up to 12km, resulting in fewer transport requirements. This also resulted in the current build savings include over 10,000 tonnes of polymer.

20. Prysmian, Telstra InfraCo Intercity Fibre Network.



3.3 The transformative effects of the Aura Network

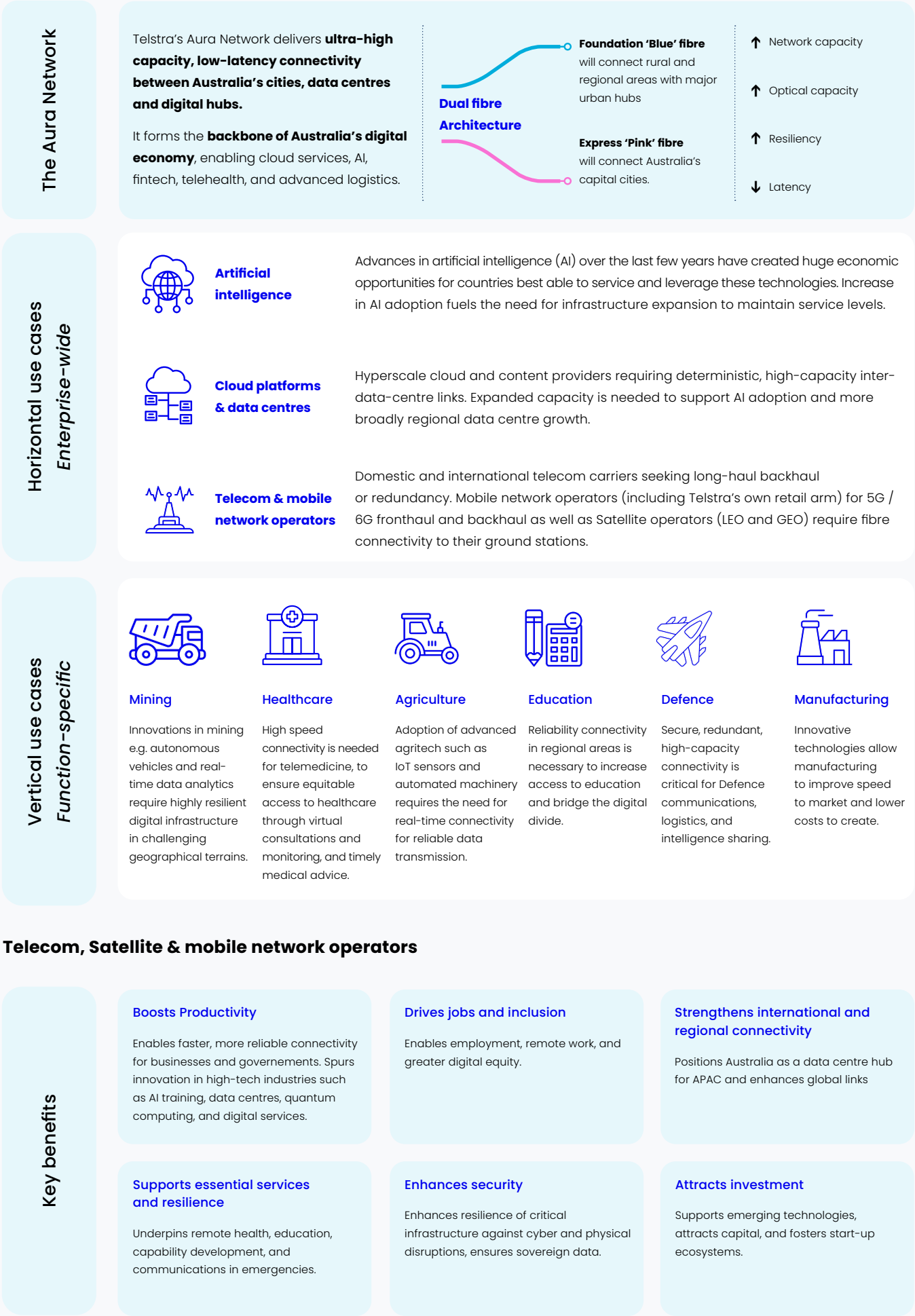
The rollout of the Aura Network is set to play a pivotal role in advancing key areas of the Australian economy that are poised to support the nation’s growth in the coming years. This includes a range of **horizontal use cases** with broad applicability across multiple sectors, such as facilitating automation and the adoption of AI across diverse business functions and enhancing the capacity of cloud platforms and data centres to meet these expanding demands.

It also includes **vertical use cases** specific to the key industries driving Australia’s economy, where adoption of data-intensive technologies is poised to deliver productivity gains.

The enhanced connectivity enabled by the Aura Network will empower businesses that directly provide digital services, such as Software as a Service (SaaS) providers and hyperscalers, enabling them to capitalise on the rapidly expanding digital markets within Australia. At the same time, it can support businesses in non-tech industries, often acting as end-users rather than direct contributors to the digital ecosystem, by giving them the tools to leverage data-driven solutions to improve their operations.

Together, these advancements fuel increased productivity and innovation, stimulate the creation of high-skilled jobs, and play a crucial role in driving sustained economic growth across the nation.

Fig. 6. Example Aura Network use cases and key benefits



We have examined illustrative examples of digital innovation across various industries, where adoption can precipitate a need for higher fibre capacity

Mining

CSIRO’s Integrated Mining team has developed immersive digital-twin solutions for remote operations to make mining safer and more efficient.²¹ In the Pilbara, driverless trucks currently optimise bandwidth by streaming only essential telemetry.²² With the Aura Network, operations could scale to support richer data streams such as live video, high-resolution imaging, and predictive modelling.

Healthcare

Companies like Melbourne Genomics must securely transmit terabyte-scale data between hospitals, labs, and cloud platforms to deliver faster, tailored treatments. The Aura Network could support genomic sequencing and precision medicine by providing the massive optical capacity required for these data-intensive workflows. The Aura Network also enables latency-sensitive, remote robotic care, connecting specialists to patients hundreds of kilometres away. It could support telehealth, such as Telestroke in New South Wales (NSW) and Western Australia (WA), where real time imaging and video for stroke diagnosis is critical.

Defence

The demand for secure, sovereign digital infrastructure is surging. Tamboran Resources has proposed a USD 5 billion data centre.²³ powered

by Beetaloo Basin’s natural gas reserves in NT to support US and Australian defence agencies. The Aura Network can help deliver resilient, high-capacity fibre to these remote regions, enabling co-location near power and resource hubs.²⁴

Agriculture

Australia’s agritech market is expected to grow at a 13% CAGR and reach USD 2.4 billion by 2033.²⁵ CSIRO and the Queensland Department of Agriculture and Fisheries use data intensive crop simulation models to boost crop productivity and resilience in variable climates,²⁶ while trials of multispectral remote weed mapping in WA enables precision herbicide spraying.²⁷ The Aura Network can support real time processing of satellite and drone data, which could drive smarter, more sustainable farming.

Education

The Pawsey Supercomputing Centre in Perth processes massive astronomy datasets for research and development, while the University of South Australia is trialling immersive virtual reality/augmented reality learning and digital twins to solve challenges for people, society and industries.²⁸ The Aura Network may help to link supercomputing, cloud AI, and classrooms nationwide, expanding equitable access to advanced research and immersive education.

21. CSIRO, Unleashing the potential of digital twins, April 2020.
22. BBC, Autonomous vehicles: How mines control driverless trucks, November 2024.
23. Data Centre Dynamics, Tamboran Resources pitches \$5bn natural-gas powered data centre, January 2025.
24. The Strategist, Turning vision into strategy in the north—starting with Beetaloo, August 2025.
25. Imarc Group, Australia Agritech Market Size, Share and Report 2033.
26. Grains Research and Development Corporation, Performance of future farming systems, July 2023.
27. Arxiv, Multispectral Remote Sensing for Weed Detection in West Australia, February 2025.
28. University of South Australia, Research Centre for Interactive and Virtual Environments.



On the world stage, the Aura Network can also support the wider Asia-Pacific region if integrated with existing subsea cables via CLSs. The Aura Network is poised to play an increasingly vital role in enhancing regional connectivity by improving route diversity and strengthening network security.

3.4 Supporting government policies

Telstra InfraCo’s Aura Network provides resilient, high-capacity infrastructure that supports key strategic priorities outlined by Commonwealth and state and territory governments across productivity, sovereignty, digital and technological domains. Backhaul Network fibre infrastructure underpins a sizeable proportion of economic activity across Australia and supports the government’s goals of fostering innovation,

enhancing cybersecurity, and promoting regional development by reducing the digital divide between urban and regional areas.

Additionally, the Aura Network has the potential to support the success and expansion of critical national projects – including major national events such as the 2032 Brisbane Olympics, smart city initiatives, and digital inclusion programs, thereby driving economic competitiveness, job creation, and improved public services in line with Australia’s broader strategic priorities.

The below table demonstrates the Aura Network’s alignment with key government priorities and strategies. See Appendix B for further assessment of the policies and initiatives that the Aura Network could support.



Fig. 7. Alignment with Australian Government priorities

Policy / priority area	High-level objective	How Telstra’s InfraCo’s Aura Network supports the policy
Data and Digital Government Strategy 2030; State level Digital Strategies (e.g. NSW Digital Strategy; and Victoria’s Digital Strategy 2021–2026)	Deliver by 2030 “simple, secure and connected” public services under five missions, with whole-of-government data and digital capability uplift.	The Aura Network is key infrastructure that can underpin the scaling up of advanced, data-intensive technologies to be used by governments to enhance digital services provided to citizens.
Productivity Five Pillars Inquiry	Lift national productivity via digital adoption, skills, infrastructure, innovation and diffusion across the economy.	Strengthening digital infrastructure to better harness data and AI, enabling workforce upskilling through better connectivity, and building a more dynamic, resilient economy with high-capacity, secure backhaul.
Economic Reform Roundtable – priorities & outcomes	Enable business investment and competition by reducing impediments to growth and modernising the economy. Highlighted priorities include AI, workforce skills and modernising services.	The Aura Network can underpin key priorities by delivering the high-capacity, low-latency connectivity needed to make AI and digital transformation a national productivity driver.
Australian Cyber Security Strategy 2023–2030	Strengthen national cyber resilience and protect critical infrastructure through secure architectures and sovereign data handling.	Keeping data flows sovereign and secure, diversifying critical routes, and enabling next-generation encryption and resilience.
Future Made in Australia Act & National Reconstruction Fund	Catalyse advanced industry, clean tech and critical capabilities through targeted investment and enabling infrastructure.	Underpins data-intensive industries with scalable capacity; links regional and remote areas to metro exchanges to enable onshore innovation in compute, AI and advanced manufacturing – strengthening Australia’s global competitiveness. Enables domestic production of high-spec and sustainable fibre cables.

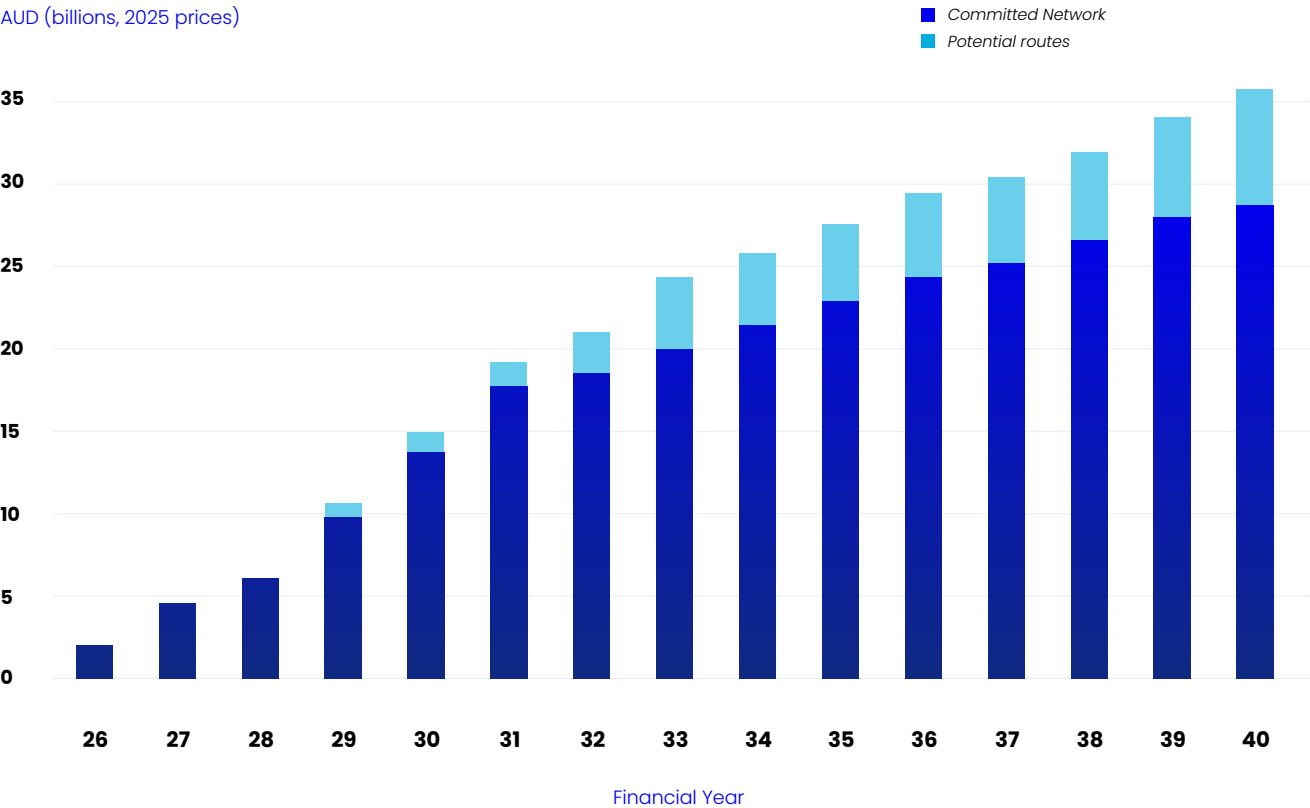
The impacts of the Telstra InfraCo's Aura Network on Australia's economic growth

The Aura Network is poised to become a cornerstone of Australia's digital infrastructure ecosystem, driving local innovation, productivity enhancements and fuelling sustained economic growth across the nation.

As the modern digital economy rapidly evolves and internationalises, the imperative to reduce

latency has never been greater. Real-time decision-making, seamless remote operations, and scalable, data-driven applications are now essential to staying competitive. The Aura Network can empower Australia to meet the escalating demands of a fast-paced, digital-first global marketplace, ensuring businesses remain agile, efficient, and ahead of the curve.

Fig. 8. Impacts of the Aura Network on GDP, FY26-FY40



29. Tech Council, Getting to 1.2 million: Our roadmap to create a thriving Australian tech force, August 2022.

Explainer Box 1: Estimating the long-term economic benefits of the Aura Network

To capture economic impact of the Aura Network on the Australian economy, the historical relationship between Telstra's fibre connectivity supply and economic output is used. This has been done by modelling the historical average effect of bandwidth supplied to Telstra's customers on Australian state level GDP.

The model follows a Cobb-Douglas framework where it is assumed that the supply of bandwidth capacity drives productivity and drives increases in GDP which are not captured by capital and labour inputs.

$$\log(GDP)_{it} = \beta_1 * \log(capital)_{it} + \beta_2 * \log(hours^o worked)_{it} + \beta_3 * Share^o tertiary^o education_{it} + \beta_4 * \log(Bandwidth)_{it} + \mu_i + \epsilon_t$$

The model includes terms to capture productivity increases that are not related to broadband roll out. Data has been taken from the Australian Bureau of Statistics, Oxford Economics' own forecasts of state-level GDP and Telstra data on the Aura Network rollout.

The economic value of the Aura Network lies in how its vastly expanded capacity will enable productivity and job growth across the economy. By lifting fibre capacity, the network will provide the infrastructure required for data-intensive technologies to be used and scaled up in a range of different sectors. As businesses and workers use these technologies to process more data, automate tasks, expand product offerings and create operational efficiencies, it will unlock growth in Australia's productivity.

It will also support jobs indirectly by advancing innovation in sectors such as finance, health, agriculture and mining, and from attracting investment from hyperscalers and global tech

firms who depend on resilient, high-speed infrastructure for their business operations. Importantly, extending capacity into regional centres helps level the playing field between metropolitan and non-metropolitan economies, supporting both job creation and regional GDP growth. To ensure all Australians benefit from enhanced connectivity, the industry must invest in supporting programs that promote digital inclusion and develop the skills needed to build and operate our digital infrastructure. While Australia is on track to create these jobs, filling them will be challenging. It is estimated that Australia will need to employ an additional 653,000 tech workers to meet this goal by the end of the decade.²⁹

4.1 The Aura Network’s impact on GDP

The rollout of the Aura Network could drive substantial productivity gains, boosting Australia’s GDP by \$36 billion (2025 prices) by FY40 compared to baseline forecasts. Within this, we estimate a GDP boost of \$7 billion by FY40 if the *Potential Routes* are completed.

The Aura Network will be key to supporting growth in the digital and technology sectors in Australia, which are primed to be the engine room of economic growth in the coming years. With the technology sector projected to reach a value of \$250 billion,³ the Aura Network can provide the foundational infrastructure needed to unlock this potential. Reliable, high-speed, high-capacity digital infrastructure is a key enabler to achieving these gains.

The benefits of the Aura Network will be felt nationwide, as enhanced connectivity and increased bandwidth accelerate the growth of Australia’s digital economy and beyond. The most significant positive impacts are anticipated in New South Wales and Victoria, Australia’s primary centres of digital economic activity, where the network could unlock considerable potential for further economic expansion.

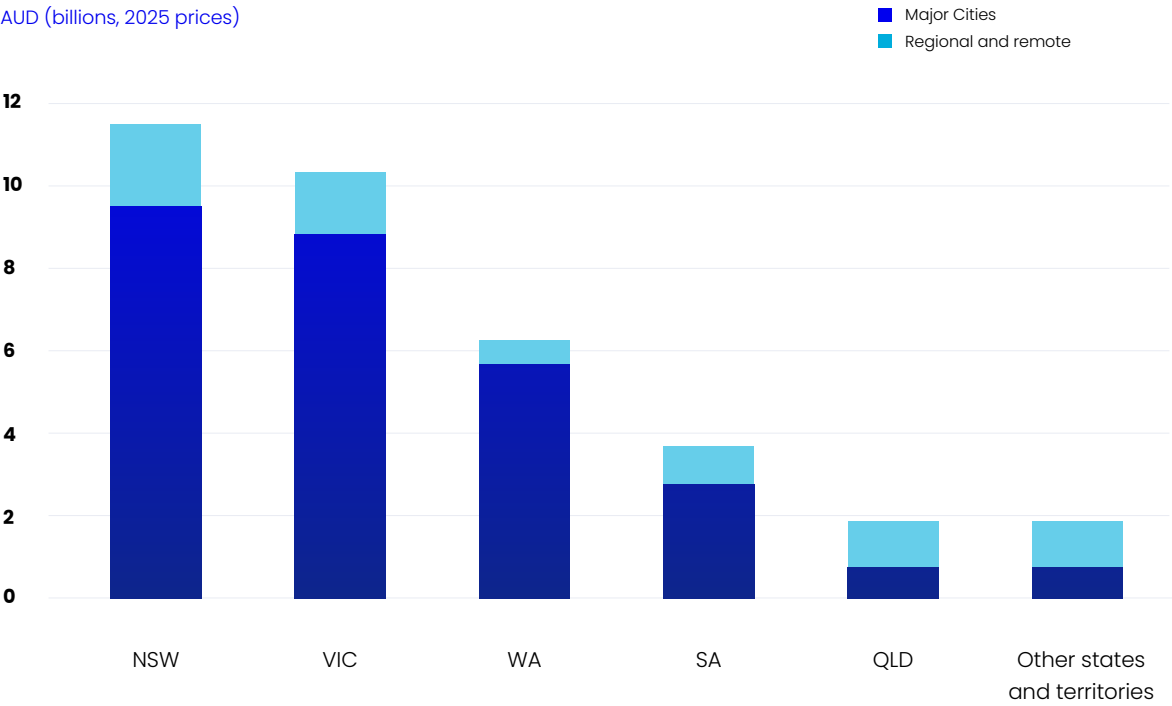
The Foundation Path of the Aura Network will help to spread the benefits of digital connectivity beyond major urban centres and into regional and remote areas of Australia. In key locations such as the Pilbara or Goldfields in WA, the

Foundation Path will provide reliable, high-capacity connectivity to enable businesses in these areas to scale up use of advanced technologies, adopt cloud infrastructure and move data quickly and efficiently. In sectors such as agriculture and mining, which are key drivers of regional and remote economies, the Aura Network can support in scaling up adoption of emerging technologies and innovations such as agritech, autonomous vehicles, sensors and IoT. This will enhance the productive capacities of these areas and fuel local economic growth.

The Aura Network is estimated to deliver \$6.6 billion uplift to the GDP of regional Australia by FY40. This impact is spread around regional and remote areas across the country, with notable uplifts to regional GDP in Queensland, New South Wales and Victoria (see Fig. 9). It is estimated that \$5.1 billion of this is attributed to the *Committed Network*, and \$1.5 billion (23%) of the \$6.6 billion GDP uplift is attributed to the *Potential Routes*.

The Aura Network will be key to supporting growth in the digital and technology sectors in Australia, which are primed to be the engine room of economic growth in the coming years.

Fig. 9. Impacts of the Aura Network on GSP, FY40, by state, by remoteness³⁰



Source: Oxford Economics analysis 2025



30. ABS (2023) remoteness indicators have been used to distinguish major cities from regional and remote areas

Illustrative examples of key Aura Network use cases across states include:

[Smart Cities, New South Wales](#)

New South Wales is at the forefront of digital urban innovation, with the NSW Spatial Digital Twin³¹ initiative integrating IoT sensor data into 4D (3D plus time) city models to improve planning, emergency response, and sustainability.

The Aura Network can add value by enabling scalability and intercity integration. Large scale emergencies such as bushfires and floods do not respect state boundaries, so real-time modelling requires state-wide and national coordination, supported by a high-capacity digital backbone.

[Biomedical Research and Genomics, Victoria](#)

Victoria is a leading Australian hub for biomedical research and genomics, anchored by the Melbourne Biomedical Precinct with over 40 hospitals, research institutes, biotech organisations and universities. Programs such as the Melbourne Genomics Health Alliance³² and Australian Genomics³³ drive large-scale sequencing, precision medicine and clinical research that generate vast datasets across clinical imaging, genomics, and multi-omics. These datasets need to be shared rapidly between hospitals, research institutes and national or international collaborators. While metro fibre supports intra-city exchange, integrating Victoria's medical research into national and global ecosystems depend on high-capacity, resilient backbones like the Aura Network, which can alleviate bottlenecks and accelerate healthcare innovation.

[Mining in the Pilbara Region, Western Australia](#)

The Pilbara offers a major opportunity to modernise mining and uplift the local economy through advanced, data-driven operations. Emerging use cases include digital twins of mine sites,²³ AI-powered ore processing,³⁴ intelligent road monitoring for heavy vehicles³⁵ and smart wearables tracking workers' health and environmental conditions. Unlocking these gains require high-capacity, low-latency, and resilient networks built to withstand explosive data growth and harsh physical conditions.³⁶ The Aura Network can deliver this foundation, enabling safer, more efficient, and globally competitive mining operations.

[Space and Satellite Data, South Australia](#)

Adelaide is home to the Australian Space Agency and the Lot Fourteen³⁷ precinct for Earth observation and satellite innovation. These operations generate multi-terabyte datasets, with many supporting time-sensitive tasks such as bushfire monitoring, flood-modelling and maritime surveillance. Rapid transfer to high-performance computing centres and national research institutes is critical to unlock the full utility of this data.

The Aura Network can provide the low latency, high-capacity connectivity needed to move satellite datasets quickly and securely across Australia.

[Brisbane 2032 Olympic and Paralympic Games, Queensland](#)

As host of the 2032 Olympic and Paralympic Games, South-East Queensland and regional cities throughout the State that are hosting events will face unprecedented digital demand to deliver world-class connectivity for attendees, broadcasters, athletes and businesses. This extends from stadiums to gateways like Brisbane Airport, which is undergoing an AUD 5 billion 'Future BNE' transformation,³⁸ featuring Smart Airport upgrades to manage growing passenger volumes. Meeting these surges requires a digital infrastructure stack that is resilient, hyper-connected, secure and future proof – where the Aura Network can be part of that stack, helping create a State-wide legacy that powers Queensland's economy well beyond 2032.

[Defence and Strategic Operations, Northern Territory](#)

The Northern Territory is central to Australia's forward defence posture, hosting critical assets such as RAAF Bases Darwin and Tindal, and joint US–Australia facilities. These generate high-volume, time-sensitive data requiring ultra-low latency transmission for interstate and global networks for the Australian Defence Force and its coalition partners. With limited long-haul fibre routes, the Northern Territory faces elevated connectivity risks that could compromise mission assurance. The Aura Network enhances resilience, supporting sovereign communications infrastructure and reinforcing the Northern Territory's strategic role under the National Defence Strategy's principles of deterrence through denial and integrated force posture.

[Firmus AI Factory Zone, Tasmania](#)

Firmus' Project Southgate,³⁹ a green AI campus in Launceston, is planned to deliver up to 400 MW of compute capacity, positioning Tasmania at the forefront of sustainable AI innovation. The project leverages the state's unique access to renewable energy and skilled workforce to serve as a hub for AI research, development and deployment across industries. Its success will be highly reliant on efficient long-haul connectivity to move massive datasets across Australia and to international markets, which can be supported by the Aura Network.

[Quantum Technology and National Security, Australian Capital Territory](#)

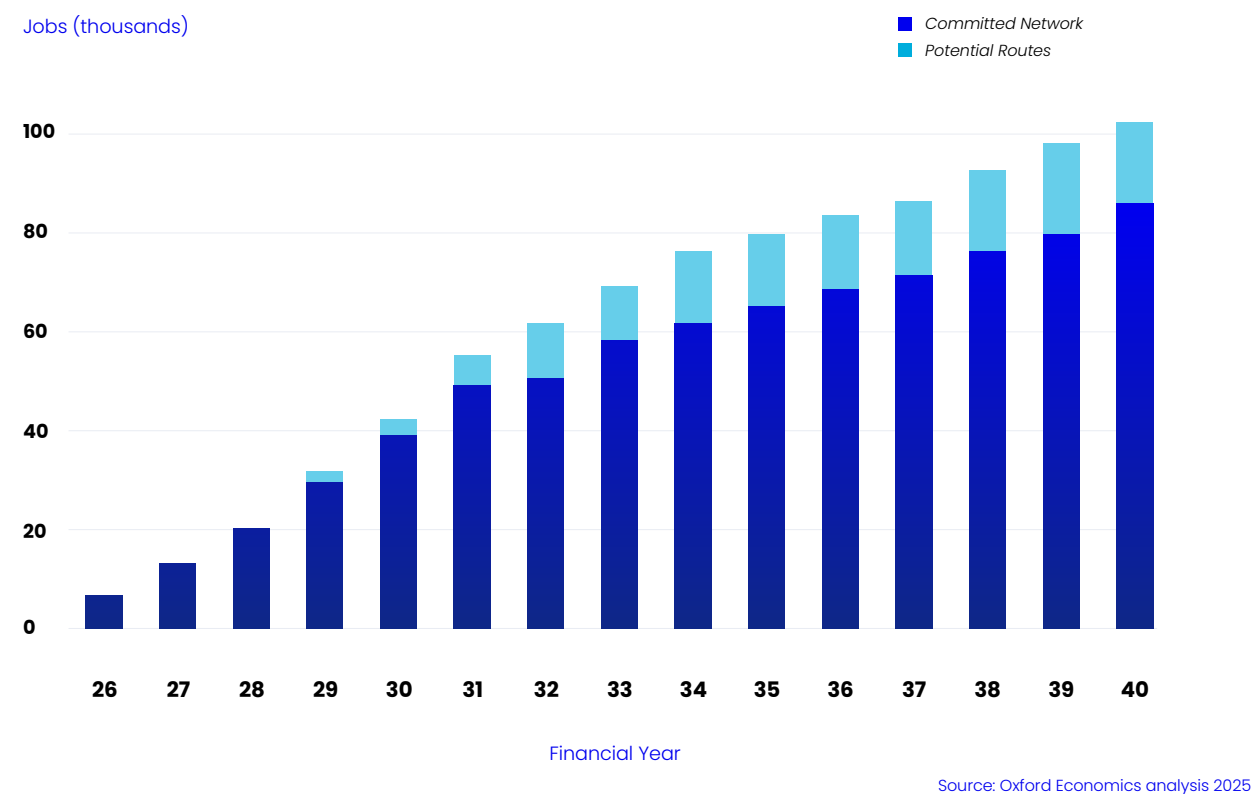
As the centre of government operations and home to Australian National University research hubs, including the National Computational Infrastructure supercomputer, Canberra has high demand for secure digital infrastructure. The National Quantum Strategy⁴⁰ highlights the importance of quantum technologies for advancing research and strengthening cybersecurity. The Aura Network provides the secure, high-capacity backbone to support quantum research, enable quantum-safe communications, and foster national collaboration, aligning Canberra's infrastructure with national security priorities.

31. NSW Government, [NSW Spatial Digital Twin](#).
32. Melbourne Genomics Health Alliance.
33. Australian Genomics.
34. University of Technology Sydney, [Robot sensors to make mining more efficient](#), April 2025.
35. Sensen AI, [How AI is reshaping road safety in Australia](#), July 2025.
36. viAct, [viAct Smart Helmet](#).
37. Defence SA, [Lot Fourteen Precinct](#).

38. BNE, [Major Projects at Brisbane Airport](#).
39. Firmus, [Tasmanian world-first AI Factory Zone clears path for Firmus' Project Southgate](#), July 2025.
40. Department of Industry, Science and Resources, [National Quantum Strategy](#), May 2023.



Fig. 10. Impacts of the Aura Network on employment, FY26–FY40



4.2 The Aura Network’s employment impacts

The Aura Network may also unlock new employment opportunities for Australians through its support of growth in the digital industries such as fintech, telehealth and AI, as well as in more traditional industries benefiting from greater deployment of advanced technologies. Jobs for skilled workers will be created not only in major urban hubs but in regional and remote areas that stand to gain from improved connectivity and a more resilient network.

Empirical evidence has demonstrated that fibre networks stimulate employment and wage growth, primarily for high-skilled workers in digital and technology occupations. Enhancing the productivity of firms and workers increases output and drives employment growth in the sectors that benefit the most from expansion in uses of digital, data and technology.

The full rollout of the network can support an estimated additional 102,700 jobs for Australians by FY40. This represents a 0.6% uplift in employment in Australia.

The majority of the newly created jobs are expected to be as a result of the *Committed Network*, accounting for 84,000 jobs. A further 18,700 jobs are expected to be created if the *Potential Routes* are completed.

The construction and operational impacts of the Aura Network

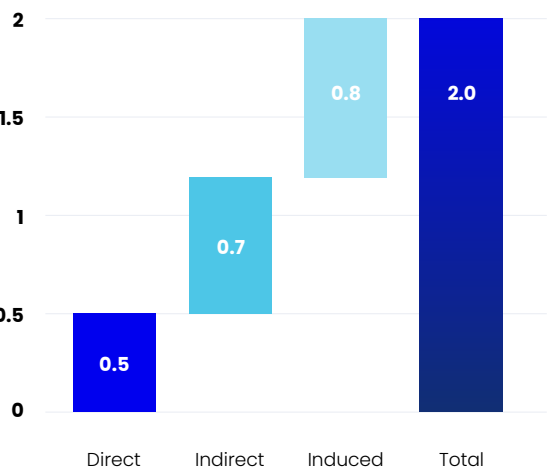
The Aura Network will also directly generate economic activity across Australia through its construction and ongoing operations.

This economic footprint will extend beyond direct impact and ripple out through the industries supplying Telstra and its contractors, while the wages paid to Telstra employees and those employed through the supply chain will also generate further economic activity as they are spent in local economies.

The assessment of the construction and operations impacts of the Aura Network focuses only on the *Committed Network* and does not consider the additional impacts that would arise if the *Potential Routes* were rolled out.

Fig. 11. GDP contribution, by tiers of impact. FY23 to FY40

\$AUD Billions (2025 Prices)



Source: Oxford Economics input-output modelling, 2025

5.1 The Aura Network’s construction and operations economic contribution

The construction and operations of Telstra InfraCo’s Aura Network is estimated to contribute \$2.0 billion (2025 prices) to Australia’s GDP between FY23 and FY40. The economic activity generated by the rollout of the network is estimated to support 8,900 jobs through the construction phase and 190 long term jobs through operations and capital replacement. These economic impacts are the aggregation of the three channels of impact described in Explainer Box 2.

The **direct impact** of the construction and operation of the network is estimated to contribute \$0.5 billion to Australia’s GDP between FY23 and FY40, supporting 3,040 jobs.

The network will rely on a complex network of suppliers throughout Australia, generating a further **indirect impact** on the economy. We estimate the supply chain spending of Telstra to support the network rollout will contribute \$0.7 billion to GDP between FY23 and FY40, supporting 2,960 jobs.

Telstra and its suppliers will pay wages to their staff, which these workers will subsequently use to buy food, clothing and a range of other goods and services. This constitutes the **induced impact** of the Aura Network. We estimate that wage-induced spending from the Aura Network rollout will contribute \$0.8 billion to Australia’s GDP between FY23 and FY40, with 3,090 jobs supported.

Explainer Box 2: Calculating the economic impact of the Aura Network’s construction and operations

The foundation of our assessment is Oxford Economics’ Global Sustainability Model, which includes proprietary models of the Australian economy at the national and state level. This model draws on the latest available statistics from the Australian Bureau of Statistics, and Oxford Economics’ proprietary macroeconomics datasets as well as databases from international agencies such as the OECD Statistics, to enable us to simulate how each sector in the economy interacts with all others.

Using this model we estimated three tiers of economic impact:

Direct impact

The immediate effects of building and operating the Aura Network, including jobs for planning, design and construction, maintenance, capital spend on materials, and operational costs.

Indirect impact

Arising in industries supplying Telstra and its contractors, such as cable manufacturing, engineering, mobile-plant maintenance and transport. These supply chain activities boost output and jobs in connected sectors.

Induced impact

From household spending of wages earned in direct and indirect roles, supporting retail, hospitality, housing, and local services, and generating wider economic activity.

The sum of these tiers amounts to the total economic impact of the construction and operations of the Aura Network in Australia and the results are presented on a gross basis.

The economic impact is estimated using two metrics:

Gross Value Added

Contribution to GDP.

Jobs

Supported during construction and operations.



Case Study of direct investment into Australian capabilities for the Aura Network build

As part of Telstra InfraCo's Aura Network build, Prysmian Australia has made a multi-million-dollar investment to upgrade and expand its fibre optic cable production capabilities at its Dee Why facility in Sydney.

This investment includes commissioning three new production lines – buffering, stranding, and sheathing – as well as auxiliary equipment and additional staff.

As a result, Prysmian can locally manufacture high-spec, sustainable fibre cables from start to finish, supporting Telstra InfraCo's Aura Network with increased production capacity, reduced carbon footprint, and enhanced performance tailored for Australia's unique environmental conditions. This local manufacturing capability supports key government priorities such as the Future Made in Australia Act.

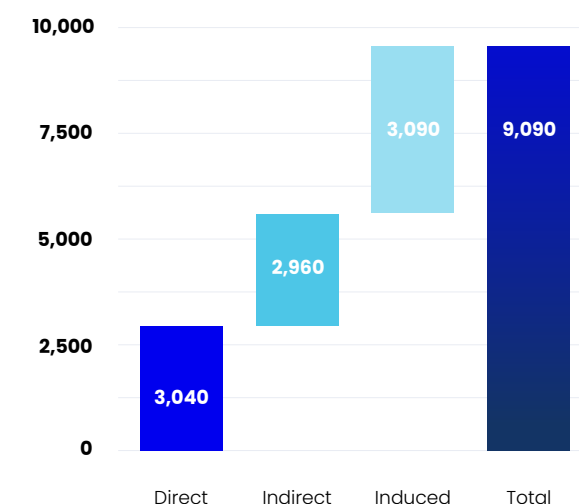
5.2 Key industrial sectors supported by the Aura Network's construction and operations

The construction and operation of the Aura Network will require procurement of goods and services from suppliers in many different sectors of the economy. Between FY23 and FY40, approximately 62% of procurement spending is anticipated to flow to the construction sector, 14% to the information media and telecommunications sector, and 12% to professional services.

Beyond these sectoral impacts from supply chain spending, there are also induced effects arising from employees of Telstra and its supply chain who spend their wages within the local economy. Among the sectors expected to benefit from this induced impact, real estate stands out, projected to account for 23% of the total induced Gross Domestic Product (GDP) impact, followed by the financial and insurance sector, which is expected to account for around 12%.

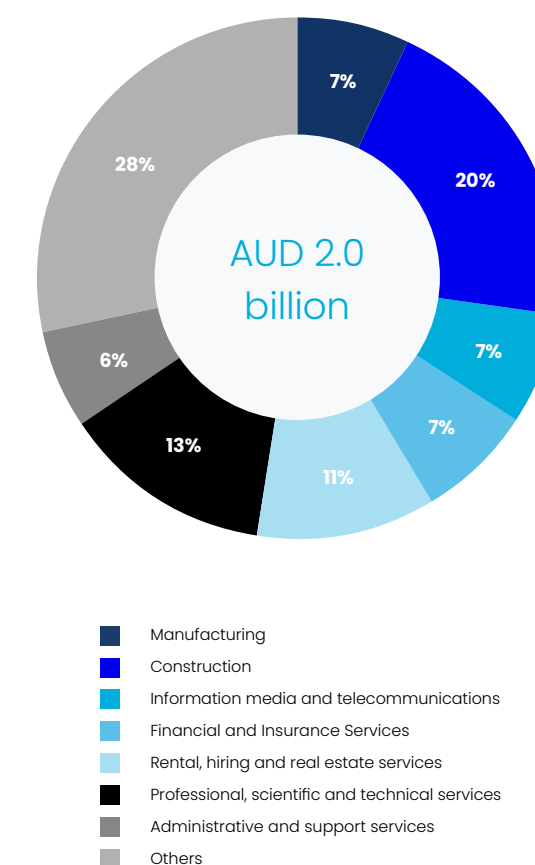
When combining direct, indirect, and induced impacts of the Aura Network's construction and operations, the construction sector will receive the largest GVA contribution, particularly during the early stages of the project. As the Aura Network transitions into its operational phase, key service sectors such as administrative and support services, real estate, and professional services will experience the most significant impacts (see Fig. 13). The economic footprint of the Aura Network's construction and operation will extend across many sectors of the Australian economy, illustrating the extensive ripple effect generated through its wide supplier network and local spending by workers.

Fig. 12. Jobs contribution, by tiers of impact, FY23 to FY40



Source: Oxford Economics input-output modelling, 2025

Fig. 13. GDP impacts, FY23-FY40 total, by sector



Source: Oxford Economics input-output modelling, 2025

What is required for the Aura Network's economic benefits to be realised for Australia

Telstra InfraCo's Aura Network is nation-building digital infrastructure. It could add an estimated \$2.0 billion to the economy during construction and operations, support almost 8,900 construction jobs and 190 ongoing roles, and, most importantly, enable upwards of \$36 billion in additional GDP through higher capacity and resilience benefits by FY40. As demand for data accelerates with cloud, AI, automation and digital services, the Aura Network provides the high-capacity, low-latency backbone linking Australia's capitals, regions and global gateways.

The Aura Network has the potential to transform connectivity in Australia. It can enable the delivery of faster, more reliable connections for businesses, governments and households, supporting applications from telehealth and digital education to fintech and emergency response. By providing a stronger and more resilient backbone, it can keep Australia connected in times of crisis. Just as importantly, it can provide the optionality for improved connectivity performance for regional communities, industry hubs and growth corridors, helping to bridge the digital divide. Finally, it can cement Australia's strategic role in the Asia-Pacific region by enabling greater regional connectivity.

However, it is important to recognise that the rollout is not without risks, and these challenges could jeopardise the realisation of these benefits. To ensure a successful deployment, Telstra must secure the support and collaboration of a diverse range of partners and stakeholders, working together to navigate these risks and fully harness the network's transformative potential.

Uptake of the network will depend on Australia's willingness to adopt digital opportunities across all sectors, supported by sustained government focus on skills development, digital transformation, and promoting Australia's sovereign capabilities.

As demand for data accelerates with cloud, AI, automation and digital services, the Aura Network provides the high-capacity, low-latency backbone linking Australia's capitals, regions and global gateways.

Key factors that can support deployment and realisation of benefits include:

Early stakeholder engagement and streamlined approvals

Fast-tracking planning and land access approvals enables faster, more cost-effective network builds, aligned with data centre and subsea deployments, which are all integral components of the same digital infrastructure ecosystem.

Access to public corridors

Coordinated use of road, rail and utility easements to reduce duplication of civil works and community disruption.

Strategic and financial partnerships

Creating conditions to facilitate support and partners for the potential expansion of the *Potential Routes*.

Digital inclusion and skills

Programs to ensure regional Australians, businesses and local workers can benefit from new connectivity as well as supporting skills that are required to support digital infrastructure expansion.

Australia's strategic role in region

Sustained government focus on developing Australia's digital economy and sovereign capabilities across the Asia-Pacific is crucial, particularly given the strategic role Australia can play in the global supply chain.

Alignment with national priorities

Recognising digital infrastructure, like the Aura Network as key in supporting strategies such as the *Australian Cyber Security Strategy*, *National AI Capability Plan*, *Future Made in Australia plan*, and state-level digital action plans.

Australia's next wave of growth will be powered by data and Telstra InfraCo's Aura Network has the potential to be the backbone of that future. Acting as the national highway that will transport that data, the Aura Network can support innovation, boost productivity, strengthen resilience, and ensure communities across the country share the benefits of a thriving digital economy.



Appendix A: Methodology



Construction and operations impact

The analysis follows a standard Input-Output (I-O) framework widely used for assessing the economic footprint of businesses, industries and projects.

Economic contribution is assessed across three distinct channels:

Direct contribution

Includes all economic activities directly carried out in the construction and operation of the Aura Network.

Indirect contribution

Refers to the economic activity generated in the supply chain from businesses that provide goods and services to the Aura Network, such as suppliers of raw materials, machinery, or equipment.

Induced contribution

Represents the economic activity that arises from the spending of wages and salaries by employees in both the direct and indirect sectors, as long as those employees are residents of Australia.

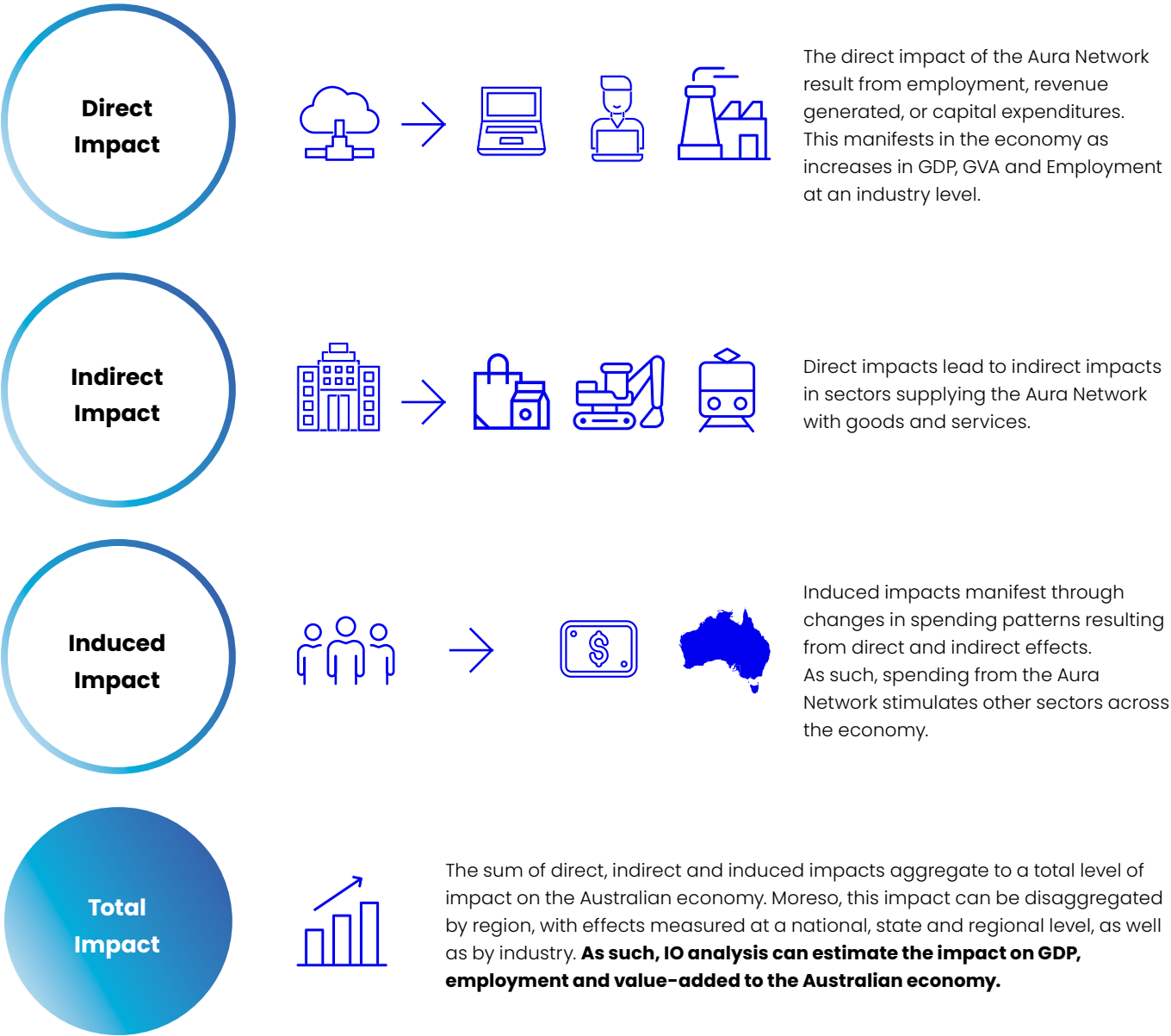
The combined total of these three channels constitutes the Aura Network’s gross economic contribution to the Australian economy. Economic contribution focuses on observable market activity such as employment and output and is commonly used in investment appraisal and regional development analysis.

Input-Output Modelling

To estimate the Aura Network’s indirect and induced GDP impacts, Oxford Economics Australia utilised an input-output (I-O) model of the Australian economy, using the Input-Output tables available from the Australian Bureau of Statistics (ABS) as its starting point.

An input-output model gives a snapshot of an economy at any point in time. The model shows the major spending flows from “final demand” (i.e. consumer spending, government spending, investment, and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector – the supply chain in other words); how much of that spending stays within the economy; and the distribution of income between employment income and other income (mainly profits). In essence, an input-output model is a table which shows who buys what from whom in the economy. The model used captures the impact of economic flows in the Australian economy.

Fig. 14. Structure of direct, indirect, induced and total economic contribution



Data on CAPEX and OPEX spending, as well as construction and operations employment were provided by Telstra InfraCo. Industry specific GVA estimates, mapped to ANZSIC level 1 industries, were then calculated and input into the model to arrive at total expenditure throughout the Australian supply chain, by ANZSIC industry. The indirect and induced contributions to GDP were calculated from there, subtracting the direct contribution from the total. The employment impact was calculated in turn, using GDP-to-jobs ratios for each industry.

Higher capacity impacts

Modelling approach

To capture economic impact of the Aura Network on the Australian economy, the historical relationship between Telstra’s fibre connectivity supply and economic output is estimated. This has been done by econometric modelling of the historical average effect of bandwidth supplied to Telstra’s customers on Australian state level GDP.

The model outlined below follows a Cobb–Douglas framework, which assumes that the supply of bandwidth capacity drives productivity and drives increases in GDP which are not captured by capital and labour inputs. The model also includes terms to capture productivity increases that are not related to fibre roll out. This approach follows that of Briglauer et. al. (2021) who modelled the impact of broadband roll out on Germany’s economy at a county level.

$$\log(GDP)_{it} = \beta_1 * \log(capital)_{it} + \beta_2 * \log(hours^o worked)_{it} + \beta_3 * Share^o tertiary^o education_{it} + \beta_4 * \log(Bandwidth)_{it} + \mu_i + \varepsilon_t$$

Gross State Product (GSP) from the Australian Bureau of Statistics is used as the dependent variable. For inter-state links the sum of both states’ GSP for the year in question is taken, because it is assumed the economic benefits occur on both sides of the link. For intra-state links the model uses GSP in the state in question. The same approach is followed for the covariates included in the model, namely, net capital stock, hours worked, and the share of tertiary educated workers which captures the level of education. All the variables are expressed in natural logarithms except for education.

Dataset transformation and cleaning

To capture supplied bandwidth, the model uses Telstra’s data on new supplied bandwidth between a location A and B, at a given year. This dataset covers the whole of Australia from 2010 to 2024 and shows the supply of inter-state and intra-state connections to customers. The data includes the capacity supplied, the start location of the connection, the end location of the connection, and the year the supply started.

Capacity impact model

To estimate the benefits of the Aura Network, the model not only looks at the relationship between bandwidth supply and economic output in a given year but also captures how these benefits carry forward into the future. In other words, an increase in bandwidth has both an immediate effect on GDP and a continuing effect in later years, as businesses and households adapt to and make fuller use of the extra capacity.

The modelling process followed a series of steps to make sure the results were sound and reliable:

1. **Starting point** – this process began with a model that relates economic output to capital, hours worked, education levels, and supplied bandwidth, while taking into account that past economic performance influences current performance.
2. **Testing different approaches** – the relationships were estimated using several versions of the model, each making different assumptions, to check whether findings were consistent.
3. **Addressing potential biases** – a method was used that helps reduce the risk that results are being driven by other factors that might influence both bandwidth supply and economic growth (for example, faster-growing areas attracting more investment in bandwidth).
4. **Checking robustness** – statistical tests were carried out to ensure the model’s assumptions were reasonable, the results were not distorted by unusual years, and the findings were stable across alternative specifications.

The final model estimates an elasticity—a measure of how much GDP changes, in percentage terms, when bandwidth supply changes by 1%, holding other factors constant. This elasticity is used to translate future increases in bandwidth into projected increases in GDP. Because the model is dynamic, the total impact in any given year is the sum of the immediate boost from new bandwidth and the remaining benefits from earlier upgrades that are still feeding through the economy.

Inference

In order to model the impact of the Aura Network on Australian output, the estimated coefficients linking broadband supply to output are applied to the Australian GDP forecast from Oxford Economics and forecasted supply of bandwidth through the Aura Network from Telstra.

As the main econometric model is a dynamic panel, it is able to capture long-run effects of increases in bandwidth capacity on the Australian economy. As such, each increase in capacity has feed through effects in later years on output.

This approach is applied to future supply from the network under construction and the potential extension. The model is also able to separate the uplift in GDP at the state level, by associating route level forecasted supply of bandwidth to GDP uplift.

Aura Network Performance Benefits

The assessment of forecast Aura Network performance benefits were developed based on consideration of the following:

- **Fibre pair capacity:** Up to 6.3x increase in capacity per fibre pair is based on a comparison between a conservative real-world estimate of the capacity for an express fibre pair and an 8.8 Tbps fibre pair.

- **Network capacity:** Up to 35x increase in Telstra’s fibre capacity per path is based on a comparison between conservative real-world estimates of the Aura Network’s capacities and a standard 24 fibre pair configuration at an 8.8 Tbps fibre pair capacity.
- **Resilience:** Up to 50% reduction in network impacts where improvements are estimated based on a 10-year forecast of transmission network operation.
- **Latency:** Up to 4% reduction in round trip speed is based comparisons for the Aura Network’s Sydney to Brisbane Coastal Path and the geographically equivalent existing route.

Datasets and sources

- GDP and Capital: Australian Bureau of Statistics. (2023-24-financial-year). *Australian National Accounts: State Accounts*. ABS.
- Hours worked: Australian Bureau of Statistics. (2025, June). *Labour Force, Australia, Detailed*. ABS.
- Education: Australian Bureau of Statistics. (2004 - 2024). *Education and Work, Australia*. ABS.
- Bandwidth: Telstra.
- Intercity fibre lengths and regions: Telstra.
- Aura Network construction and operations employment: Telstra.
- Aura Network investment and utilisation outlook: Telstra.
- GDP Forecasts: Oxford Economics.



Appendix B: Telstra InfraCo's Aura Network alignment with government priorities

Fig. 15. Alignment with Government priorities

	National policies alignment with outcome theme						State Level	
Policy Outcome Theme	Data and Digital Government Strategy	Productivity Five Pillars Inquiry	Economic Reform Roundtable priorities and outcomes	Australian Cybersecurity Strategy 2023-2030	Future made in Australia Policy & National Reconstruction Fund	National AI Capability Plan (under development)	State Level Digital Strategies	How the Aura Network can support outcome theme
Digital infrastructure and access								- Establishes greater connectivity for regional and rural areas, lower barriers to connect for regional/rural areas - Spreads socioeconomic benefits beyond major urban hubs
Digital transformation of business and government services								- Serves as core infrastructure for businesses scaling up use of advanced technologies - Supports the government to efficiently deliver accessible and high-speed digital services across Australia
Productivity and innovation								- Supports high-capacity, lower latency use-cases, such as AI to unlock productivity gains - Future proof to meet the ever-growing demands for data infrastructure
Digital and data security								- Supports data sovereignty by providing enterprises a greater degree of control and privacy over where and how their data flows - Built and deployed domestically, allowing sensitive data to be stored onshore - Quantum Key Distribution (QKD) Based Encryption for additional security
Sustainability and net zero transition								- Developed innovate lower carbon manufacturing and fibre deployment technologies - Supports distributed data centre model with high-capacity connectivity in regional and rural areas

Policy alignment with Policy Outcome Theme: High Low / None

Appendix C: Construction and operational impacts of the *Committed Network* by state



Fig. 16. GVA and employment impacts, by state



As a critical national infrastructure programme, the impacts of the construction and operations of the *Committed Network* will be spread throughout Australia (see Fig. 16).

The largest impacts are expected to be observed in New South Wales, South Australia, Western Australia, and the Northern Territory, where the largest amount of construction expenditure is expected to take place. Each of these states is expected to have over 900 jobs supported as a result of the Aura Network’s construction and operation.

Note: State-level impacts may not sum up to national total due to inter-state trade not being accounted for.
Source: Oxford Economics analysis, 2025

Appendix D: Glossary



Aura Network Related Terms

Aura Network	Telstra InfraCo’s Aura Network, previously know as the Intercity Fibre Network, which consists of both the <i>Committed Network</i> and <i>Potential Routes</i> .
Committed Network	The Aura Network’s Intercity Fibre Paths that Telstra InfraCo has committed to building as part of the \$1.6 billion investment announcement in conjunction with Viasat connectivity.
Potential Routes	The Aura Network’s Intercity Fibre Paths that Telstra InfraCo may deploy in future, subject to customer demand and enabling conditions.
Path	The passage that the fibre takes when connecting between two locations e.g. the Sydney – Canberra Coastal Path or the Sydney – Canberra Central Path.
Route	The connectivity between capital cities which are generally made up of multiple fibre Paths e.g. the Sydney – Canberra Route.
Backhaul Network	The segment of a communications network providing high-capacity data transport linking the Access Network to the core network or key communication infrastructure (e.g. data centres, exchanges, CLSs).
Access Network	The “last mile” infrastructure that connects end-users (e.g. households and businesses) to the service provider’s core network, using technologies like fibre, copper, or wireless.
Dual Cable Diverse Architecture	A fibre network design using two physically separate fibre cables (the Express and Foundation Paths) between key locations, providing diversity through the deployment of two seperate fibre Paths.
Express Path (Pink Cable)	The Aura Network’s fibre cable that is engineered for ultra-low loss, high capacity, intercity capital data transfers.
Foundation Path (Blue Cable)	The Aura Network’s fibre cable that is engineered for low-loss, high capacity long-distance data transfers. This network is designed to provide thousands of on- and off-ramps along the fibre Path to improve connectivity for regional Australia.
Ultra-Low-Loss (ULL)	Optical fibre with minimal signal loss (attenuation), enabling long-distance, high-speed transmission with minimal signal degradation.
Low-Loss (LL)	Optical fibre with lower attenuation than standard cable, reducing the need for signal regeneration compared to legacy fibre.
Quantum Key Distribution (QKD)	An encryption method using quantum mechanics to securely share encryption keys.

Digital Infrastructure Terms

Digital Infrastructure	The physical and virtual assets that enable the storage, processing, and movement of digital data, including fibre networks, data centres, and cloud.
Data Centres	Specialised facilities that house computing and networking equipment, providing secure environments for storing, processing, and managing large volumes of digital information.
Hyperscalers	Global cloud providers operating at a vast scale (e.g. AWS, Microsoft, and Google) that operate massive, globally distributed data centres, offering scalable computing and storage resources.
Neocloud Operators	A new generation of cloud providers offering innovative or niche cloud services, often focusing on regional, edge, or industry-specific solutions.
Satellite Ground Stations (SGS)	Terrestrial facilities equipped with antennas and communication systems linking satellite networks with terrestrial networks.
Cable Landing Stations (CLS)	Facilities connecting subsea cables to terrestrial backhaul networks. Houses equipment to manage international and domestic data traffic.
Software as a Service (SaaS)	A cloud-based software delivery model where applications are hosted by a provider and accessed by users over the internet.
Internet of Things (IoT)	A network of connected devices and sensors that collect, exchange, and act on data over the internet or other networks. IoT enables real-time monitoring, automation, and analytics across sectors such as smart cities, healthcare, manufacturing, and agriculture.

Other Terms

Gross Domestic Product (GDP)	The total value of all goods and services produced within a country over a specific period.
Gross State Product (GSP)	The total value of goods and services produced within a state or territory over a specific period; it is the state-level equivalent of GDP.
Economic Benefits	Benefits such as increased GDP, job creation, and productivity gains – resulting from digital infrastructure investments, as assessed in this report.

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