

Statement in support of application for merger authorisation

RE: TELSTRA CORPORATION LIMITED AND TPG TELECOM LIMITED ARRANGEMENT FOR THE SHARING OF ACTIVE INFRASTRUCTURE AND SPECTRUM IN REGIONAL AUSTRALIA (APPLICATION)

Statement on behalf of Telstra Corporation Limited

Statement of: Andrew Richard Penn

Address: Level 41 242 Exhibition St Melbourne, Victoria, 3000 Australia

Occupation: Chief Executive Officer, Telstra Corporation Limited

Date: 12 August 2022

This document contains confidential information which is indicated as follows:



[Confidential to Telstra] [.....] for Telstra Corporation Limited and its related bodies corporate

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A INTRODUCTION

- 1 I am the Chief Executive Officer (**CEO**) at Telstra Corporation Limited (**Telstra**).
- 2 I am authorised to make this statement on Telstra's behalf.
- 3 I am not authorised nor do I intend to waive legal professional privilege on behalf of Telstra in relation to any subject referred to in this statement, and nothing in this statement ought to be construed as constituting a waiver of privilege.
- 4 On 21 February 2022, Telstra and TPG Telecom Limited (**TPG**) entered into three commercial agreements:
 - (a) MOCN Service Agreement dated 17 February 2022;
 - (b) Spectrum Authorisation Agreement – MOCN Area dated 17 February 2022; and
 - (c) Mobile Site Transition Agreement dated 17 February 2022,which were subsequently varied on 28 April 2022 (**Proposed Transaction**).
- 5 I was involved in negotiating the above agreements with TPG. Mr Nikos Katinakis and I established a group of executives to be involved, at different times, in overseeing the negotiations with TPG and development of the Proposed Transaction. The Telstra executives involved varied over the period of negotiations, including because of internal separation arrangements put in place to **[Confidential to Telstra]** 

as well as to ensure separation of information obtained during TPG negotiations from executives responsible for our wholesale and retail businesses. The primary person responsible for leading negotiations was Mr Katinakis, with support from me and Telstra Group General Counsel, Ms Lyndall Stoyles.
- 6 I have reviewed the Telstra confidential version of the application made by Telstra and TPG for merger authorisation under Part VII of the *Competition and Consumer Act 2010* (Cth) (**CCA**), for TPG's grant to Telstra for use of spectrum (under the Spectrum Authorisation), deemed pursuant to section 68A of the *Radiocommunications Act 1992* (Cth) (**Radiocommunications Act**) to be a merger within the meaning of section 50 of the CCA (**Application**).
- 7 The matters set out in this statement are based on my personal knowledge and belief, including:
 - (a) my knowledge of Telstra's business and operations and the telecommunications industry based on my experience with Telstra's business for more than 10 years;
 - (b) my participation in and leadership of the Telstra Executive Leadership Team;

- (c) my involvement in the negotiations of the above agreements with TPG; and
- (d) my knowledge as a regular member of the Forum responsible for the Proposed Transaction.

B EXPERIENCE AND BACKGROUND

8 I have held the role of CEO since 1 May 2015. In this role, I am the leader of Telstra's Executive Leadership Team, and I am responsible for managing and making decisions in relation to all aspects of Telstra's organisation and operations.

9 My own direct reports are responsible for the following teams in Telstra:

- (a) Strategy & Finance;
- (b) Consumer & Small Business;
- (c) Transformation, Communications & People;
- (d) Enterprise;
- (e) Networks & Information Technology (**IT**);
- (f) Legal, Regulatory, Government and Sustainability;
- (g) InfraCo;
- (h) Product & Technology; and
- (i) Global Business Services;

10 Prior to being appointed Telstra CEO, I held the roles of Chief Financial Officer and Group Managing Director, Finance and Strategy from January 2012. In 2014 I took on the additional responsibilities of Group Executive, International until May 2015, when I was appointed CEO.

11 I am a Board Director of the GroupeSpeciale Mobile Association (**GSMA**) and Chairman of the Australian Government's Cyber Industry Advisory Committee, created to guide implementation of Australia's 2020 Cyber Security Strategy. I was also formerly the Chairman of the Cyber Industry Advisory Panel, which was the body that developed the strategy.

12 I hold a national diploma in business studies (with distinction), an MBA from Kingston University and I am a graduate of Harvard's Advance Management Program. I am also a Fellow of the Chartered Association of Certified Accountants.

C TELSTRA'S BUSINESS ACTIVITIES

- 13 Telstra is a telecommunications service provider, offering mobile and fixed line services at the wholesale and retail levels.
- 14 Telstra provides retail mobile services to customers on a national basis, without distinction between metropolitan or regional products. Our retail customers (except on Belong) are able to use their Telstra mobile service in any part of Australia where Telstra has coverage and retail mobile services offered to customers by Telstra do not differ based on where the customer resides.
- 15 Telstra is a listed company on the Australian Stock Exchange. It is currently undergoing a corporate restructure following which there will be a new holding company, 'Telstra Group Limited', with four main operating entities: Telstra Limited, InfraCo Fixed, Telstra International and Amplitel (in which Telstra holds a 51% stake).
- 16 As CEO, it is my role to recommend the strategic direction for the company to the Telstra Board. In or around September 2021, Telstra announced its overarching business strategy for the period from 2022 to the end of FY25. This is referred to as our T25 Strategy. The T25 strategy followed an earlier "T22 strategy" that has been successfully delivered. The T25 strategy will build upon the success of our T22 strategy and covers all aspects of our business, including Telstra's commitment to rural Australia. Attached to this statement and marked **AP-01** is a true copy of an investor overview of the T25 Strategy, published on 16 September 2021 and which explains its elements and main objectives.
- 17 Among other things, the T25 Strategy aims to:
- (a) expand regional coverage by 100,000km² on Telstra's 4G and 5G networks beyond Telstra's current network coverage by FY25;
 - (b) achieve 5G population coverage of 95% by FY25;
 - (c) have 80% of all mobile traffic on its 5G network by FY25;
 - (d) extend the 4G network coverage to 100% of the Telstra network as Telstra retires its 3G network in June 2024;
 - (e) consider future generations of technology (such as 6G capability) beyond FY25; and
 - (f) create value from Telstra's infrastructure assets.
- 18 The Proposed Transaction aligns with Telstra's ambitions, including our T25 Strategy by providing access to pooled spectrum that will assist Telstra to more quickly and cost-effectively

deliver regional 4G/5G coverage and ensure that our 4G footprint is equivalent to our current 3G network footprint, by the time that we retire our 3G network in mid-2024.

D CONGESTION IN REGIONAL AUSTRALIA AND THE CHALLENGES OF REGIONAL INVESTMENT

19 In my role as CEO, I am very familiar with the concerns raised with Telstra, from time to time, by customers, regional groups, politicians and other stakeholders in relation to telecommunications connectivity in regional areas. The issue is important to me. I have personally reinforced during my time as CEO, within Telstra and its senior executive team, the importance of our commitment to providing and improving connectivity and network performance in regional Australia.

20 The Telstra Board also recognises the importance of regional telecommunications. Indeed, our constitution requires two directors to be nominated specialists in understanding regional communications. I am one of those directors.

21 Telstra has established external Regional Advisory Councils and an internal Regional Network Team. The Regional Advisory Councils are made up of key external Telstra stakeholders who act as a voice for regional communities and groups. The Regional Advisory Councils meet quarterly to raise their issues with Telstra in order to help us better understand and develop our response. Telstra's Regional Executive and Chief Regional Advocate attends each meeting and I attend some of these meetings, on an ad hoc basis.

22 I have also established an internal Regional Team that comprises Regional General Managers. The Regional General Managers are highly experienced and work closely with their local communities. I meet with the Regional Team at least once each quarter to receive a personal briefing on how Telstra is performing in their areas. Some of my direct reports also attend meetings and engage with the Regional General Managers to hear what is happening in these areas.

23 Over the last 12-18 months, I have been involved in a substantial amount of correspondence and dialogue with stakeholders about regional connectivity, including concerns raised about congestion on our mobile network.

24 Both before and during 2021, **[Confidential to Telstra]** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

25 [Confidential to Telstra] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

26 [Confidential to Telstra] [REDACTED] also during 2021, the Regional Telecommunications Independent Review Committee (RTIRC) conducted its Regional Telecommunications Review process (RTIRC Review). The RTIRC Review occurs every three years and is a public process to examine the adequacy of telecommunications services in regional, rural and remote Australia.

27 Telstra was deeply involved in the RTIRC Review, including participating in the following ways:

- (a) I had a number of one-on-one meetings with the Honourable Luke Hartsuyker, the Chair of the RTIRC Review.
- (b) Members of the Telstra team attended every public RTIRC hearing and presented to RTIRC.
- (c) Senior members of the Telstra executive team, including me, met with the RTIRC Committee.
- (d) Telstra lodged its detailed RTIRC submission on 30 September 2021. Attached to this statement and marked **AP-03** is a true copy of Telstra's submission to RTIRC.

28 Our RTIRC submission acknowledged, amongst other things, that the rapid movement of people into the regions and the increased reliance on technology for school, health and work due to the COVID-19 pandemic had resulted in increased traffic and congestion in regional areas. The only way to meet the increased demand for data was to increase capacity, however this would require significant capital investment. This investment would take time and, in some areas, might not be economically feasible.

29 [Confidential to Telstra] [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

30 The issue of regional network congestion is complex. Telstra constantly monitors the performance of our networks, including to identify areas experiencing congestion. Whilst

congestion is often raised by customers in generic terms, it doesn't happen generically – it happens for particular reasons and can be very localised in nature.

- 31 Telstra also needs to respond to both the reality of our network performance as well as customer expectations and perceptions. For example:
- (a) there can be a perception for some customers or stakeholders that regional communities are being “left behind” or are not receiving the same quality service as customers in metropolitan areas;
 - (b) there can also be a perception by some customers that Telstra lacks network *coverage*, because of poor service quality, when this perceived lack of coverage may be the result of network congestion caused (among other things) by a lack of available spectrum in regional areas;
 - (c) customer expectations and perceptions tend to be informed by what they feel they need and want rather than historically what they have experienced. As a practical matter, this means that as customer data use increases (as it did during COVID) there is an implicit and understandable expectation that network performance will increase to meet that demand; and
 - (d) finally, there can be a misapprehension, at times, of what is commercially feasible to deliver in a country as large as Australia.
- 32 Given the extensive focus on regional issues by a range of political and other stakeholders during 2021, I personally prepared a paper for the Telstra Board meeting in mid-February 2022 titled “*Regional Australia update*” (the **Board Update**). The Board Update sets out a strategy and execution plan to improve stakeholder engagement in rural and regional Australia. I very rarely prepare a personal paper of this kind to the Telstra Board but felt that it was particularly important given the heightened public and media interest around the issue. Attached to this statement and marked **AP-04** is a true copy of the Board Update.
- 33 The Board Update provides information setting out Telstra’s commitment to, and investment in, services in regional areas. Telstra invests a higher proportion in regional and remote areas per capita than in metropolitan areas. **[Confidential to Telstra]** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
- 34 Telstra actively monitors our network performance and aims to resolve congestion through investments in additional infrastructure. Some recent investments by Telstra in this regard and which are referred to in the Board Update include:

- (a) \$8 billion in Telstra's mobile networks nationally, \$3 billion of which went into regional Australia over the last 5 years;
- (b) contributing \$300 million and building around 930 new sites in regional areas as part of the Mobile Black Spot Program (**MBSP**) (making Telstra the largest participant in the MBSP);
- (c) investing \$150m in FY22 to improve regional network customer experience, including addressing areas affected by congestion through prioritising the upgrade of over 180 3G only sites, augmenting capacity at selected 4G sites with high traffic, and further 4G site optimisations to better balance 3G/4G traffic and address localised customer demand; and
- (d) \$75 million will be invested in enhancing connectivity in regional Australia, which will be guided by the recommendations of the 2021 Regional Telecommunications Review, conducted by the Regional Telecommunications Independent Review Committee.

35 I have read Optus' submission at pages 19 and 20 in which it infers that Telstra obtains a disproportionate or unfair proportion of government funding for services in regional areas. To the extent that Telstra obtains any co-funding from government, this is based on processes set by government, which is open to all competitors and requires Telstra to demonstrate its ability to deliver the best outcomes for regional customers, at lowest costs – and with our own investment.

36 Despite our substantial and continued investment, mobile telecommunications networks are unfortunately never going to be able to reach every part of Australia and satisfy every customer. Mobile network deployments, of any kind, involve high fixed costs and these costs are generally even higher in rural and regional areas. The demand for capital investment also increases as demand for capacity increases. 5G technology is designed to handle increased demand for mobile data by providing services using a higher frequency of spectrum. However, because of the propagation characteristics of mid-band and high-band spectrum (i.e. it doesn't cover the same distance as low-band spectrum), we require more sites to achieve these higher data rates, which further increases the capital cost of our rollout.

37 The vast majority of the Australian population resides in a very small area of land in metropolitan areas. Around 17% of the population resides in a much larger regional and urban fringe areas to which the Proposed Transaction relates (**17% Regional Coverage Zone**).

38 Customers want mobile coverage as they travel across Australia, including travelling from urban areas to rural and regional areas. As a result, Telstra endeavours to maintain a high-quality mobile network infrastructure across a vast area, including where customer utilisation of the network is much lower in rural and regional areas. As the density of population decreases, the

average cost per person of infrastructure used to service the population investment increases. This means that infrastructure investments in regional and rural areas are generally harder to make work economically than investment of an equivalent amount on infrastructure in more highly populated, metropolitan areas.

- 39 Data consumption on mobile networks is rapidly increasing for all of our customers, regardless of where they live. Customers' increasing consumption of data places increasing capacity demands on mobile network infrastructure. MNOs need to upgrade mobile technology at the localised cell level to continually expand capacity to keep up with customer consumption of data. This requires constant cycles of investment in new mobile infrastructure and technologies in parallel with upgrading existing network assets.
- 40 The COVID-19 pandemic exacerbated these trends as a result of lockdowns and population shifts. Telstra saw a significant increase in home data usage as COVID saw a significant shift from customers relying largely on telecommunications infrastructure in CBDs and offices, to reliance on "in the home" mobile or fixed internet connections for data-intensive activities. The type of use also changed, with video calls in particular increasing the demand for 'upload' capacity on our network as users turned to mobile devices to supplement their fixed broadband connections. Alongside these trends, we saw a dynamic during 2020 and 2021, which saw more people moving to regional Australia. All of these trends – increasing regional population and greater demand for data – contributed to an increase in real and/or perceived network congestion in regional areas.
- 41 In this context of increasing and changing demands, the challenge is for Telstra to both provide high quality network service to our regional customers, in line with customer data use and expectations, and to be perceived by our customers as doing so.

E DEVELOPMENT OF THE PROPOSED TRANSACTION

- 42 As discussed in paragraphs 16-18, a critical element of our T25 Strategy involves delivering improved 4G and 5G coverage in regional and rural areas of Australia. While I am not a telecommunications network engineer, I have been CEO of Telstra since 2015 and, prior to that appointment, was Chief Financial Officer from 2012 when I first joined the company. That experience has given me a practical insight into both the commercial importance of spectrum and the high cost and challenges associated with mobile network deployment, especially in regional areas.
- 43 As CEO, I ultimately view the commercial importance of spectrum not only in technical or network terms, as much as in terms of what spectrum can deliver for customers and/or for Telstra's business. In this regard, I see two key commercial benefits from spectrum:

- (a) spectrum is critical to improving the improved service outcomes that we can deliver customers, including (in particular) in relation to mobile data speeds and coverage; and
- (b) having sufficient spectrum, and using it efficiently, can avoid the need for Telstra to invest as much capital in physical infrastructure – such as mobile sites. This is particularly relevant in relation to regional areas (where the costs of sites can be very high) and 5G, where delivering higher data rates becomes reliant on a denser network than earlier mobile technologies.

44 I have been actively engaged in advocating with both ACMA and former Minister Fletcher to ensure Telstra has access to sufficient spectrum. **[Confidential to Telstra]** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] We lodged a public submission in response to the exposure draft consultation on 24 May 2021. The submission noted, among other things, that the proposed allocation limit would cause harm to customers in regional areas as investing in additional sites and towers to offset the lack of spectrum is not a commercially viable alternative due to the low population density. Attached to this statement and marked **AP-05**, **AP-06** and **AP-07** are the 8 April Letter, 8 May Letter and our submission, respectively.

45 Ultimately, what matters to me is not only the total amount of spectrum that we hold in each band, but how much spectrum is available to Telstra on a per site and per customer basis – because that is what will ultimately determine the service quality, data speeds and coverage we can deliver to our customers. The importance of spectrum for speed and quality services is the reason that I took a direct and personal interest in the spectrum limits that were imposed on Telstra during the recent spectrum auctions.

46 Throughout my engagement with former Minister Fletcher and the ACMA, the role of spectrum limits was only ever described as being *for the purpose of the auction*. The limits were intended to ensure that other potential bidders had access to spectrum during the auction. My recollection is that the limits were never said to be intended as a permanent limitation on the way that Telstra and others operate or to prevent commercial arrangements with other mobile network operators (**MNOs**) after the auction, if both sides to a deal saw an opportunity that would deliver more efficient use of spectrum and a way to realise value for both.

- 47 Telstra (and other MNOs) continually seeks opportunities to more efficiently use its existing assets and to lower its cost of investment, including with respect to spectrum. In my current and past roles at Telstra, I have regularly travelled internationally. I am aware that, overseas, MNOs have for many years used infrastructure sharing as a way to reduce capital costs while being able to expand and improve the quality of their services. There are various forms of infrastructure sharing methods, including passive infrastructure sharing (where MNOs share the non-electrical components of their network) and active infrastructure sharing (where MNOs share the electrical components of their network) and many different combinations.
- 48 In 2016, Telstra strongly resisted a proposal to mandate (and regulate) mobile roaming, which had been assessed by the ACCC in its Domestic Mobile Roaming Declaration Inquiry. As part of that process, I was aware the ACCC pointed to certain benefits of network sharing in regional areas as having the potential to reduce network rollout costs and provide more choice for consumers in those areas. I agree with the conclusion of the ACCC not to mandate (and regulate) mobile roaming. I have always been concerned that a mandated or regulated form of roaming or sharing – imposed on the industry – was likely to be less efficient and beneficial than one that was commercially identified, negotiated and agreed by two or more MNOs themselves.
- 49 Telstra's Chief Information Officer, Networks & Information Technology; Group Executive, Nikos Katinakis, joined the company in October 2018. Prior to coming to Telstra, Mr Katinakis had worked across a number of other global MNOs in India and Canada. Mr Katinakis also worked for Ericsson for many years – one of the world leaders in radio telecommunications technologies. One of the reasons that I hired Mr Katinakis was so that Telstra could benefit from his global perspective, and his understanding of global best practice in relation to mobile network technology deployment and operations.
- 50 TPG and Vodafone completed their merger in mid-2020. In August 2020, as part of the first post-merger financial results announcement, TPG announced a step change in their 5G network deployment. Attached to this statement and marked **AP-08** is a true copy of the media release published by TPG.
- 51 In or around November 2020, Mr Katinakis raised with me the idea that the TPG announcement may indicate that there was an opportunity to raise with them a possible infrastructure sharing arrangement, given that any deal may assist them with accelerating a 5G deployment.
- 52 Based on discussions with Mr Katinakis and the CEOLT, I formed the view that an active network sharing deal could potentially offer a number of commercial benefits for Telstra, including:
- (a) enabling Telstra to use our network investment more efficiently, including through monetising some of this through an additional wholesale revenue stream; and

(b) giving Telstra access to additional spectrum to help alleviate the congestion challenge we face more quickly and cost-effectively than rolling out additional sites; and

(c) **[Confidential to Telstra]** [REDACTED]
[REDACTED]
[REDACTED]

53 **[Confidential to Telstra]** [REDACTED]
[REDACTED]
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54 **[Confidential to Telstra]** [REDACTED]
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55 **[Confidential to Telstra]** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

56 The negotiations with TPG concluded on 21 February 2022, when Telstra and TPG entered into the Proposed Transaction. I understand that the key elements of the Proposed Transaction, which are reflected in the underlying commercial agreements, are:

- (a) **MOCN Services:** Under the MOCN Agreement, Telstra will provide TPG with access to Telstra's 17% Regional Coverage Zone where TPG has limited or no coverage. In this area, Telstra will supply 4G and 5G MOCN Services to TPG in exchange for a set of access and usage fees.
- (b) **Spectrum pooling:** Certain TPG and Telstra spectrum will be pooled in the 17% Regional Coverage Zone and used by Telstra to supply MOCN Services to TPG as in addition to carrying Telstra's own mobile services.

- (c) **Site Access:** Telstra will gain access to up to 169 TPG mobile sites that are primarily inside the 17% Regional Coverage Zone and either (i) will pay TPG a fee under existing facilities access arrangements to access and deploy infrastructure on those sites; or (ii) assume TPG's payment obligations under the transferred site licences.

F TELSTRA'S COMMERCIAL RATIONALE

57 While Mr Katinakis took the lead on technical and deal negotiations with TPG. I was personally involved in assessing the risks and benefits of the Proposed Transaction for Telstra. Through the MOCN arrangement, Telstra will achieve better utilisation and long-term capital efficiency of its existing RAN infrastructure.

58 The capital benefits of the deal have two aspects:

- (a) First, the revenue from fees paid by TPG will contribute to meeting our infrastructure costs in regional areas.
- (b) Second, the pooled spectrum will provide us with the ability to deliver increased capacity for regional customers at lower cost, by reducing need to invest in densifying our physical infrastructure through more sites and/or radios.

59 Access to pooled spectrum will also help Telstra to grow its business in urban fringe and regional areas by better meeting the challenge of network congestion and the consequent impact on service quality in those areas.

60 While these benefits are real and substantial, throughout the negotiation, and right up to the point of signing the relevant agreements, I understood that the Proposed Transaction also creates commercial risks for Telstra. The immediate network benefit it provides to TPG means that the Proposed Transaction will almost certainly result in Telstra losing some retail market share to TPG (and MVNOs that use the TPG network), especially in regional areas.

[Confidential to Telstra] [REDACTED]
[REDACTED]

61 From TPG's perspective, the Proposed Transaction provides it with a number of benefits, including the ability to [Confidential to Telstra] [REDACTED]

- (a) [REDACTED]
[REDACTED]
[REDACTED]

(b) [Redacted]

(c) [Redacted]

(d) [Redacted]

(e) [Redacted]

62 Ultimately, however, I was satisfied that the “package” of benefits that Telstra obtains as referred to at paragraphs 52, 58 and 59, outweighs the risks and I recommended to the Telstra Board that it approve the Proposed Transaction. **[Confidential to Telstra]** [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted] Attached to this statement and marked **AP-09** is a true copy of the board paper including my recommendation to approve the Proposed Transaction.

G TELSTRA’S LIKELY ACTIONS ABSENT THE PROPOSED TRANSACTION

63 **[Confidential to Telstra]** [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

64 **[Confidential to Telstra]** [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

65 **[Confidential to Telstra]** [Redacted]

[Redacted]

[Redacted]

- [REDACTED]
- [REDACTED]
- 66 Absent the Proposed Transaction, Telstra will therefore continue to make investment decisions in accordance with its current T25 Strategy to seek to address congestion where it occurs. Especially in regional areas, we will remain constrained by our limited low-band spectrum holdings. This means that we would need to continue to deal with anticipated congestion concerns as they arise, on a case-by-case basis.
- 67 However, without the spectrum pooling provided by the MOCN, Telstra will need to invest materially more in network infrastructure in the RAN in order to compensate for our lower spectrum holdings. This will require both additional time and cost and we may find that it is not commercially feasible to deliver the same level of service to the same areas as we would otherwise have been able to achieve through pooling of spectrum with TPG.

H VERIFICATION OF SELECTED SECTIONS OF THE APPLICATION

- 68 I have reviewed Section 1.2 (paragraphs 1-3) of the Application which describes the business activities of Telstra, including the supply of mobile services. They are accurate to my knowledge.
- 69 I have reviewed Section 2.4 (paragraphs 19-25) of the Application which describes Telstra's commercial rationale for the Proposed Transaction. Based on my role and experience in negotiations with TPG with respect to the Proposed Transaction and a regular member of the Hannibal Governance Forum, I confirm that those paragraphs are accurate to my knowledge.
- 70 I have reviewed Section 3.1 (paragraphs 41-43) of the Application which describes what Telstra would do if the Proposed Transaction were to not proceed. I have participated in discussions within Telstra in respect of that question. They are accurate to my knowledge.
- 71 I have reviewed Section 5.3(A) (paragraphs 78-81) of the Application which addresses Telstra's T25 Strategy. It is accurate to my knowledge.
- 72 I have reviewed Section 7 (paragraphs 110-116) of the Application which addresses the commercial framework for the Proposed Transaction. It is accurate to my knowledge.

Signed on behalf of Telstra Corporation Limited by

[REDACTED]

Signature of **Andrew Penn**
Date 12 August 2022

**Statement on behalf of Telstra Corporation Limited in support of
application for merger authorisation**

Annexure AP-01

**RE: TELSTRA CORPORATION LIMITED AND TPG TELECOM LIMITED ARRANGEMENT
FOR THE SHARING OF ACTIVE INFRASTRUCTURE AND SPECTRUM IN REGIONAL
AUSTRALIA (APPLICATION)**

Statement of: Andrew Richard Penn

Address: Level 41 242 Exhibition St Melbourne, Victoria, 3000 Australia

Occupation: Chief Executive Officer, Telstra Corporation Limited

Date: 12 August 2022



16 September 2021

The Manager

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ELECTRONIC LODGEMENT

Dear Sir or Madam

Telstra Investor Day 2021

In accordance with the Listing Rules, I attach the presentation, including speeches, to be delivered by the CEO and members of senior management, at Telstra's Investor Day today, for release to the market.

The briefing will be held virtually and webcast live from 9:10am (AEST), which is available at

<https://www.telstra.com.au/aboutus/investors/financial-information/investor-presentations>

A transcript of the event will be lodged with the ASX when available.

Authorised for lodgement by:



Sue Laver
Company Secretary



1

Agenda

9:10am	Introduction & Strategy	Andrew Penn
	Consumer & Small Business	Michael Ackland
	Enterprise	David Burns
10:30am	<i>Break</i>	
10:45am	Infrastructure	Brendon Riley
	Financial strategy	Vicki Brady
11:30am	Q&A and closing comments	All

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Investor Day

A photograph of a woman wearing a wide-brimmed hat and a light-colored shirt, talking on a mobile phone. She is standing in a dusty, open field. In the background, another person is riding a horse. The Telstra logo is in the top right corner.

2



Introduction & Strategy

Andrew Penn
CEO

3



Our purpose and values

To build a connected future so everyone can thrive

We are changemakers

We are better together

We care

We make it simple

Our strategic pillars

An exceptional customer experience you can count on

Leading network & technology solutions that deliver your future

Sustained growth and value for our shareholders

The place you want to work

Excelling at new ways of working

Accelerating digital leadership

Doing business responsibly

Our businesses

Consumer & Small Business

Enterprise

New Markets

International

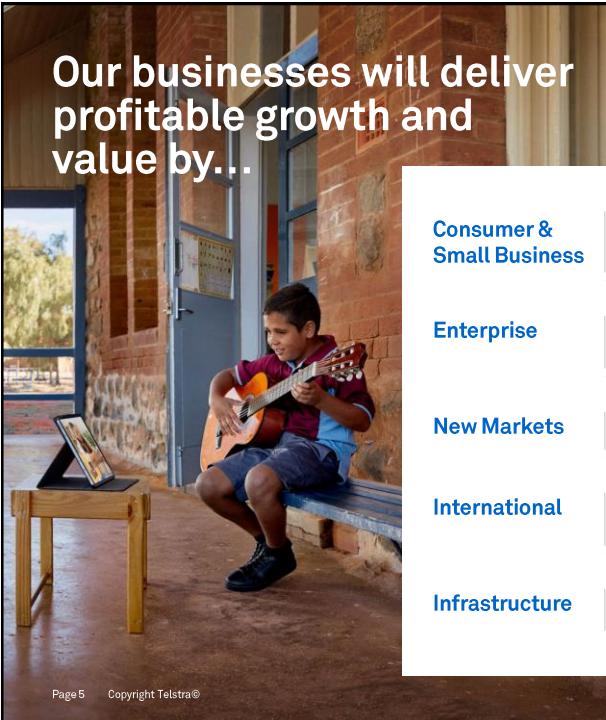
Infrastructure

Our strategy: T25

4



Our businesses will deliver profitable growth and value by...



Consumer & Small Business

Creating brilliant experiences that enable our customers to work, learn and play

Enterprise

Connecting our customers with Australia's most trusted and secure technology and services

New Markets

Building and scaling our new businesses

International

Leveraging the growing strategic significance of our international network

Infrastructure

Improving access, utilisation and scale of our infrastructure

5

An exceptional customer experience you can count on



Build on our T22 investments to deliver a major uplift in customer engagement

Fully integrate our channel experience; all key transactions available in all channels

Personalise services where it matters and fix issues before they arise

Scale the Telstra Plus ecosystem with the best rewards for our customers

Provide tailored solutions and industry-specific expertise for Enterprise customers

Improve asset availability for our infrastructure and wholesale customers

90%

'Once and Done' (C&SB); Support and engagement rating (TE)

6 million

Telstra Plus members enrolled by FY25

Simplified products

Maintain T22 disciplines

50%

Reduction in complaints

6

Leading network & technology solutions that deliver your future



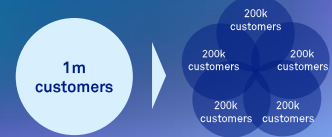
Page 7 Copyright Telstra®

The best 5G network for Australia
Largest coverage and best performance across metro, regional and rural areas

Technology enabling customer and industry solutions
Dynamic management and automation of capacity, speed, latency, security and resilience across all network types

Enhanced resilience for customers
Through smaller impact zones, orchestrated failover for apps and connectivity

~95% 5G population coverage by FY25
>80% traffic on 5G by FY25
Double metro cell sites
Expand regional coverage by 100,000km²



Investor Day

Sustained growth and value for our shareholders

Financial strategy	Build financial momentum across our portfolio to deliver growth	Deliver net cost reductions – \$500m net fixed cost out from FY23 to FY25 while investing for growth	Focus on cash conversion and generation	Active portfolio management to unlock value and manage our Balance Sheet	Create shareholder value through our capital management framework
	Financial ambitions	 Underlying EBITDA¹ <ul style="list-style-type: none"> \$7.5–8.0b by FY23 Mid-single digit CAGR FY21 to FY25 	 Underlying ROIC¹ <ul style="list-style-type: none"> ~8% by FY23 Grow beyond to FY25 	 Underlying EPS¹ <ul style="list-style-type: none"> High-teens CAGR FY21 to FY25 	 Dividend <ul style="list-style-type: none"> Maximise fully-franked dividend and seek to grow over time

1. Refer to definition in Glossary and see disclaimer slide in relation to these financial ambitions

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Investor Day

The place you want to work

Excelling at new ways of working



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Evolve world-leading agile@scale

Reduce time to market through BizDevOps at scale

Leverage our culture and career opportunities to attract and retain critical talent

Deliver hybrid and flexible future workplace experiences

90th percentile employee engagement

70%
teams scoring above agile maturity of 4 by FY25

Halve time to market
for products and services by FY25

50% increase
in representation of Data & Analytics workforce by FY25

The place you want to work

Accelerating digital leadership



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Lead with a digital first and data-driven mindset

Embed digital ways of working and build digital skills

Deliver outstanding developer experiences and digital partnerships

Deploy decoupled, modular digital architecture

All key service transactions

with customers capable of being conducted digitally by FY25

100%
key business processes enhanced / improved using AI by FY25

100% API-first architecture

~90% of applications
moved to the public cloud

The place you want to work

Doing business responsibly



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Trusted operations

- Ensure fair, inclusive product and service design and appropriate sales practices
- Source ethically; manage risk in our supply chain

Environmental leadership

- Mitigate climate change impacts and help our customers and communities to do the same
- Use resources efficiently and minimise our environmental impacts

Digital inclusion

- Ensure everyone can enjoy the benefits of being connected, including in rural and regional areas
- Use tech for social & environmental innovation

50% reduction

in absolute emissions by 2030

2 million

increase in digitally active customers by FY25

Build digital skills for 500k Australians

1 million customers in vulnerable circumstances connected each year FY22-25, with our help

Investor Day

T25 scorecard



Customer experience

- Market leading CX with
- eNPS >40 by FY25
- sNPS uplift of +25 by FY25

- Getting it right for customers
- >90% 'Once and Done' by FY25 (C&SB)
 - 90% rating in support and engagement by FY25 (TE)

- Reduce our complaints
- One-third by FY23, 50% by FY25 (C&SB)
 - >95% of billing disputes will be resolved in 1 cycle by FY25 (TE)

- Grow Telstra Plus members (#) and engagement (%)
- 5.4m and 70% by FY23
 - 6m and 80% by FY25

- Grow digitally active users by 2m to 8.5m FY25 (C&SB)

- Improve availability of infra. assets for customers, by FY25
- 250 new towers
 - 6,000km of fibre deployed

Network & Technology

- Network leadership; by FY25:
- ~95% pop. coverage for 5G
 - >80% of traffic on 5G
 - 3G closed in FY24

- Win majority of key surveys for best fixed/ mobile network including
- Coverage, and
 - Overall customers speeds for mobile FY23-FY25

- Double metro cell sites by FY25 to densify the network

- Expand regional coverage
- 100,000km² new coverage by FY25

Growth and value

- Underlying EBITDA
- \$7.5-8.0b by FY23
 - Mid-single digit CAGR FY21 to FY25

- Underlying ROIC
- ~8% by FY23
 - Grow beyond to FY25

- Underlying EPS: High-teens CAGR FY21 to FY25

- Maximise fully-franked dividend and seek to grow over time

- Maintain cost discipline
- \$500m net fixed cost out from FY23 to FY25 while investing for growth
 - Maintain leading operating cost metrics for full-service telco

- Maximise value from infra.
- AmplitelEBITDAaL CAGR – low-to-mid single digit
 - InfraCo Fixed EBITDAaL CAGR – low-single digit

New ways of working

- Remain at 90th percentile employee engagement (equivalent to high-performance norm)

- Improve agile maturity of teams, with 70% scoring above 4 by FY25

- Halve our time to market for products and services from FY22 to FY25

- 50% increase in representation of Data & Analytics workforce by FY25

- Direct software engineering workforce delivering ~2x the percentage of strategic development work by FY25

Digital leadership

- All key service transactions with customers are capable of being conducted digitally by FY25

- 100% of key business processes enhanced/ improved using AI by FY25

- Reach top 20% in Digital Capability Index by FY25

- 100% API-first architecture for customer management, product development, and external monetisation

- Move ~90% of applications to the public cloud by FY25

Responsible business

- Enable renewable energy generation equivalent to 100% of our consumption by 2025

- Reduce absolute emissions from FY19 by at least 50% by 2030

- Increase digitally active customers by 2m, including building digital skills for 500k Australians, by FY25

- Help keep 1m customers in vulnerable circumstances connected each year from FY22-25

- 4-7pt uplift in RepTrak reputation score by FY25

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Note: Commitments are baselined to FY21, except where stated otherwise and see disclaimer slide in relation to financial ambitions

Investor Day

FY22 priorities – finish the job on T22



Complete digitisation

Complete migration of C&SB customers to the new tech stack



Group restructure

Complete our Group restructure and deliver value from infrastructure



5G leadership

Extend our 5G leadership improving 5G coverage and performance



Enterprise

Return Enterprise to growth and restore financial momentum



Grow services

Launch our new energy business and expand Telstra Plus



Cost reduction

Deliver on our \$2.7b annualised net cost productivity

13

Our T25 strategy to deliver growth



Convenient, personalised, digitally enabled experiences

Growth in **revenue, EBITDA, EPS** and **seek to grow dividend**

Profitable growth and scale in **Health and Energy**

World-class **returns from Infrastructure**

Network leadership with ~95% 5G coverage

Leading network and technology solutions for our customers

Further **\$500m cost out** from operational excellence

Responsible business leadership, including emissions reductions

The place you want to work



14



Consumer & Small Business

Michael Ackland
Group Executive, C&SB

15



Our purpose and values

To build a connected future so everyone can thrive

We are changemakers

We are better together

We care

We make it simple

Our ambition

To deliver profitable growth and value by creating brilliant experiences that enable our customers to work, learn and play

Consumer & Small Business

Our building blocks



Transform how we engage by deepening our local expertise



Help Australians get the most out of their connectivity



A trusted partner in the home & business



A new Telstra Plus ecosystem of value



Establish Telstra as a full service tech retailer



Expand multi-brand reach through partnerships

16

We are building on the foundations of T22...



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In the last three years we have...

- Radically simplified plans, eliminated pain points **>8.5m** services on simplified in-market plans

- Delivered a new tech stack at scale **>50%** of sales now on new digital platform
100% of agents active on new platform

- Launched and grown Telstra Plus **3.5m** users, **~50%** actively engaged

- Radically changed and improved our service model **>70%** of service interactions digital
2/3 reduction in inbound calls
Insourcing our retail stores

- Invested in leading network experiences **>1.6m** 5G devices connected
2.3m smart modems in customers' homes


Investor Day





...and are ready to transition to sustainable growth on multiple dimensions

Growth drivers

5G Drive value growth through mobility leadership
From complex to simple portfolio, no back book, positioned for growth

 **Grow hardware and services in the home and business**
From subsidising connectivity to capturing value across the hardware lifecycle

 **Growing and profitable home and business internet services**
From NBN headwinds to lean reseller, growing services, Energy, and on-net

 **Maintain T22 cost discipline**
From cost-out through simplification to operational excellence

 **Monetise Telstra Plus ecosystem**
From investment phase to value realisation

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Transform how we engage by deepening our local expertise



We are resetting the foundations of our customer experience, leveraging T22...

- Migration to new digital experiences on new tech stack
- On-shore support, 100% calls answered locally
- Ownership of retail store network

... and will accelerate the shift to local and more personalised experiences, enabled by data and AI

- Customers can engage with us via their channel of choice
- All key customer service transactions can be done digitally
- A team of local experts (store & call centre) to answer calls locally
- AI-powered real-time next best experiences at scale

Key FY25 outcomes

>90% 'Once and Done'

sNPS uplift of +25

Halve customer complaints



Help Australians get the most out of their connectivity

We deliver the best connectivity experience...



The best mobile network

Largest 5G coverage, leading reliability, innovative network-optimised products



Leading in secure connectivity

High-security core network, device security



Services work better on the Telstra network –

fastest NBN provider (ACCC)¹, #1 in Netflix speed index²



The best support to optimise customer experience

Self-healing, proactive fault detection through AI

... and change the way customers buy it

Shift to experience-based propositions

Using experiences to drive continued value growth; supporting how our customers work, learn and play

Technology-agnostic

Experiences across Fixed and Mobile, on-net and off-net

Broader range of connected devices

Category expansion beyond handsets and tablets

Key FY25 outcomes

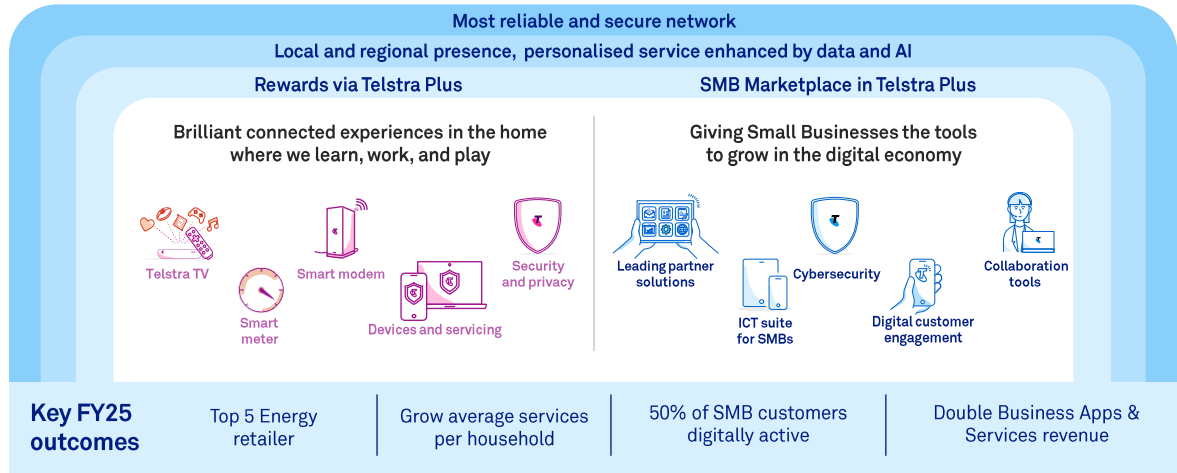
Deliver mobile services revenue growth

>80% of traffic on 5G

Growing and profitable home & business internet services

A trusted partner in the home & business

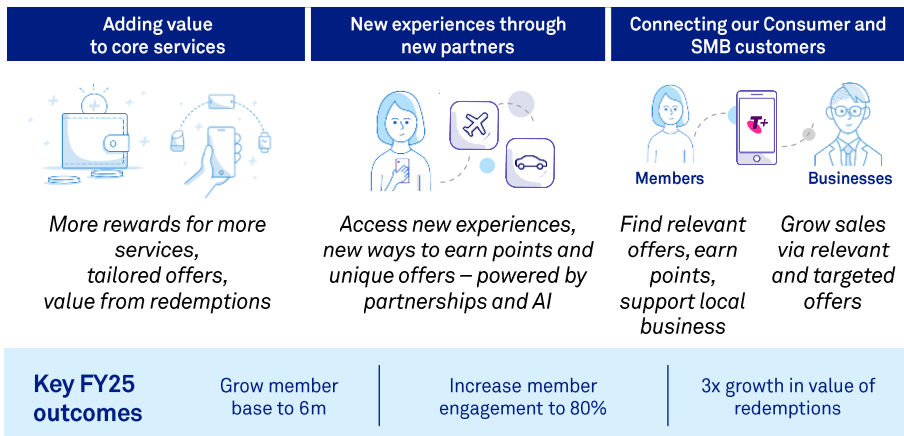
We see an emerging need to help Consumers and Small Business get the most out of their technology as it becomes more complex and fragmented



21

A new Telstra Plus ecosystem of value

Telstra Plus will be the cornerstone of how we engage more deeply with our customers



22



Establish Telstra as a full service technology retailer

AR/VR experiences
enhancing the retail experience

Expanding our range of devices and accessories

Fast local & digital delivery options:
express check out, click/call to collect



Expand account management for Small Business in **Telstra Business Technology Centres**

New store formats including kiosks

Repair and device management services on-site

Key FY25 outcomes

Grow hardware margin and outright device sales

Capture value across the full hardware lifecycle

Increase TBTC footprint in Regional

Expand multi-brand reach through partnerships

Driving **volume** and **value** through our multi-brand strategy



Be there in more places for more customers



Continue to scale Belong, focused on delivering value



Build on our successful partnerships with Boost and JB Hi-Fi

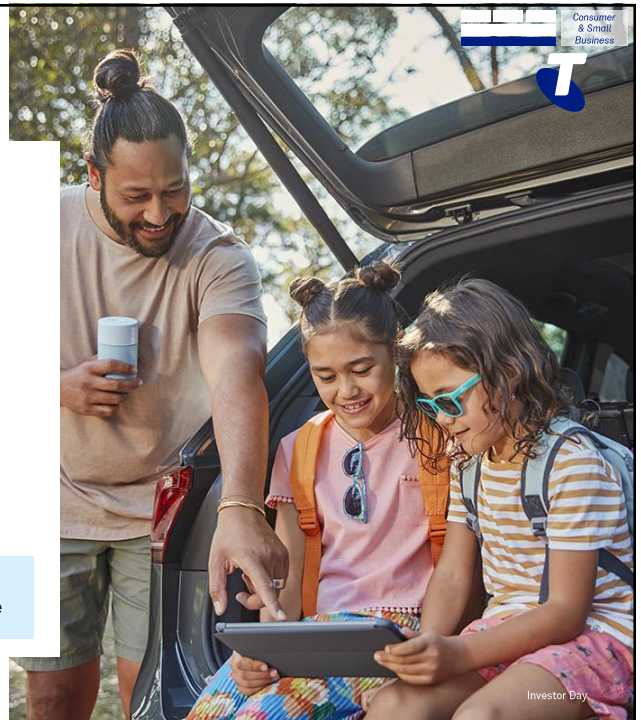


Build a network of agency partnerships

Key FY25 outcomes

Grow distribution partnerships

Value-accretive growth in Mobile



T25 scorecard



Customer experience

Market leading CX with

- eNPS >40 by FY25
- sNPS uplift of +25 by FY25

Getting it right for customers

- >90% 'Once and Done' by FY25 (C&SB)
- 90% rating in support and engagement by FY25 (TE)

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Grow digitally active users by 2m to 8.5m FY25 (C&SB)

Improve availability of infra. assets for customers, by FY25

- 250 new towers
- 6,000km of fibre deployed



Network & Technology

Network leadership; by FY25:

- ~95% pop. coverage for 5G
- >80% of traffic on 5G
- 3G closed in FY24

Win majority of key surveys for best fixed/mobile network including

- Coverage, and
- Overall customers speeds for mobile FY23-FY25

Double metro cell sites by FY25 to densify the network

Expand regional coverage

- 100,000km² new coverage by FY25



Growth and value

Underlying EBITDA

- \$7.5-8.0b by FY23
- Mid-single digit CAGR FY21 to FY25

Underlying ROIC

- ~8% by FY23
- Grow beyond to FY25

Underlying EPS: High-teens CAGR FY21 to FY25

Maximise fully-franked dividend and seek to grow over time

Maintain cost discipline

- \$500m net fixed cost out from FY23 to FY25 while investing for growth
- Maintain leading operating cost metrics for full-service telco

Maximise value from infra.

- Amplitude EBITDAaL CAGR - low-to-mid single digit
- InfraCo Fixed EBITDAaL CAGR - low-single digit



New ways of working

Remain at 90th percentile employee engagement (equivalent to high-performance norm)

Improve agile maturity of teams, with 70% scoring above 4 by FY25

Halve our time to market for products and services from FY22 to FY25

50% increase in representation of Data & Analytics workforce by FY25

Direct software engineering workforce delivering ~2x the percentage of strategic development work by FY25



Digital leadership

All key service transactions with customers are capable of being conducted digitally by FY25

100% of key business processes enhanced/improved using AI by FY25

Reach top 20% in Digital Capability Index by FY25

100% API-first architecture for customer management, product development, and external monetisation

Move ~90% of applications to the public cloud by FY25



Responsible business

Enable renewable energy generation equivalent to 100% of our consumption by 2025

Reduce absolute emissions from FY19 by at least 50% by 2030

Increase digitally active customers by 2m, including building digital skills for 500k Australians, by FY25

Help keep 1m customers in vulnerable circumstances connected each year from FY22-25

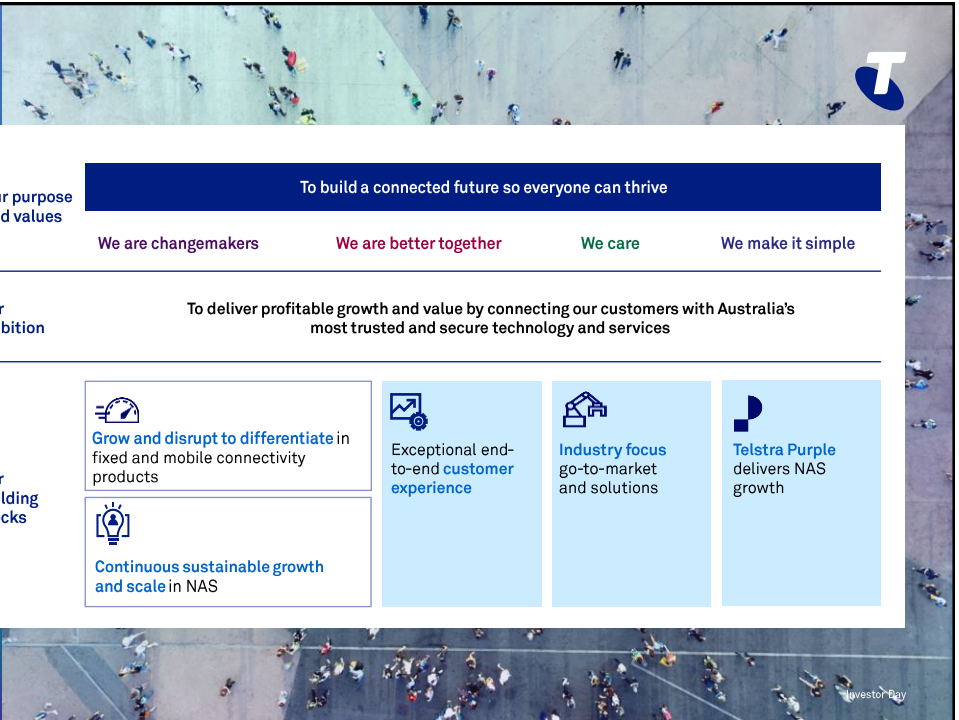
4-7pt uplift in RepTrak reputation score by FY25


Our commitments and metrics



Enterprise

David Burns
Group Executive, Enterprise





Enterprise

Our purpose and values


To build a connected future so everyone can thrive

We are changemakers
We are better together
We care
We make it simple


Our ambition

To deliver profitable growth and value by connecting our customers with Australia's most trusted and secure technology and services


Our building blocks




Grow and disrupt to differentiate in fixed and mobile connectivity products




Exceptional end-to-end **customer experience**



Industry focus go-to-market and solutions



Telstra Purple delivers NAS growth

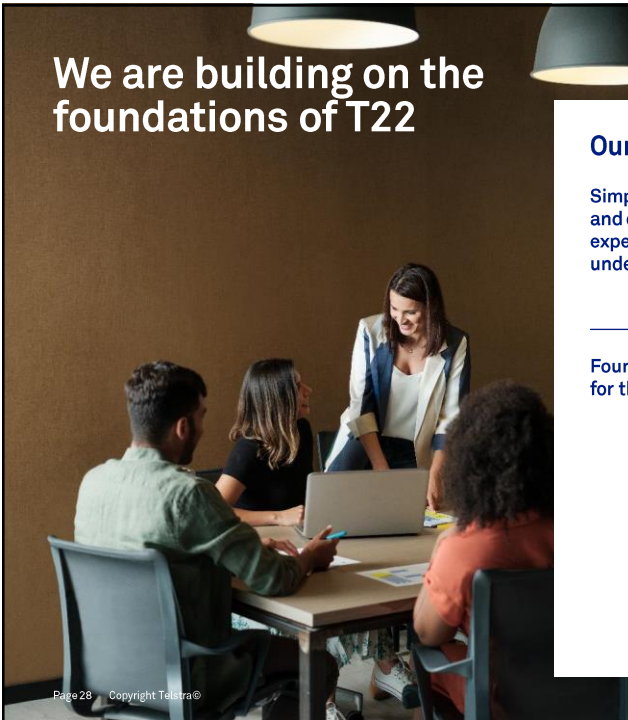



Continuous sustainable growth and scale in NAS

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We are building on the foundations of T22

Our achievements in the last three years...

Simplification and customer experience underway

- Reduced Enterprise products by **50%** since 2018
- **sNPS uplift of +22 points** across all customer segments from June 2019
- Launched **agile@scale** to simplify the way we work, with ~2,300 Telstra Enterprise employees transitioned to agile

Foundations for the future

- Launched **Adaptive solutions suite (Networks and Mobility)**, enhancing customer flexibility and monetising 5G
- **Built products on the new digital stack** and commenced customer migration
- Launched **Telstra Connect**, now available to all eligible Enterprise customers
- Launched **Next Gen Growth Services** to provide a platform for growth with next generation technologies on **IoT, Security and Cloud**
- Launched **Telstra Purple**, now the largest Australian owned technology services provider with **1,500 experts**
- Targeting **revenue and EBITDA growth** in FY22, maintaining **T22 cost discipline**

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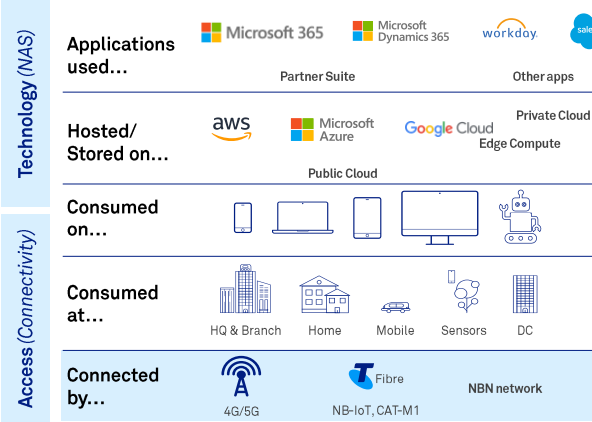
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The network is the base on which we build our services



Customer IT ecosystem



Telstra's core connectivity enabling digital business

- Reliable and secure T-Fibre performance
- Leveraging NBN
- Flexible network management layer with award winning SD-WAN offerings
- Fixed mobile network convergence

Key outcomes

Return Data & Connectivity to growth by FY24¹

Maintain T22 cost discipline

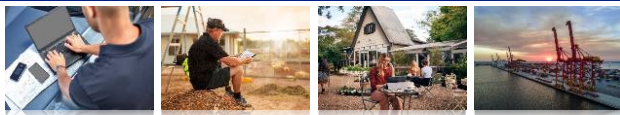
29

Technology services driving innovative 5G Enterprise use cases



In market and imminent

Coverage-reliant, high bandwidth solutions



Adaptive Mobility

- Speed-tiered, simplified plans
- Accelerator add-on

Enterprise Wireless

- Rapid deployment
- Availability SLAs

Work Anywhere

- Cloud PC
- 5G connectivity for seamless experiences

Dedicated Networks

- 5G networks for industrial use cases
- Examples include logistics parks, mining sites

In trial with partners and customers

Low latency, network orchestration-reliant solutions



Stadium & Crowd Experiences

- Thermal & crowd density cameras
- AR wayfinding & geospatial tagging

Smart Diagnosis & Inspection

- Digital overlay for industrial inspection

Immersive Training & Collaboration

- Immersive simulation of job experiences
- Mixed reality meetings and conferencing





Enablers






30

Digital transformation driving growth in NAS




Continuous sustainable growth and scale in NAS

- 
Secure Adaptive Infrastructure
 - Cyber security
 - Networks
 - Data centre
 - Cloud
- 
Workplace
 - Collaboration
 - Mobility
 - Productivity
- 
Digital
 - Data and analytics
 - Software development
 - Human centred design
- 
IoT
 - Automation
 - Business insights
 - Operational technology

	Scaled Managed Services Provider Highly automated managed services for Cloud and Security solutions, leveraging market tailwinds
	Digital Transformation Partner Specialised experts supporting migrations to managed services for large IT transformations
	Technology Builder for Target Verticals Industry-specific solutions leveraging reusable IP with minimal customisation

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Create personalised experiences where it matters, and simple digital ones for convenience and efficiency

 <p>Personalised service where it matters</p>	 <p>Digital service for everyday interactions</p>	 <p>Simplified process and billing</p>
<p>Our ambition</p> <p>“My incidents are responded to and restored quickly, within agreed service levels”</p>	<p>“I have meaningful face-to-face engagement with my client executives”</p> <p>“My client executive and team understand the technology needs of my business and industry to provide compelling solutions that solve my business problems”</p>	<p>“I can conduct day-to-day service interactions with Telstra digitally with no fuss”</p> <p>“My bills are simple, easy to understand, accurate and timely, and I can access them digitally”</p>
<p>Key FY25 outcomes</p> <ul style="list-style-type: none"> 90% rating in our support and engagement scores Customers can choose to perform all key service interactions digitally >95% of billing disputes will be resolved in 1 cycle 		

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Industry focused go-to-market and solutions

Government



Key provider, supporting Government cyber security and digital transformation

Mining & Energy

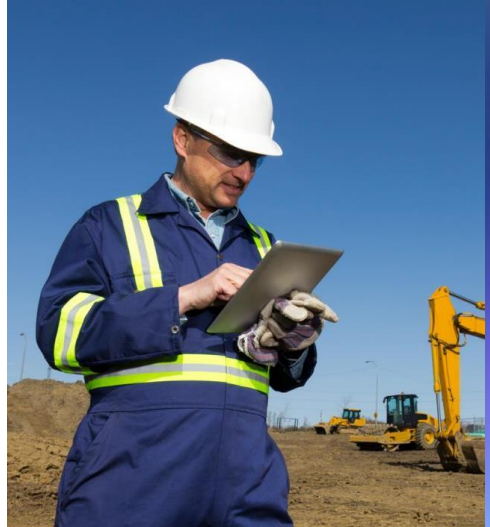


Connectivity and services driving digital transformation, automation, and sustainability

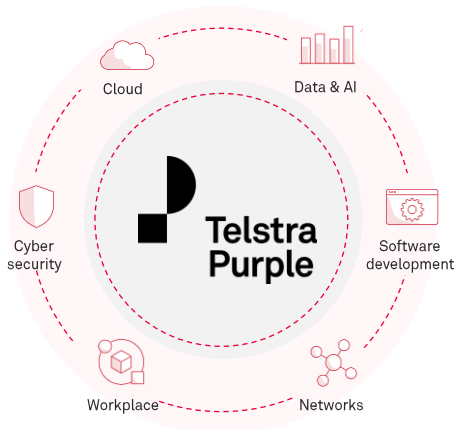
Supply Chain & Logistics, Retail & Agribusiness



Business efficiency and acceleration through industry leading IoT and digital transformation services



Leveraging Telstra Purple as the growth engine for NAS



Bringing technology solutions to life on our network



Largest Australian owned technology services business



~1,500 Highly-skilled Experts



~2,000 Digital Transformation Customers



Strong partnership with world's leading technology companies



Our FY25 financial ambitions

Return Data & Connectivity to growth by FY24

Drive profitable growth in Mobiles and monetise IoT

Mid-single digit NAS revenue CAGR to FY25

Mid-teens NAS EBITDA margin

Maintain T22 cost discipline

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Note: See disclaimer slide in relation to financial ambitions
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T25 scorecard

	Customer experience	Network & Technology	Growth and value	New ways of working	Digital leadership	Responsible business
Our commitments and metrics	<p>Market leading CX with</p> <ul style="list-style-type: none"> • eNPS >40 by FY25 • sNPS uplift of +25 by FY25 <p>Getting it right for customers</p> <ul style="list-style-type: none"> • >90% 'Once and Done' by FY25 (C&SB) • 90% rating in support and engagement by FY25 (TE) <p>Reduce our complaints</p> <ul style="list-style-type: none"> • One-third by FY23, 50% by FY25 (C&SB) • >95% of billing disputes will be resolved in 1 cycle by FY25 (TE) <p>Grow Telstra Plus members (#) and engagement (%)</p> <ul style="list-style-type: none"> • 5.4m and 70% by FY23 • 6m and 80% by FY25 <p>Grow digitally active users by 2m to 8.5m FY25 (C&SB)</p> <p>Improve availability of infra. assets for customers, by FY25</p> <ul style="list-style-type: none"> • 250 new towers • 6,000km of fibre deployed 	<p>Network leadership; by FY25:</p> <ul style="list-style-type: none"> • ~95% pop. coverage for 5G • >80% of traffic on 5G • 3G closed in FY24 <p>Win majority of key surveys for best fixed/mobile network including</p> <ul style="list-style-type: none"> • Coverage, and • Overall customers speeds for mobile FY23-FY25 <p>Double metro cell sites by FY25 to densify the network</p> <p>Expand regional coverage</p> <ul style="list-style-type: none"> • 100,000km² new coverage by FY25 	<p>Underlying EBITDA</p> <ul style="list-style-type: none"> • \$7.5-8.0b by FY23 • Mid-single digit CAGR FY21 to FY25 <p>Underlying ROIC</p> <ul style="list-style-type: none"> • ~8% by FY23 • Grow beyond to FY25 <p>Underlying EPS: High-teens CAGR FY21 to FY25</p> <p>Maximise fully-franked dividend and seek to grow over time</p> <p>Maintain cost discipline</p> <ul style="list-style-type: none"> • \$500m net fixed cost out from FY23 to FY25 while investing for growth • Maintain leading operating cost metrics for full-service telco <p>Maximise value from infra.</p> <ul style="list-style-type: none"> • Amplitel EBITDAaL CAGR – low-to-mid single digit • InfraCo Fixed EBITDAaL CAGR – low-single digit 	<p>Remain at 90th percentile employee engagement (equivalent to high-performance norm)</p> <p>Improve agile maturity of teams, with 70% scoring above 4 by FY25</p> <p>Halve our time to market for products and services from FY22 to FY25</p> <p>50% increase in representation of Data & Analytics workforce by FY25</p> <p>Direct software engineering workforce delivering ~2x the percentage of strategic development work by FY25</p>	<p>All key service transactions with customers are capable of being conducted digitally by FY25</p> <p>100% of key business processes enhanced/improved using AI by FY25</p> <p>Reach top 20% in Digital Capability Index by FY25</p> <p>100% API-first architecture for customer management, product development, and external monetisation</p> <p>Move ~90% of applications to the public cloud by FY25</p>	<p>Enable renewable energy generation equivalent to 100% of our consumption by 2025</p> <p>Reduce absolute emissions from FY19 by at least 50% by 2030</p> <p>Increase digitally active customers by 2m, including building digital skills for 500k Australians, by FY25</p> <p>Help keep 1m customers in vulnerable circumstances connected each year from FY22-25</p> <p>4-7pt uplift in RepTrak reputation score by FY25</p>

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Note: Commitments are baselined to FY21, except where stated otherwise and see disclaimer slide in relation to financial ambitions
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Infrastructure

Brendon Riley
CEO InfraCo

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Our purpose and values

To build a connected future so everyone can thrive

We are changemakers

We are better together

We care

We make it simple

Infrastructure

Our ambition

To deliver profitable growth and value by improving access, utilisation and scale of our infrastructure

Our building blocks



Provide accessible infrastructure for the nation



Enhance our infrastructure expertise



Establish globally competitive & sustainable asset businesses



Execute on Amplitel's strategy with our new partners



InfraCo Fixed readiness to explore future monetisation or other opportunities



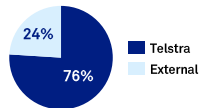
Create a strategic InfraCo | Telstra partnership

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Telstra InfraCo's passive asset businesses

Amplitel (51% Telstra / 49% Consortium)

 More than **8,000** towers, masts & mobile poles




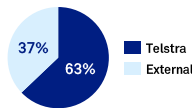
Revenue FY21: **\$340m**

- Largest stock of mobile towers in Australia
- 15 year agreement with Telstra (plus options)
- Growth opportunities supported by industry trends

InfraCo Fixed

Fibre

 **250,000** km of optical fibre cable

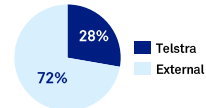


Revenue FY21: **\$811m**

- Largest fibre footprint in the country (by access to business premises)
- Long term agreements with Telstra & NBN Co
- New fibre opportunities supported by industry trends

Ducts & Fixed Network Sites

 **2** data centres
10,000 fixed network sites
370,000 km duct length



Revenue FY21: **\$1,513m**


- Largest duct & pipe network in Australia
- Long term agreements with Telstra & NBN Co
- Data centre expansion underway
- Growth opportunities with emerging distributed technologies

Our ambition for Amplitel

Ambition: Australia's leading full-service wireless infrastructure, services and solutions provider

 **Customer**

 **Technology**

 **Shareholder value**

 **Capabilities**

Strategic objectives

Provide better access to our tower infrastructure

Improve service offerings & asset health

Drive asset efficiency and pursue growth

Be the home of tower infrastructure expertise

Focus areas

- Increased tenancy ratios
- Full tower infrastructure coverage & industry solutions

- "As a Service" offerings
- Digital twins
- New asset management technology

- New tower growth
- Maintenance best practice & operational efficiencies

- Mature HSWE model
- Strategic construction & delivery partnerships
- Nimble, customer centric organisation

Key FY25 outcomes






250 new towers¹
700 additional tenancies

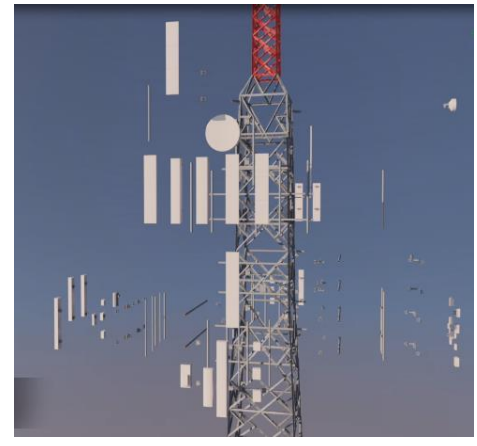
Digital twins for 90% of mobile structures

EBITDAaLCAGR – low-to-mid single digit²

>90% HSWE same day reporting

Using Digital Twins to create a great customer experience





-  **Detailed view of all equipment**
Digitise 1,000+ towers by end of July 2021 and 90% of all mobile structures by FY25
-  **Plan deployment**
Share available space visually for more accurate and cost effective planning
-  **Auto-update digital twin**
Auto-update digital twin through direct integration with asset management platform
-  **End-to-end solution**
Drone-based data capture, processing, 3D digital twin, analytics & reporting
-  **Safety & maintenance**
Site incident prevention and reductions, and optimisation of maintenance routines



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Our ambition for InfraCo Fixed

Ambition: Australia's leading fibre and network infrastructure provider

	 Customer	 Technology	 Shareholder value	 Capabilities
Strategic objectives	Provide better access to our Fixed infrastructure	Improve service offerings & asset health	Drive asset efficiency, pursue growth & monetisation readiness	Be the home of Fixed infrastructure expertise
Focus areas	<ul style="list-style-type: none"> • New fibre and data centre products • Digitised access to assets 	<ul style="list-style-type: none"> • Asset monitoring & analytics • Fibre life-cycle management • Integrated asset management platforms 	<ul style="list-style-type: none"> • Build new fibre networks and data centres • Property rationalisation & procurement efficiencies • Readiness for monetisation 	<ul style="list-style-type: none"> • Leading land access practices • Emission reductions & recycling • Long term asset health
Key FY25 outcomes	10 new fixed products 6,000km of fibre deployed	\$600m of new infra investment ¹	EBITDAaLCAGR – low-single digit ²	Reduce energy use aligned to Telstra emissions reduction by FY30

1. Defined as the cumulative growth capex (excl. maintenance) between FY22 and FY25, which is included in Telstra's ongoing business as usual capex
2. See disclaimer slide in relation to financial ambitions

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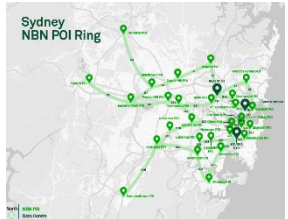
InfraCo Fixed is making strong progress with dark fibre and will build new infrastructure to meet market needs

Dark fibre sales

188 services
22+ customers

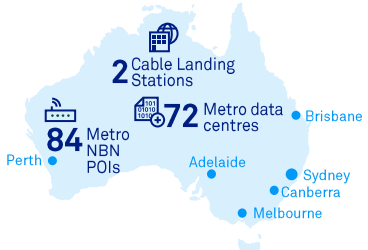
5 New dark fibre products in the market planned in FY22

NBN POI ring product recently launched



6 Capital cities connected to NBN POIs and our Data Centres

Expand our fibre footprint



300+ fibre paths - unique connectivity to critical infrastructure & expansion opportunities

T25 scorecard



Customer experience

Market leading CX with

- eNPS >40 by FY25
- sNPS uplift of +25 by FY25

Getting it right for customers

- >90% 'Once and Done' by FY25 (C&SB)
- 90% rating in support and engagement by FY25 (TE)

Reduce our complaints

- One-third by FY23, 50% by FY25 (C&SB)
- >95% of billing disputes will be resolved in 1 cycle by FY25 (TE)

Grow Telstra Plus members (#) and engagement (%)

- 5.4m and 70% by FY23
- 6m and 80% by FY25

Grow digitally active users by 2m to 8.5m FY25 (C&SB)

Improve availability of infra. assets for customers, by FY25

- 250 new towers
- 6,000km of fibre deployed

Network & Technology

Network leadership; by FY25:

- ~95% pop. coverage for 5G
- >80% of traffic on 5G
- 3G closed in FY24

Win majority of key surveys for best fixed/mobile network including

- Coverage, and
- Overall customers speeds for mobile FY23-FY25

Double metro cell sites by FY25 to densify the network

Expand regional coverage

- 100,000km² new coverage by FY25

Growth and value

Underlying EBITDA

- \$7.5-8.0b by FY23
- Mid-single digit CAGR FY21 to FY25

Underlying ROIC

- ~8% by FY23
- Grow beyond to FY25

Underlying EPS: High-teens CAGR FY21 to FY25

Maximise fully-franked dividend and seek to grow over time

Maintain cost discipline

- \$500m net fixed cost out from FY23 to FY25 while investing for growth
- Maintain leading operating cost metrics for full-service telco

Maximise value from infra.

- AmpliteL EBITDAaL CAGR - low-to-mid single digit
- InfraCo Fixed EBITDAaL CAGR - low-single digit

New ways of working

Remain at 90th percentile employee engagement (equivalent to high-performance norm)

Improve agile maturity of teams, with 70% scoring above 4 by FY25

Halve our time to market for products and services from FY22 to FY25

50% increase in representation of Data & Analytics workforce by FY25

Direct software engineering workforce delivering ~2x the percentage of strategic development work by FY25

Digital leadership

All key service transactions with customers are capable of being conducted digitally by FY25

100% of key business processes enhanced/improved using AI by FY25

Reach top 20% in Digital Capability Index by FY25

100% API-first architecture for customer management, product development, and external monetisation

Move ~90% of applications to the public cloud by FY25

Responsible business

Enable renewable energy generation equivalent to 100% of our consumption by 2025

Reduce absolute emissions from FY19 by at least 50% by 2030

Increase digitally active customers by 2m, including building digital skills for 500k Australians, by FY25

Help keep 1m customers in vulnerable circumstances connected each year from FY22-25

4-7pt uplift in RepTrak reputation score by FY25

Our commitments and metrics



Financial strategy

Vicki Brady
CFO

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Our purpose and values

To build a connected future so everyone can thrive

We are changemakers

We are better together

We care

We make it simple

Our ambition

To deliver growth and value for shareholders

Financial strategy

Our building blocks



Build financial momentum across our portfolio to deliver growth



Deliver net cost reductions – \$500m net fixed cost out from FY23 to FY25 while investing for growth



Focus on cash conversion and generation



Active portfolio management to unlock value and manage our Balance Sheet



Create shareholder value through our capital management framework

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Our financial ambitions to FY25



Underlying EBITDA¹

- \$7.5–8.0b by FY23
- Mid-single digit CAGR FY21 to FY25



Underlying ROIC¹

- ~8% by FY23
- Grow beyond to FY25



Underlying EPS¹

- High-teens CAGR FY21 to FY25



Dividend

- Maximise fully-franked dividend and seek to grow over time



Excess cashflow

- Invest for growth and return excess cash to shareholders

1. Refer to definition in Glossary and see disclaimer slide in relation to these financial ambitions



Our Underlying EBITDA ambition

Building financial momentum across our portfolio to deliver growth

Growth drivers



Drive value growth through 5G mobility leadership



Profitably grow fixed product portfolio



Deliver net cost reductions while investing for growth

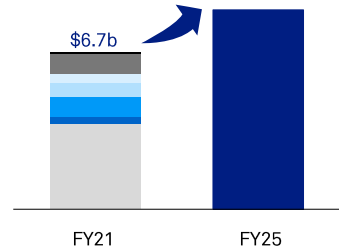


Profitably grow New Markets to scale



Grow returns from infrastructure business

Mid-single digit CAGR

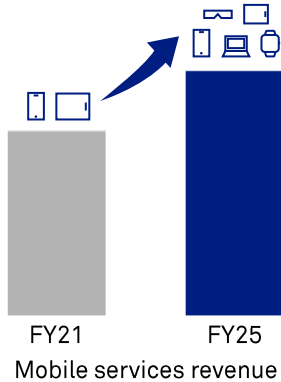


■ Mobile ■ Fixed C&SB ■ Fixed Enterprise
■ Fixed Wholesale ■ Global ■ nbn recurring
■ Other



Five building blocks driving value in mobility

Mid-single digit CAGR



- 1 Network leadership on Australia's largest 5G network
- 2 Customer first with simplified plans, no lock in contracts
- 3 Value growth from 5G experience-based propositions driving ARPU and TMMC growth
- 4 New C&SB and Enterprise 5G products and expanded device ecosystem
- 5 Continue value accretive growth through our multi-brand strategy including wholesale

A further five areas of growth across our portfolio



C&SB – Fixed

Growing and profitable home and business internet services

Mid-teens nbn reseller margin by FY23

Double Business Apps & Services revenue by FY25

Less than \$100m p.a. losses in legacy copper (across all products)



Enterprise - Fixed

Return to growth in data and connectivity by FY24

Mid-single digit NAS revenue CAGR to FY25 with mid-teens EBITDA margin

Enterprise revenue and EBITDA growth in FY22 (mobile, fixed and international as a whole)



Wholesale - Fixed

Maintain Fixed – Wholesale EBITDA of ~\$350m p.a. until FY23 before the portfolio returns to growth



Infrastructure

Amplitel by FY25

- Low-to-mid single digit EBITDAaL CAGR
- 250 new towers¹
- 700 additional tenancies

InfraCo Fixed by FY25

- Low-single digit EBITDAaL CAGR
- \$600m of new infra investment²
- 6,000km of fibre deployed



New Markets

Grow Telstra Health to become a \$0.5b revenue business by FY25

Top 5 Energy retailer by FY25

1. Excludes USO and co-funded towers.

2. Defined as the cumulative growth capex (excl. maintenance) between FY22 and FY25, which is included in Telstra's ongoing business as usual capex.

Note - See disclaimer slide in relation to financial ambitions

Deliver net cost reductions while investing for growth



Outcomes

\$500m net fixed cost out from FY23 to FY25 while investing for growth

Net fixed cost out from FY23 to FY25 is in addition to T22 target of \$2.7b

Maintain leading operating cost metrics for full-service telco

Focus areas

Significantly reduce our **IT operating cost** through removing legacy

Transform the **TE and supporting value chain cost base**

Deliver operational efficiency across **C&SB customer episodes**

Realise further **labour productivity** through agile@scale

Expand productivity discipline to **total costs**

Focus on cash conversion and generation



Conversion of EBITDA into cash



Capex discipline & efficiency

- FY22 guidance: \$2.8b - \$3.0b excl. spectrum
- Ongoing BAU capex of ~\$3b p.a. excl. spectrum



Working capital

- Management of mobile handset receivables
- Continued working capital initiatives



Leases

- Focus on efficiency
- Management of property portfolio



Finance costs

- Reduced rate as high cost debt matures

Cashflow ahead of accounting earnings



Capex structurally lower than D&A

FY21 capex:

- \$1.4b lower than D&A of \$4.5b¹
- ~\$700m lower than D&A adjusted for \$532m of lease depreciation and \$239m of spectrum amortisation



We expect BAU capex will continue ~\$600m lower than D&A adjusted for lease depreciation and spectrum amortisation

1. FY21 accrued capex \$3,020m. FY21 D&A on a reported lease adjusted basis \$4,452m. Refer to definitions in glossary.



Active portfolio management to unlock value and manage Balance Sheet



Strong track record under T22 with \$2b of asset sales to support balance sheet and exit low return assets



Sale of 49% stake in Amplitel for \$2.8b



InfraCo Fixed readiness to explore future monetisation or other opportunities



Retain discipline to grow or exit investments dependent on their ability to exceed ROIC targets



Capital management framework

Fiscal discipline

Objectives



Maximise returns for shareholders



Maintain financial strength



Retain financial flexibility

Principles

1. Committed to balance sheet settings consistent with an A band credit rating
2. Maximise fully-franked dividend and seek to grow over time¹
3. Ongoing business-as-usual capex of ~\$3b p.a. excluding spectrum²
4. Invest for growth and return excess cash to shareholders

1. The dividend is subject to no unexpected material events and is subject to Board discretion having regard to financial and market conditions, business needs and maintenance of financial strength and flexibility consistent with Telstra's capital management framework.

2. Capex is measured on an accrued basis and excludes spectrum and guidance adjustments, externally funded capex, and capitalised leases.



Invest for growth and return excess cash to shareholders

Capital management framework

	Fiscal discipline		
Objectives	Maximise returns for shareholders	Maintain financial strength	Retain financial flexibility
Principles	<ol style="list-style-type: none"> Committed to balance sheet settings consistent with an A band credit rating Maximise fully-franked dividend and seek to grow over time¹ Ongoing business—six annual capex of ~\$3b p.a. excluding spectrum² Invest for growth and return excess cash to shareholders 		

¹ This dividend is subject to an unannounced material events and is subject to Board discretion having regard to financial and market conditions, business needs and maintenance of financial strength and flexibility consistent with Telstra's capital management framework.
² Capex is measured on an accrual basis and includes spectrum and guidance adjustments, centrally funded capex, and capitalised leases.



Invest for growth

Criteria for...

Organic opportunities

- NPV positive
- Appropriate risk analysis

M&A opportunities

- EPS accretive in year 2
- ROI above WACC in year 3
- More accretive than share buy-back of comparable size

Preserve discretion for strategic opportunities



Return excess cash to shareholders using capital management options – e.g. buy-backs, capital returns, unfranked dividends



We will deliver growth through our T25 strategy

Financial strategy

Build financial momentum across our portfolio to deliver growth

Deliver net cost reductions – \$500m net fixed cost out from FY23 to FY25 while investing for growth

Focus on cash conversion and generation

Active portfolio management to unlock value and manage our Balance Sheet

Create shareholder value through our capital management framework

Financial ambitions



Underlying EBITDA¹

- \$7.5–8.0b by FY23
- Mid-single digit CAGR FY21 to FY25



Underlying ROIC¹

- ~8% by FY23
- Grow beyond to FY25



Underlying EPS¹

- High-teens CAGR FY21 to FY25



Dividend

- Maximise fully-franked dividend and seek to grow over time



Excess cashflow

- Invest for growth and return excess cash to shareholders

¹ Refer to definition in Glossary and see disclaimer slide in relation to these financial ambitions



Appendix



Glossary

Term	Definition (unless separately defined in the slide footnotes)
CAGR	Compound Annual Growth Rate
Capex	Capex is measured on an accrued basis and excludes spectrum and guidance adjustments, externally funded capex, and capitalised leases
EBITDAaL	Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) and after leases
Guidance adjustments	Guidance adjustments include material one-offs, such as mergers and acquisitions, disposals, impairments, spectrum, restructuring costs and such other items as determined by the Board and management
net one-off nbn receipts	Net one-off nbn Definitive Agreement receipts (consisting of PSAA, Infrastructure Ownership and Retraining) less nbn net cost to connect (C2C)
Reported lease adjusted	FY21 'reported lease adjusted' includes all mobile handset leases as operating expenses, and all rent/other leases below EBITDA
ROIC	Calculated as Net Operating Profit after Tax (NOPAT) as a percentage of total capital
Underlying earnings	Profit after Tax and Minority Interests (PATMI) from continuing operations excluding net one-off nbn receipts and guidance adjustments
Underlying EPS	Underlying Earnings Per Share (EPS)
Underlying EBITDA	EBITDA excluding net one-off nbn receipts and guidance adjustments. FY21 underlying EBITDA also includes depreciation of mobile lease right-of-use assets
Underlying ROIC	Calculated as NOPAT excluding net one-off nbn receipts and guidance adjustments, less tax, as a percentage of total capital

Disclaimer



These presentations include certain forward-looking statements. The forward-looking statements are based on certain assumptions and information known by Telstra as at the date of these presentations.

The forward-looking statements are not guarantees or predictions of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Telstra, which may cause Telstra's actual results, performance and achievements to differ materially from those expressed in, or implied by, the forward-looking statements. These factors include: general economic conditions in Australia; exchange rates; competition in the markets in which Telstra will operate; the inherent regulatory risks in the businesses of Telstra; the substantial technological changes taking place in the telecommunications industry; the ongoing impacts of the COVID-19 pandemic; and the continuing growth in the data, internet, mobile and other telecommunications markets where Telstra will operate. A number of these risks, uncertainties and other factors are described in the "Chairman & CEO Message", "Our material risks" and "Outlook" sections of our Operating and Financial Review (OFR). The OFR is set out in Telstra's financial results for the year ended 30 June 2021 and in Telstra's 2021 Annual Report which were lodged with the ASX on 12 August 2021 and 27 August 2021 respectively, and are available on Telstra's Investor Centre website www.telstra.com.au/aboutus/investor.

In addition, there are particular risks and uncertainties in connection with the implementation of the Telstra2025 strategy (T25), including the response of customers to changes in products and the way we interact with them as we move to a digital operating model; the risks of disruption from changes to the ways we work; that detailed business plans have not been developed for the entirety of the strategy and the full scope and cost of T25 may vary as plans are developed; Telstra's ability to execute and manage the elements of T25 in a sequenced, controlled and effective manner and realise the planned operational synergies, cost savings and revenue benefits. There are also risks and uncertainties in connection with the proposed legal restructure announced on 22 March 2021.

Telstra does not provide financial guidance beyond the current financial year. Telstra's financial ambitions to FY25 (in particular for its Underlying EBITDA and Underlying ROIC by FY23) and FY25 outcomes are not guidance and there are greater risks and uncertainties in connection with these ambitions. The indicators provided in this presentation of FY25 outcomes and FY25 financial ambitions, are provided to illustrate some of the outcomes which management is currently focused on delivering across the short to medium term. Each item and action is subject to a range of assumptions and contingencies, including the actions of third parties.

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ANDREW PENN – CEO

Slide 3: Introduction & Strategy

Thank you, Nathan.

Welcome everyone and thank you for joining us today.

I hope everybody is continuing to stay safe and strong during these difficult times and I am disappointed this is another event we have had to hold virtually.

We miss the opportunity to catch up with you face to face, particularly on key strategic topics such as today's announcements.

Nonetheless, this is a very exciting day for Telstra as we announce what comes after T22.

T22 has been a defining strategy for us. It has been ubiquitously in our narrative for the last few years. It has guided every strategic decision we have made, so it's quite the moment today to be sharing with you what will be succeeding it.

We launched T22 just over three years ago to fundamentally transform and radically simplify Telstra. It was at a time when we absolutely needed to change. It built on foundational investments we announced in 2016 to digitise our business and build the networks of the future.

Through T22 we have transformed Telstra and today, three years into what has been one of the largest, fastest and most ambitious transformations of a telco globally, we are a vastly different company.

Through T22 we have set up Telstra to play a leading role in the accelerating digital economy, in a more connected world, a world where everybody and every business is spending much more time online.

Today I am very excited to announce what comes next, what comes after T22. And the answer to that question is T25 – a new Strategy to accelerate growth from our core and to scale our new businesses; a new strategy to further enhance customer experience and to respond to the permanent shifts we are seeing in how people work and live; a new strategy to capitalise on the establishment of infraco and the changes to our company to create a more contemporary structure for the future.

If T22 was a strategy of necessity, T25 is a strategy for growth. And in its implementation, we will be using exactly the same disciplines and governance that we used for T22 – the metrics and the milestones, the roadmaps and the scorecard. And this is why I am confident it will be a success – why change a winning formula when you don't need to.

And when we have delivered it, we will be a vastly different company again.

So let me share the details with you now.

Slide 4: Our strategy: T25

We believe it's people who give purpose to our technology.

So we're committed to staying close to our customers and providing them the best experience.

And delivering the best technology. On the best network.

Because our purpose is to build a connected future so everyone can thrive.

It's a purpose underpinned by our values which guide everything we do and how we approach the decisions we make. They will be the underlying principles for how we will deliver T25.

We make it simple.

We care.

We are better together.

And we are the changemakers.

T22 was very much about being changemakers as we knew we needed to take a radical and ambitious approach to achieve the transformation we have.

T25 will take this to the next level.

Like T22, T25 is built around key strategic pillars, there are four:

Firstly, to provide an exceptional customer experience you can count on.

If T22 and the last several years has taught us anything, particularly as we have navigated the migration to the NBN and responded to the consequences of COVID, it's that providing a better customer experience is our number one objective.

Nothing is more important than continuing to improve customer experience and this sits at the heart of our T25 strategy leveraging the capabilities we have built.

The second pillar is to provide the leading network and technology solutions that deliver your future. Telstra has always been at the forefront of telecommunications technology, not just in Australia but globally. Never has this been more important than today in a world of rapid digital adoption.

As new technologies continue to evolve including 5 and 6G, satellite, cloud and edge compute, the traditional worlds of telecommunications and compute technology are blurring. This is creating exciting opportunities and solutions that we will continue to lead in bringing to customers and of course, as always, bringing them to customers on Australia's best and biggest network.

The third pillar is to create sustained growth and value for our shareholders. As we move forward from the period of the transition to the NBN and out from under that economic headwind, the significant interventions we have made in turning our business around and taking out cost are now starting to flow through to our bottom-line.

This will enable us to increase underlying EBITDA, ROIC and EPS. With strong cash flow generation and opportunities ahead to monetise assets, we will focus on maximising our franked dividend and seeking to grow it over time, investing for growth and returning excess cash flow to shareholders.

The fourth and final pillar is to be the place you want to work. Competing for the best talent in the future is going to rely on more than just the basics. In the new post COVID world we need to excel at flexible and hybrid ways of working, we need to accelerate our digital leadership and we need to be a leader in doing business responsibly.

These are the four pillars that set the direction for Telstra under our T25 strategy.

It is a strategy created to deliver the things that we know will sharpen our competitive edge because they respond to the trends that are shaping our market and the evolving needs of our customers.

It is a strategy focussed firmly on taking customer experience to a whole new level and a strategy that is focussed on growth.

Ultimately it is a strategy to leverage the capabilities we have built under T22 and in the same way T22 would not have been possible without the foundational investments we announced in 2016, T25 would not be possible without all that we have accomplished in T22.

We will deliver T25 through our five key businesses – Consumer and Small Business, Enterprise, New Markets – which comprises Energy and Health, International and Infrastructure.

Slide 5: Our businesses will deliver profitable growth by...

The four pillars of T25 will guide the strategy for each of our businesses and each also has its own ambition reflecting the place it is at and the opportunities ahead.

For Consumer and Small business our ambition is to leverage our new simplified, digitised and insourced platform to create brilliant experiences that enable our customers to work, learn and play. You will hear from Michael Ackland today more about how we will achieve that.

For our Enterprise business our ambition is to deliver profitable growth and value by connecting our customers with Australia's most trusted and secure technologies and services. This builds on our ambition to deliver overall revenue and EBITDA growth across mobile, fixed and International this financial year and today David Burns will take you through this in more detail.

For our New Markets our ambition is very simple – it is to grow our Health and Energy businesses profitably to scale. We are very excited by these opportunities and their strategic direction, but we also know we need increase their economic significance to the value of Telstra.

For International our ambition is to deliver profitable growth and value by leveraging the growing strategic significance of our international network. There is no doubt with rapid digital adoption and the changing geopolitical landscape, the importance of our international assets has taken on a whole new complexion.

We plan to hold a second investor day on 16 November at which we will cover Health, Energy and International as well as give you a deep dive into what we are doing in Product, Technology and Networks and the place you want to work pillar.

Finally, our infrastructure business where our ambition is to improve access and utilisation for our infrastructure and wholesale customers and to deliver growth and value and enhance monetisation opportunities. You will hear further from Brendon on InfraCo today.

With that let me now describe each of the T25 strategic pillars in more detail.

Slide 6: An exceptional customer experience you can count on

Firstly, our strategy to provide an exceptional customer experience you can count on.

We have already much-improved episode NPS, strategic NPS, and significantly reduced calls coming into our contact centres. However, we have yet to fully experience all the benefits that flow from the changes we have made, and this is going to give us positive tail winds in customer experience as we move into T25.

Notwithstanding this we still have some migration initiatives to get through and I know we do not always get it right, so we need to take customer experience to a whole new level.

So, what does that mean?

It means making it even easier for our customers to engage with us and getting to a point where for over 90% of customer service requirements they only need to engage with us once and it's done – no more interactions – just once and done!

It means a fully integrated channel experience so customers can engage with us and meet their service needs in the channel of their choice. Whatever their service requirement, we can meet it online, in our stores or through our contact centres – whichever way the customer chooses.

It means using technology, AI, and analytics to provide customers with more personalised experiences in products and services and to be more predictive of issues and resolve these before customers even know they are happening.

Customers will be able to call us and speak to an Australian contact centre service rep or visit a local expert in our Telstra owned store network because our customer experience is going to become even more localised.

It means scaling our Telstra Plus program which already has 3.5 million customers and expanding it into a full sales and marketing channel to rival the best rewards programs in Australia. We will do this by leveraging our many relationships with Australia's large enterprises and by partnering with small businesses to create greater reach into local markets and more rewards for our customers.

It is a huge opportunity, and we are targeting 6 million Telstra Plus members by FY25 making it one of the largest rewards programs in the country.

For our Enterprise customers it means delivering business outcomes with telco products, edge compute, security and AI delivered and managed as an integrated service through Telstra Purple.

The pervasiveness of technology in businesses today and its ability transform them, no longer means one size, or one solution, fits all. Enterprise customers want tailored technology solutions to solve their most pressing operational business problems and opportunities.

To meet this need we have structured our Enterprise business to have greater industry alignment with technology experts in specific industries, providing scalable industry-specific solutions.

For our enterprise customers it means getting the level of support and engagement just right more than 90% of the time as their needs change.

And for our infrastructure and wholesale customers it means improved access to our assets and an improved and more digitised service experience.

With all these improvements we intend to maintain the discipline we introduced in T22 in ensuring our products and services remain simple and easy to use and we intend to more than halve the number of customer complaints.

Slide 7: Leading network and technology solutions that deliver your future

Pillar 2 of our T25 strategy is focussed on leading network and technology solutions that deliver your future.

There is no doubt we are continuing to see rapid technology adoption and innovation. This is manifesting as a convergence between core telecommunications technology and software-based technology solutions.

What this means is that Telstra not only needs to continue to lead in telecommunications technology with the best networks, but also increasingly lead in the role that software plays in orchestrating and managing the network and integrating applications and services for customer solutions.

Under T25 we will continue to invest in our network leadership in 5G with 95% population coverage and 80% of all mobile network traffic being on 5G by FY25. We also plan to double the number of metro sites leveraging small cell technologies to further densify and add capacity to the network and we will add at least another 100,000 square kilometres of mobile coverage to our national footprint to support regional and remote customers.

By FY24 we will have extended our 4G coverage to 100% of our network enabling us to continue to lead in composite coverage, speed and performance for 4G and 5G as we close 3G. This will set us up well for the early planning on 6G which will clearly be on the agenda by the end of our T25 program.

We will also continue to lead and differentiate in fixed. The NBN may be fully rolled out however, not all NBN fixed services are the same. How we connect and assure customers will be differentiated and their in-home experience will be significantly enhanced as we leverage capabilities such as the Telstra Smart Modem, Telstra TV, the WiFi Doctor and other capabilities we have in the pipeline. We will also leverage these for our energy customers and with smart meters we will be providing a holistic in-home solution.

Increasingly however, it's not just the physical network where we can differentiate. Historically the key aspects of functionality in networks have been relatively static but with software we can increasingly dynamically manage these.

Automation and AI also enables us to deploy predictive and self-managing functionality to the network orchestration layer and increasingly manage the network in a way that becomes agnostic to the access type.

Now I know there is a lot of tech speak in all of this, but these are incredibly important capabilities we have been investing in and building. To net it all out, what it means at a practical level is we will increasingly be able to dynamically manage the key aspects of network experience which are capacity, speed and latency, security and resiliency. Historically, these have been typically set up front for a service, technology, or a customer and thereafter have been hard to change. We can also empower our customers to do this and therefore manage their workloads themselves.

In being able to dynamically manage them we can differentiate and tailor services around customers, products and industries which is key to increasing our ability to monetise and you will hear more about that from Michael and David.

Finally, by using a more distributed architecture and moving workloads to the edge with cloud, in conjunction with the dynamic approach to network management, we will enhance resilience for customers by creating smaller "blast zones" in the event of an issue. To put it simply, if one part of the network goes down, the network automatically reconfigures to ensure the smallest possible number of customers and services are affected.

Slide 8: Sustained growth and value for our shareholders

Our third pillar is to build sustained growth and value for our shareholders.

At our recent FY21 full year results announcement we were able to demonstrate how we have reached a turning point in our financial trajectory. Through the many initiatives under our T22 program and as we come out from under the shadow of the NBN headwind, we demonstrated how our underlying EBITDA grew in the second half of FY21 compared to the first half and how we expect it to continue to grow.

T25 will build on this and Vicki will take you through our financial strategy a bit later, but in summary our focus is to: -

- Firstly, build financial momentum across the portfolio to deliver growth, particularly through growing mobile services revenue, improving fixed profitability, turning around Enterprise and building profitable scale in the businesses in our new markets.
- Secondly, to deliver a further \$500m of cost reductions from FY23 to FY25 on top of the \$2.7bn already committed for T22 while at the same time investing for growth.
- Thirdly, by focussing on cash conversion and generation ahead of net profit.
- Fourthly, through continued active portfolio management to unlock value and manage the balance sheet. This will include exploring future monetisation opportunities for InfraCo Fixed; and

- Finally, by creating value for shareholders through our capital management framework which we have updated and simplified.

Before I talk to our financial ambitions let me comment briefly on the progress of the restructure which is obviously a necessary precursor to monetisation.

The restructure of Telstra with a new holding company and four key subsidiaries – Infra Co Fixed, Amplitel or Infra Co Towers, Telstra Ltd or ServeCo and Telstra International – is the key final step in our T22 commitment to establish a standalone Infrastructure business to drive performance and set up optionality post the roll out of the NBN.

We are seeking to implement the restructure through a shareholder and Court approved scheme of arrangement.

All steps in the restructure process are progressing well and we are optimistic of finalising the restructure before the end of T22 with the scheme meeting now likely to be early next year. This will position us well to consider monetisation opportunities as part of our T25 strategy announced today.

We also know the Government is considering amendments to relevant Commonwealth legislation, so it appropriately reflects our new structure once it is implemented.

In making these changes the Government is applying a principle of regulatory equivalence – that is the regulatory obligations that currently apply to Telstra would also apply to entities in the new corporate group in effectively the same way.

So, with these initiatives our financial ambitions are to:

Deliver underlying EBITDA of \$7.5–8b in FY23 on top of the guidance this year of \$7.0-7.3bn and to continue to grow underlying EBITDA out to FY25 achieving a mid-single digit EBITDA CAGR for the whole period of T25.

To get underlying ROIC to around 8% by FY23, and to grow it beyond.

To deliver a high-teens EPS CAGR from FY21 to FY25 to support our ambition to maximise a fully franked dividend and seek to grow it over time

And finally, to deploy excess cashflow beyond the fully franked dividend into future growth opportunities and returning excess cash to shareholders.

As I mentioned a moment ago Vicki will take you through our financial strategy and ambitions a bit later, but as you can see they are transparent, they are bold and they will deliver significant value for shareholders.

So, with that let me now turn to the fourth pillar of our T25 strategy, which is about building the place you want to work.

Slide 9: The place you want to work - excelling at new ways of working

There is no doubt that the experience over the last 18 months with COVID has completely turned work on its head.

In such a short space of time it has transformed how we think about the way we work and about where we work. It has even caused us to think about why we work and who we work for, what values do they hold, what role do they play in society and what opportunities do they offer me to make an impact.

I believe the companies that will be successful in the future – and the companies that will attract, retain, motivate and inspire the best talent - will be those that can embrace the change around us and use it as a catalyst to create the place people want to work.

There are essentially three ways we will bring this to life at Telstra through T25 - by excelling in new ways of working, by accelerating our digital leadership and by doing business responsibly.

So firstly, excelling at new ways of working.

Through T22 we have moved almost 17,000 people to now be working in agile and we now have the largest at scale agile workforce in the country.

With T25 we will further evolve our Agile at scale approach targeting more than 70% of our agile teams to be at level 4 maturity by 2025.

We will also enhance our approach to talent acquisition, mobility and career management as we embrace the flexibility enabled by new hybrid ways of working. There is no going back to the way it was pre-covid and we have already implemented a number of initiatives to further enhance flexibility at Telstra such as location agnostic contracts and the flexibility for the overwhelming majority of our people to work virtually.

Through these initiatives we plan to take our already high employee engagement scores to a whole new level targeting top decile by FY25.

Slide 10: The place you want to work - accelerating digital leadership

The second aspect of the “place you want to work” is digital leadership. I have already spoken to our strategy for leading network and technology solutions that deliver your future. That is about the underlying technology – what I am talking about here is the digital mindset we need to bring to that technology and our ways of working.

As we become more of a technology led company and our requirement to continue to build new capabilities in new areas such as software development, data analytics and artificial intelligence increases, we also need to increase our attractiveness as the place to work for this talent. There are four elements to our approach to digital leadership.

Firstly, we will lead with a digital first and data driven mindset and by 2025 we will have 100 per cent of our key business processes enhanced by AI.

Secondly, we will embed digital ways of working such as expanding our use of Biz Dev Ops and build our digital skills in software and data.

Thirdly, we will focus on delivering an outstanding developer experience and digital partnerships; and

Finally, our approach to digital infrastructure will be cloud based with a decoupled architecture using APIs to increase speed to market and improve efficiency. We expect to have 100% of key business applications using API first architecture and 90% of applications on public cloud infrastructure by 2025.

At our next investor presentation, we will describe some specific FY22 outcomes around the first wave of API first products and experiences as we progress towards the API first architecture.

Slide 11 – The place you want to work - doing business responsibly

The third and final aspect of ‘the place you want to work’ is the stance we take on doing business responsibly.

There is no doubt that community expectations of what this means have changed and big business, including Telstra have some way to go in building and maintaining trust with the communities in which we operate. Also, key talent wants to work for companies that have a strong focus on sustainability and this is only going to increase over the period of our T25 strategy.

For Telstra, while there are many aspects of this, there are three that are key.

First and foremost, it's about having trusted operations. This goes to every aspect of our business; from making sure our sales practices are appropriate to ensuring our supply chains are ethically based; from making sure our products, services and contracts are fair and inclusive to ensuring we support vulnerable customers; from being there for communities through natural disasters to providing support for customers and communities during the impact of COVID as we have done; and from ensuring our suppliers do not exploit their workers to ensuring our workplace and remuneration systems for our own people are fair and supportive.

The second is the actions we take in relation to the environment.

In many ways, as the provider of the largest platform for the digital economy in Australia, we are already making a positive impact by enabling many businesses to move to doing things digitally that previously had to be done physically.

The flip side of this however, is it drives extra traffic onto our network and that in turn increases our power consumption and puts pressure on our environmental footprint.

We have therefore set ourselves clear and ambitious climate goals – to reduce our absolute emissions by 50% by 2030, to enable renewable energy generation equivalent to 100 per cent of our consumption by 2025, and to be carbon neutral.

We have already made good progress reducing our absolute emissions by 16%, enabling three major renewable projects in solar and wind farms that get us 50% of the way towards our target and by being the largest certified carbon neutral company in Australia.

The final aspect of doing business responsibly is the role we play in supporting digital inclusion.

Down through history it has been the case that at every significant technological leap forward, those that can least afford to be left behind are those that are left behind. And so too has this been the case with the digital economy and that has only been exacerbated by the increased digital adoption necessary in response to COVID.

While the government has provided many support initiatives to help people during COVID, access to those benefits is hampered if you are not digitally included. Also, if you were alone and feeling isolated before COVID, the restrictions now in place mean your situation has only worsened, particularly if you are digitally excluded.

It is beholden on us to ensure everyone is included, to ensure everyone can enjoy the benefits of being connected.

Our Digital Inclusion Index tells us that too many Australians are still facing real barriers to online participation, barriers that include access, affordability and digital literacy. This is particularly the case for regional and remote Australians.

Clearly there is more important work to do here and we are committed to playing an active role through a range of programs including the significant investments we are making in regional Australia, launching a satellite service in FY23, connecting one million customers in vulnerable circumstances and building digital skills for 500,000 Australians.

So, these are the four pillars that set our overall ambition and strategic direction under T25.

- to provide an exceptional customer experience you can count on,
- to provide the leading network and technology solutions that deliver your future,
- to create sustained growth and value for our shareholders, and
- to be the place you want to work.

And just as we did through T22, we have also established a scorecard that lays out the key milestones and metrics that underpin these pillars.

Slide 12: T25 scorecard

It shows how we plan to keep track of our progress and how we will hold ourselves to account.

It's ambitious in its breadth and depth and like T22 we may not hit every measure 100% but I would rather be bold and clear about the aspirations we have.

I won't go through this in detail now because when you hear from Michael, David, and Brendon shortly, you will see at the end of each of their presentations how they plan to deliver the key metrics on this scorecard.

What I will say though is that we are committed to holding ourselves to account and delivering T25 and we are going to be transparent with you about the progress we are making and we will update the scorecard at every results presentation.

But first we must finish the job on T22 because without it, many of the initiatives I have outlined will just not be possible.

Slide 13: FY22 Priorities – finish the job

When we launched T22 in June 2018 we knew we had to act more boldly

It is clear in my mind that initially we did not respond quickly or significantly enough to the reality of the impact of the nbn on Telstra. Before T22 we were not focussed enough on transforming and improving the core business to mitigate this, we were too dependent on investments outside of the core.

We have addressed this and our T22 program has been a clear success.

- we have radically simplified our business reducing the number of Consumer & Small Business in market plans from 1800 to 20;
- we have reduced the number of calls to our call centres by more than two thirds and we are well progressed in our strategy to bring these back on shore and our licensee stores back in house;
- we have cut our workforce by one third reducing our direct and indirect headcount by more than 25,000.
- we have removed on average more than four layers of management;
- we have delivered cost reductions of \$2.3 billion and are on track to deliver our T22 productivity target of \$2.7 billion.
- we have repositioned our investments in Foxtel and Telstra Ventures and we have improved the performance of our health business which is now strategically very well positioned for the future;
- we have successfully established InfraCo and we are progressing our corporate restructure.
- we have monetised over \$2 billion of assets, further strengthened our balance sheet and we have completed the \$2.8bn towers deal from which we have announced an on market share buy-back of up to \$1.35bn;
- we have taken a leadership position on climate change and the environment; and
- importantly, through all of this change, we have seen positive movements in the way our customers and employees view us.
- So finishing the job on T22 over the next nine months means:
- Progressing our digitisation and customer migration to the new technology stack.
- Completing the group restructure to drive value from InfraCo while preserving Telstra's core differentiation.
- Extending our leadership in 5G and consolidating our position as Australia's largest 5G network provider.
- Delivering overall Enterprise revenue and EBITDA growth and restoring financial momentum.
- Launching a new energy business.
- Growing services and building deeper relationships with our customers through Telstra Plus.
- And delivering on our net cost productivity target of \$2.7b.

Slide 14: Our T25 strategy to deliver growth

So, let me close.

This is an important day, an incredibly exciting day for Telstra as we announce our plans to transition from transformation to growth – from T22 to T25 – from a strategy we had to do, to a strategy we want to do.

It is a strategy that builds on the strong foundations we have built over the last three years and remains focussed on what matters most – our customers, our people, our shareholders and on supporting the creation of a vibrant digital economy in Australia.

It's an exciting strategy to meet an exciting future.

As I said in my opening, Telstra is a vastly different company to what it was four years ago.

With T25 Telstra will be a vastly different company, again.

It will be a vastly different company for our customers who will have access to ultra-convenient, personalised, right first-time experiences that are 100% digitally enabled.

We will be a vastly different company because our diversified portfolio will be delivering growth in revenue, EBITDA and EPS as we seek to grow dividends.

We will be a vastly different company because the seeds of our investment in energy and health will see these new businesses growing profitably at scale.

We will be a vastly different company because of the world class returns and value we are driving from our infrastructure business.

We will be a vastly different company because of our network leadership with 95% 5G population coverage, a densified small cell network and expanded regional coverage.

We will be a vastly different company because of our leading network and technology solutions delivering for our customers' futures.

We will be a vastly different company because our focus on cost will see a further \$500m of cost out and industry leading cost metrics.

And finally, we will be a vastly different company because we will be the place you want to work with Australia's largest agile at scale workforce, flexible, location-agnostic future ways of working, a workforce defined by its culture of digital leadership and doing business responsibly.

I will now hand over to Michael Ackland who will take you on a deep dive into our Consumer and Small Business strategy.

Thank you very much.

MICHAEL ACKLAND – GROUP EXECUTIVE, C&SB

Slide 16 – Consumer & Small Business

Thanks Andy

It's a pleasure to announce the next stage of our strategy for consumer and small business customers.

There's no doubt the past 18 months have seen a fundamental change in technology use and connectivity has never been more important in how we work, learn and play.

Our ambition is to deliver profitable growth and value by creating brilliant experiences.

Experiences that keep us connected with the ones we love, enable us to be entertained, be educated, be employed, run businesses, and access the goods and services we need.

T22 has set the foundation for what we will deliver in T25. We think about our next ambition through the lens of six building blocks.

I will take you through each of them in more detail, but at a high level:

- We will transform how we engage by deepening our local expertise, building deeper relationships and trust with local communities across the country;
- We will help Australians get the most out of their connectivity by continuing to lead with our world-class network, and leading the market on how customers can access it;
- We will be a trusted partner in the home and business, bringing together everything our customers need and giving businesses the tools to grow in the digital economy;
- We will leverage Telstra Plus to bring a new ecosystem of value for our members;
- We will establish Telstra as a full service tech retailer, the destination for all of your technology needs; and
- Finally, we will expand our multi-brand reach through partnerships, being in more places for more customers.

Slide 17 – We are building on the foundations of T22...

Before we get into the detail of the new strategy, I wanted to briefly reflect on the achievements delivered through T22:

- We radically simplified our core consumer connectivity products...from 1800 to 20 in-market plans, with more than 8.5 million services now on those new plans;
- Our new technology stack is at scale, with over 50 per cent of sales and 100 per cent of our front-line teams active on the new platform;
- We launched and grew Telstra Plus to more than 3.5 million members;
- We have transformed how we serve our customers. Seventy per cent of service interactions are now delivered digitally, up from 40 per cent. We've reduced our inbound calls by two thirds. This enables us to answer 100 per cent of these calls in Australia;
- We're well progressed on bringing our retail store network in house; and
- Lastly, we have continued to invest in leading network experiences with over 1.6 million 5G devices and 2.3 million smart modems connected to the network.

Slide 18 – ... and are ready to transition to sustainable growth on multiple dimensions

Our ambition is to deliver growth and value, and our T22 foundations have put us in a position to do just that:

- Our mobile business has been radically transformed, we now have a simple portfolio, with no back book. The headwinds of excess data removal and device subsidies have gone. And we have a clear path for value growth across all our brands;
- For home and business internet. NBN headwinds are now also largely behind us, and we have a pathway for margin growth as a lean NBN reseller. We see growth in Fixed wireless, in-home services and scaling our energy retailing business;
- T22 was the investment phase for Telstra Plus as we grew members and points balances. Through T25 we will move strongly to value realisation as the program matures and we expand the eco-system;
- Our strategy is to grow hardware margin, now that subsidies and unbundling are gone. We'll capture more of the value through the hardware lifecycle, enabled, in part, by insourcing our stores;

- And finally, our focus on simplification, digitisation and operational discipline will remain critical, to not only delivering cost outcomes, but importantly customer outcomes.

Slide 19 – Transforming how we engage by deepening our local expertise

Now returning to the first of the building blocks which we believe will deliver our ambition.

The first is to create more personalised experiences for our customers, as well as more local interactions.

Whether you are in the city, a regional town or live more remotely, connection and local community is more important than ever. There is nothing like locals helping locals.

We've achieved a lot in T22 to improve the customer experience:

- Transactions on our new technology stack are simpler and faster;
- We're well progressed in the migration of consumer mobile customers to the new digital stack;
- By mid next year, all voice calls will be answered in Australia;
- Insourcing our stores will provide an integrated experience across the retail network;
- And we'll continue our focus on responsible business by doing the best for customers no matter where they live.
- But, we know that we have more work to do. We're accelerating the shift to more personalised and locally delivered experiences:
- Whatever the need, customers will get the same, seamless service in store, on the phone or online;
- We're rolling out diagnostics to solve customer problems before they know they have one;
- With stores insourced, and our agent@home program, we will be creating integrated experiences across our stores and contact centres;
- agent@home will also allow us to leverage talent pools across rural and regional Australia, and make our service more resilient;
- We'll provide more industry expertise for all Australian small businesses and a larger support presence – but more on that later;
- Critical to deepening our local expertise, will be transforming our frontline culture and capability, leveraging our FutureReady program, and deepening our relationships with key community stakeholders.
- We know connectivity plays an essential role in social inclusion, and as Andy said we have committed to building digital literacy skills for an additional 500,000 Australians by 2025.
- Lastly, we will be integrating more customer insights and data to deliver real-time next best experiences to optimise how we support our customers across all our channels.
- There will be three ways we will measure our success:
- Achieve "Once and Done" more than 90 per cent of the time by 2025 – right first time, and second time perfect. We want to make sure you only need to ask once, and we will get what needs to be done, done.
- Lift our strategic NPS by at least 25 points; and
- Halve complaints by 2025.

Slide 20 – Help Australians get the most out of their connectivity

Secondly, Helping Australians get the most out of their connectivity... whether at home, at work, or on the go.

This starts with us having the best connectivity experiences available:

- We have the best mobile network. We have the largest 4G and 5G coverage, bringing faster speeds to more customers across metro, regional and rural Australia. We are committed to maintaining this lead, and in fact right now, our gap to competitors has been widening in the last few months.

- By 2025 we expect to have 80% of mobile traffic on our 5G network.
- A network that delivers better experiences in entertainment, working and learning. We lead the ACCC ranking for average NBN download speeds (excluding underperforming and impaired services). We are in the #1 spot in the Netflix speed index.
- Supported by world leading network management, self-healing, proactive fault detection and experience optimisation, enabled by real-time AI.
- A network you can feel safe using, secured from the core all the way to your end device. This will deliver leading reliability and resilience when it matters.
- This means that our customers get the best performance, at home, at work and on the go.

We will also change the way our customers buy and access these connectivity experiences:

- Historically we have monetised through excess data and data inclusions. In fixed we have seen monetisation of speeds, and in mobile we have included 5G only in our top three plan tiers. David will talk more about how we are already monetising 5G through Adaptive Mobility.
- Through our leadership in network we will continue to deliver value and growth by creating experiences rooted in how customers use connectivity. Plan tiers optimised for work from home, gaming, or streaming and prioritisation to ensure performance when it matters.
- We will move toward a more technology agnostic approach – talking less about complex industry jargon... FTTN, HFC, Mid Band, mmWave... and focus on using the best technology available for customers to deliver the experience they want, whether that is the NBN or fixed wireless, 4G or 5G.
- And finally, there is an increasing array of connected devices beyond handsets and tablets, to wearables, AR, VR, and appliances... all of which create opportunity for a unique and optimised connection.

Ultimately, this will create value – both from service revenue growth in mobile, and from a growing and profitable home and business internet proposition.

Slide 21 – A trusted partner in the home & business

Now to being a trusted partner in the home and for businesses. Our homes are becoming more mixed-use and multi-generational. Increasingly our home is where we learn, our children learn, we go to work, or run a business.

It's not just about an internet connection, it's about an increasing number of devices requiring connectivity, and a range of different services, and how they all work together... seamlessly.

Getting the basics right is critical. Our ambition is to make products and services that are more plug and play, and simpler... products that just work.

- We already have a strong presence in the home through existing assets like the Smart Modem, powering reliable Wi-Fi, and enabling smart diagnostics through Wi-Fi Doctor... in fact our NPS for smart modem customers is 18 points higher than those without one.
- And Telstra TV is aggregating all your favourite streaming services, be it Netflix, ABC iView or Binge, delivering universal search and the best streaming experience on your own big screen. Our partnership with Foxtel complements this well, and we have been instrumental in lifting Foxtel streaming subscriber numbers - with almost 1.1 million on Kayo, and over 800,000 on Binge since it launched in May 2020.
- The need for support across the home eco-system remains even for tech savvy customers and we want to be there to set up, optimise and manage all the tech in your home.
- Delivering this help, through local presence, and enhanced personalised support is the key to unlocking the power of technology for more Australians.
- Energy, and smart energy management, will form part of this integrated proposition. We believe this will help us be a top five energy retailer in Australia.

- With these connected experiences – across entertainment, energy, tech support, and security – we expect to see an increase in services per household.

For our small business customers, the ability to compete in the digital economy was important, but it is now urgent. Whether you're a hardware store owner, a barista in a coffee shop, or a farmer, being successful in the digital world is essential.

We want to be there for Small Businesses and be the trusted partner in “making it all work” together.

- Therefore, we continue to expand our offering. We're standing up an integrated suite of services with leading partners, which we bring to market through our “Go Digital” professional consult process. This includes:
 - ICT services, like standardised IT support
 - Cyber security, including Harmony by Checkpoint
 - Digital customer engagement, for example digital marketing offers
 - Accounting and collaboration tools, like MYOB
 - ... as well as professional and managed services.
- We're investing in our people capabilities to support this, from our Telstra Business Technology Centres, to the thousands of accredited experts trained across our retail network. And dedicated connection managers to support customers as they transition their fixed connectivity.
- But critical to delivering more for these customers is completing digitisation for small business, resolving the issues getting in the way of customers becoming digitally active.
- Our ambition is for at least 50 per cent of SMB customers to be fully digitally active by 2025... which will be critical to unlocking our target to double our small business apps and service revenue by 2025.

And before we go onto the next section, we'll play a short video about Telstra Plus – an important element of our future ambition.

<VIDEO PLAYS>

Slide 22 – A new Telstra Plus ecosystem of value

Telstra Plus will be the cornerstone of how we engage more deeply with our customers

- Since launching Telstra Plus, we have built a base of more than 3.5 million members and our strategic NPS is 18 points higher for members than non-members. Pleasingly, membership keeps growing. More than one million rewards have been redeemed so far, meaning increasing hardware and services sales.
- We want Telstra Plus to be one of the most valuable rewards programs in the country. By 2025, we want six million members, engagement to 80 per cent and to triple the value of redemptions.
- Now is the time to evolve expanding our partnership eco-system and connecting our consumer and small business customers in unique ways.
 - We have a large, growing and engaged member base, and through a range of partners we will offer our customers new ways to earn and redeem points. From an earn perspective we have started a relationship with Booking.com and Huddle and redemptions can be made with core technology vendors.
 - We see the opportunity to expand on both the earn and burn side to be significant.
 - We have built a sophisticated marketing and customer insights platform, and we'll leverage these insights, to bring unique offers and value to both our partners and our Telstra Plus members.
- We want to use the program for our small business customers to access more of their customers, in new and unique ways.
- We have developed a unique platform which allows small businesses to develop compelling insight-driven offers, and to present those to an engaged consumer base.

- Those customers then seamlessly get the benefit...we've begun piloting this program with around 40 small businesses from a florist, to a hair salon and a wine shop, able to market directly to Telstra Plus members. There's lots more to come, so stay tuned.

Slide 23 – Establish Telstra as a full service technology retailer

Now turning to our ambitions around being a technology retailer

- Our customers increasingly think of the technology and experiences they want first, with connectivity as the enabler second. Outright purchases of handsets have been growing for many years, and the range of connected devices continues to expand.
- Our ambition is to BE the place and destination for connected technology; not just to buy it, but to support our customers across the whole lifecycle of that technology.
- We want customers to know that when they buy from Telstra, everything “just” works, and if it doesn't, they can come to us and trust we have all the services and advice they need. Our research tells us this is why customers buy from us.
- Bringing our licensee stores in house means we will have one of the largest corporate owned retail networks in Australia. We see significant upside in this scale to expand both our range and the margin we capture through hardware.
- We will leverage our retail and customer scale to introduce new services, specifically in hardware repair, support, and trade in, driving both incremental revenue, margin, and more ways to connect and engage with our customers.
- We will establish new retail formats, and further integrate across physical and digital experiences leveraging AR/VR, and scale click and collect, and two-hour delivery commitments... all supported by local expert staff.
- Our commitment to rural and regional customers will continue to grow; as we know there are needs that are unique to customers who live outside metropolitan areas.
- To better serve our business customers in regional Australia, we will be expanding the physical presence of our Telstra Business Technology Centres, and these centres will benefit from our growing account management services.
- This way, even more regional small businesses will have direct access to the expertise they need, in their local communities.

Slide 24 – Expand multi-brand reach through partnerships

Lastly our multi-brand approach

- Through T22, our multi-brand strategy has been highly successful, in delivering both growth and value.
- As we deliver T25 we will continue to use our multi-brand strategy, to expand reach, in mobiles, and moving more significantly in NBN, and into a broader range of services.
- Belong remains critical to our strategy, and we will continue to scale, and lift value in Belong across both fixed and mobile.
- We also remain committed to building our successful partnerships with JB Hi-Fi and Boost, and we will be looking to expand both partnerships into new categories.
- We are also exploring new agency partners, partnering with leading Australian brands to give more Australians the opportunity to experience the best network. The agency model approach allows us to focus on reach and value, rather than competing at lower price points.

Slide 25 – T25 scorecard

So, in closing, we are embarking on a new chapter of growth, building on the customer, capability, product and commercial foundations of T22. And through T25 we will:

- Deliver profitable growth in mobile and fixed, and increase hardware margins;
- Maintain operational discipline to deliver cost and customer outcomes;
- Deliver a step change in strategic NPS of 25 points, with an Episode NPS of over 40;
- Commit to getting it right for our customers, achieving “Once and Done” more than 90 per cent of the time;

- Cut complaints by a third in the next two years and by half in the next four;
- Get to 6 million customers on Telstra Plus, with 80% being actively engaged;
- And maintain our focus on responsible business for all customers no matter where they live, including keeping 1 million customers in vulnerable circumstances connected every year.

We will do this at a time when the way we use technology in the home and on the go has changed forever.

We are incredibly well positioned to drive profitable growth and value by creating brilliant experiences that enable our customers to work, learn and play.

Thank you, and I would now like to pass over to David.

DAVID BURNS – GROUP EXECUTIVE, ENTERPRISE

Thanks Michael, it is a great opportunity to set the direction for our Enterprise business in Telstra's T25 Strategy.

Slide 27 – Enterprise

Telstra Enterprise's ambition is to deliver profitable growth and value by connecting our customers with Australia's most trusted and secure technology and services.

We will achieve our ambition by executing across five key building blocks:

- Firstly – growth and disruption of our differentiated fixed and mobile connectivity products;
- Secondly – continuous, sustainable growth and scale in our NAS business.

The relevance of technology to our Enterprise customers continues to accelerate. Everything we do must anchor to our customers, and how we help them make the most of their technology investments:

- Our third building block is providing an exceptional end-to-end customer experience;
- Fourth – aligning our go to market to key industry groups, with a focus on industry solutions;
- Our fifth and last building block – Telstra Purple allows us to bring this all together, driving NAS growth by delivering and managing solutions which make a difference to our customers.

Slide 28 – We are building on the foundations of T22

- Over the last three years we have worked hard to take complexity out of our business and lay the foundations for our return to revenue and EBITDA growth in FY22.
- We have transformed Telstra Enterprise and simplified many aspects of our operations, including reducing our enterprise products by 50% since 2018.
- And our work is paying off, with our strategic customer satisfaction score NPS lifting +22 points across all customer segments since June 2019.
- We have transformed the Enterprise operating model and launched agile@scale to simplify the way we work. We now have around ~2,300 Telstra Enterprise employees working in an agile way.

We have built strong foundations for the future:

- We completed a comprehensive re-design of both our Data & Connectivity and Mobility portfolios with the launch of Adaptive Networks and Adaptive Mobility. Our new Adaptive offerings are designed to give our customers much greater flexibility while monetising 5G and disrupting ourselves to grow in Data & Connectivity.

- We're steadily migrating customers to our new digital stack where we're building our new products.
- We developed and launched Telstra Connect, our digital self-service portal that's now available to all eligible Enterprise customers.
- Our services business is focused on our next generation technology portfolios which will be our growth platform for next wave of advancements in internet of things (IoT), Security and Cloud technology solutions.
- Finally, but most importantly, we brought together our investments in eight successful technology services businesses and 1,500 digital transformation experts to launch Telstra Purple, now the largest Australian owned technology services provider.

Let's now dive into each of the building blocks highlighted in our Enterprise ambition.

Slide 29 – The network is the base on which we build our services

- Our reliable, secure and flexible network connectivity, is core to our business and fundamental to our FY25 ambition. As our customers transform their IT environments, our connectivity underpins their adoption of cloud based applications and productivity tools, as it supports hybrid workloads across all cloud environments – public and private – and enables customers to maximise productivity from their distributed workplaces and workforces.
- The enterprise connectivity market continues to be disrupted. New technologies have enabled customers to adopt managed internet services to support their operations and NBN's continued focus on this market has helped new entrants grow quickly.
- We responded to these dynamics by launching Telstra's Adaptive Networks, connectivity offerings that bring together the flexibility of an unbundled connectivity and access layer and also helps customers embrace the latest in SDWAN technologies. Our SDWAN propositions offer the flexibility and economy of a managed internet service but with a key advantage as they are delivered over our reliable and secure Telstra fibre network.
- The reliability and security of Telstra fibre is key. Our engineering team continues to lead the market with network smarts and resiliency, and we have access to more than 250,000km of fibre. We will also continue to partner with NBN to drive new customer growth and capital efficiency.
- And as we see network convergence across fixed and mobile, we're in a market leading position to maximise the power of our mobile network. Through these disruptions our customers will reap the benefits of a seamless software defined network, operating across multiple technologies, which will support and protect our Data & Connectivity revenues.
- As disruption stabilises and volumes continue to increase, we will return this portfolio to growth by FY24, while maintaining our T22 cost discipline to ensure continued profitability.

Slide 30 – Technology services driving innovative 5G Enterprise use cases

- Similarly to what Michael outlined, our 5G leadership underpins our FY25 ambition as our 5G network opens new opportunities for our customers to transform their businesses, in turn driving continued revenue growth.
- Today, our Adaptive Mobility plans continue to deliver positive results through SIO and ARPU growth as our customer fleets transition to the new proposition, including specific 5G only offerings. We also see growth in mobile as Australian businesses adopt cloud PC and associated managed services with 5G connectivity to enable work from more places.
- 5G technology and innovation is also opening up new areas for mobile network revenue growth:
 - Last month we launched Enhanced Enterprise Wireless - an Australian-first 5G solution that gives customers reliable and consistent connectivity akin to their fixed connection. We're backing it up with a 99.9% availability guarantee at eligible sites - the first time we've introduced an uptime availability SLA on a mobile product and it already has good traction in the market.
 - In a stadium context we can use 5G and Edge as a dedicated high-bandwidth network with flexible configuration, for example, multi-camera viewing for

broadcast personalisation, or a dedicated live news or sports feed that uses a 5G network slice. We are also using 5G to power thermal and crowd density cameras – critical in a COVID environment – alongside wayfinding and geospatial tagging – so your phone can save your spot in a queue or guide you directly to the nearest amenities.

- When you couple 5G with digital transformation solutions, we can see how it will drive revenue growth in both NAS and Mobiles as technology driven business outcomes scale on our network. Some particularly interesting examples we're seeing include augmented and virtual reality, such as:
 - How 5G is enabling the next generation of immersive training and collaboration. Telstra Purple helped the Royal Australian Airforce distribute mission control operations to Air Force personnel across Australia via virtual reality.
 - 5G with Augmented Reality also has the power to support better decision-making in disasters or emergencies, when body cameras can relay live information in High Definition to command centres to help firefighters, police, search and rescue, paramedics and others to better coordinate operations.
 - We've also collaborated with Downer Group on a solution that combines apps, cloud data and augmented reality to assist with preventative maintenance work.

Slide 31 – Digital transformation driving growth in NAS

- Our NAS portfolio is Telstra Enterprises' largest revenue contributor and a key driver of our growth ambition. We have built this business to capture market growth in IT services and to continue to differentiate and drive usage of our connectivity propositions.
- In today's COVID world, our NAS solutions are more important than ever to our customers as they focus on using technology to continue to be productive despite the disruption COVID continues to send their way.
- We know that security, hybrid work, digital transformation and driving operational efficiencies are keeping not only CIOs, but CEOs and boards awake at night which is driving growth across the industry.
- Closest to our core, we continue to focus on providing our customers with Secure Adaptive Infrastructure services – responding to the future network needs of our customers. Growth in this portfolio will be driven by cyber products and services anchored on our secure networks.
- Our workplace and digital practice solutions, that integrate connectivity, mobile, devices and security, help our customers as they continue the shift away from full-time, office-based work. We expect digital services to grow as we support our customers with continued innovation to drive their digital transformation agendas.
- We have a clear strategy to grow and monetise our products and services in these technology areas – managed services, professional services and reusable intellectual property.
- By delivering these solutions as managed services over our connectivity networks, we will continue to drive annuity revenue managing both our technology and that of our partners such as Cisco, AWS and Microsoft.

I will talk more about how Telstra Purple will continue to drive differentiation across our business later in the presentation. But next, let me turn to customer experience.

Slide 32 – Create personalised experiences where it matters, and simple digital ones for convenience and efficiency

- We know that having the best technology experts and solutions means nothing unless you have the customer experience to match.
- Our ambition is to give customers an exceptional end-to-end customer experience, which means personalised experiences where it matters, and effortless digital ones for their convenience. To do this we are focused on three things:
 1. Our people have meaningful sales conversations that add value to our customers - understanding their needs and offering solutions that will make a difference to their most pressing business problems.

2. Day-to-day sales and service interactions can be done digitally – self-served with the touch of a button via our Telstra Connect app.
 3. We will radically simplify our processes and billing, so that customers can easily understand which services they have ordered, how they are delivered and billed.
- Just like the customer engagement expectations you have with your bank (for example, a valuable conversation for a mortgage but the app for day-to-day banking) we will track customer feedback to ensure we get the right balance of valuable conversation and easy self-service options.
 - We will have achieved our ambition:
 - when customers give us a 90% rating in our support and engagement for the right balance of face-to-face and digital interactions;
 - when customers can choose to perform all their key service interactions digitally;
 - and when more than 95% of billing disputes are resolved within one billing cycle.

Slide 33 – Industry focused go-to-market and solutions

- The pervasiveness of technology to transform businesses does not mean that one size, or solution, fits all. While driving a simplified product and contracting experience across all our customers is key to improving customer experience, we also know that there are some industries where we have an excellent opportunity to drive growth by delivering industry-aligned products and services.
- As Andy referenced in his opening, to take advantage of this opportunity we have organised our business so we have greater industry alignment, with dedicated propositions and go-to-market.
- We will be technology services experts in selected industries, providing scalable industry specific solutions to meet their most pressing business needs.
- We have announced our first three industries, where we've identified the biggest opportunities for growth and we have dedicated cross-functional teams already working with customers and producing some great results.
- We believe that Telstra has a significant role to play in Government at the Federal, State and Local levels.
 - As a sovereign provider with Australia's largest network, we have a unique opportunity to provide governments of all levels with secure, sovereign intelligent infrastructure. And with our unparalleled visibility of the network, and strategic points of presence around the globe, we are in a unique position to help keep Australia safe.
- The Mining and Energy industries collectively represent a \$1.7b per annum addressable opportunity for Telstra, which we will focus on by helping these customers manage their key priorities: plan and prepare for high impact industry shocks, better manage their workforce, safety, productivity and rising costs; to name a few.
 - We will support their response to these key priorities and transformation agendas by building on our sizable core connectivity base to develop solutions using automation, robotics, IoT, 5G and Edge computing.
 - This sector is one of the most challenging for reliable and consistent communications as they often have both remote sites, and the need for complex communication architecture, making Private LTE networks very appealing to these customers. For example, Newcrest uses a Telstra Private LTE network at its Lihir Operation in PNG, where it has seen significant improvements in network performance and reliability and been able to implement new mining technologies to be able to safely mine in hot areas.
- For our third focus industry we have chosen to combine Supply Chain & Logistics, Retail and Agribusiness as they have very complimentary needs and technology solutions to meet them.
 - Our relevance to these cohorts, particularly where creating efficiencies is critical, is increasing significantly, as technology enables faster and more reliable operations, better compliance, improved safety and drives down costs.
 - Many of these solutions are underpinned by our leading networks, including our Telstra IoT Network - Australia's largest IoT network – which our customers use to monitor assets and gives their business a competitive edge.

- For example, we worked with Linfox to implement an advanced telematics and management solution across its entire fleet that delivers advanced transport and logistics data and quality benchmarking information to enhance safety.
- Telstra Purple also recently developed an asset tracking system with Kennards Hire so it can gauge how equipment is used and schedule preventive maintenance when it makes most sense – reducing the risk of downtime and promoting safety.

Slide 34 – Leveraging Telstra Purple as the growth engine for NAS

Now let me turn to Telstra Purple: our biggest opportunity for growth, our biggest differentiator and how we stitch it all together.

<PLAY VIDEO>

- Telstra Purple’s 1500 experts work closely with our customers to solve problems quickly and effectively, using Telstra owned solutions and reusable IP. As these solutions are delivered via Telstra’s leading networks we are well placed to grow our managed services business and to pull through connectivity.
- Unlike other telcos or professional consultancies, Telstra Purple has the technological vision, intellectual depth and economic scale of the biggest systems integrators and consultancies, whilst maintaining its heritage of fast-moving, boutique IT service providers.
- This allows Telstra Purple to take on significant projects, leveraging Telstra assets, including InfraCo to deliver and manage long term, customer or national building programs.
- Since the on-set of the pandemic in Australia, Telstra Purple has been engaged to help drive real world outcomes that make a meaningful difference in Australians lives. For example, in addition to the critical work we did with Ambulance Victoria, we also helped the Victorian Government develop RideSpace – a mobile-optimised website that helps passengers figure out how busy a particular train station or service might be to ensure social distancing.

Telstra Purple brand awareness is currently 25%, which is up from 9% at this time last year. While consideration is 74% for the same period, up from 64% at the same time last year, showing the value our customers place in the services Telstra Purple provides. Our ambition is to increase Telstra Purple brand awareness to 65% by FY25.

Slide 35 – Our FY25 financial ambitions

We have a clear plan to achieve our ambition, backed up by five key financial targets:

- We will return our Data & Connectivity portfolio to growth by FY24
- We will drive profitable growth in Mobiles and monetise IoT
- We will grow NAS revenue in mid-single digits CAGR to FY25.
- ...while maintaining mid-teens EBITDA margin
- And we will maintain our T22 cost disciplines.

Slide 36 – T25 Scorecard

Our plan and targets well underpin Telstra’s ambition and are incorporated into the T25 scorecard.

With this plan and these measures, we’re confident of achieving our ambition: to deliver profitable growth and value by connecting our customers with Australia’s most trusted and secure technology and services.

I’ll now hand you back to Nathan Burley.

BRENDON RILEY – CEO, INFRACO

SLIDE 37 – BRENDON RILEY

Good morning everyone.

It has been just over 10 months since our last Investor Day, when we updated Investors on Telstra InfraCo.

Over this timeframe we have made a lot of progress:

- Completed our first full year of operation as an integrated infrastructure business
- Delivered on all our financial, operating and safety objectives as part of T22
- Reported 1st half and full year InfraCo specific financial results
- Successfully launched new market offerings, including dark fibre and data centre
- Closed the sale of 49% of InfraCo Towers with net proceeds of \$2.8B

SLIDE 38 – INFRASTRUCTURE

Looking forward, as part of T25, our ambition is to improve the access, utilisation and scale of our infrastructure, to deliver growth and value.

In order to fulfill InfraCo's ambition, we will focus on six building blocks.

1. While we have market leading infrastructure assets, it is important we continue our efforts to make them more accessible to the industry and the nation. The way we will do this is by:
 - a. Further productising our assets with standard offers, rate cards and fulfillment terms.
 - b. Digitising the customer experience across planning, design, ordering and fulfillment.
 - c. Investment in new builds which both support customer requirements and leverage existing infrastructure to create new solutions.
2. We are proud of the infrastructure expertise we have amassed over many years, however it's important we take steps to further enhance this through:
 - a. Completing key hiring, including a focus on external specialists and leaders, to fill required roles to support growth.
 - b. Working with our industry partners to develop longer term capacity, skill and safety disciplines
 - c. Developing new capabilities in professional services so we can be a full infrastructure solution provider to the market.
3. InfraCo has a diversified asset base and its important each of our businesses are globally competitive and sustainable which includes:
 - a. Measuring and reporting asset business performance against global standards or national standards where appropriate
 - b. Increasing our focus on maintenance, asset lifecycle management and emissions to ensure we have a safe and sustainable asset base
 - c. Enhancing and digitising asset records to support business operations and monetisation.
4. We are delighted to have launched Amplitel Towers earlier this month with an Australian consortium made up of the Future Fund, Commonwealth Superannuation Corporation and Sun Super, managed by Morrison & Co. We are committed to executing the business plan we have agreed through:
 - a. Collaborative and transparent relationships at all levels
 - b. Effective Governance with the Amplitel Board
 - c. A focus on operational excellence and portfolio growth to generate long term returns
5. We have not made any announcements on InfraCo Fixed monetisation timing. Acknowledging that InfraCo Fixed is substantially larger than towers and is multi asset, our immediate focus is to:

- a. Build greater flexibility and optionality to realise value from our fixed infrastructure assets, with the potential to take advantage of opportunities to maximise value for Telstra shareholders.
 - b. Accelerate the program of work post the re-structure, including leveraging learnings from the Amplitel process, to build investor ready data, financials and asset business plans
6. All of our customer relationships are extremely important, especially with nbn and other major national service providers. While they will always be a priority, the commercial models we use have been operating for many years and are relatively mature. For the InfraCo and Telstra partnership, it is in its infancy and will require focus over the years ahead. This includes:
- a. Delivery of competitive infrastructure services and solutions, to enable Telstra to achieve its market objectives
 - b. Implementation of the inter-company agreements, re-structuring outcomes and governance arrangements which leverage the strength of Telstra, and also instil trust and confidence
 - c. Long term collaborative planning to shape forecasts, sustain the partnership model and provide future growth capacity.

SLIDE 39 – TELSTRA INFRACO’S PASSIVE ASSET BUSINESSES

InfraCo’s passive asset portfolio leads the market in terms of scale, coverage and mix. All asset businesses are operating effectively and delivering to expectation after their first year in operation.

The portfolio is valuable not only in terms of its income and EBITDAaL generation but also its monetisation potential. All businesses are under-pinned by long term, stable contracts with Telstra, nbn and the broader industry. Our renewed focus on infrastructure, together with new products and growth plays can continue to drive their long-term value.

The Amplitel sale price and multiple, together with the speed at which the sale closed, is indicative of the quality of the InfraCo assets.

InfraCo Fixed is over 6 times larger than Amplitel on an income and EBITDAaL basis and while it is more complex in nature, InfraCo Fixed is a very strategic portfolio.

SLIDE 40 – OUR AMBITION FOR AMPLITEL

The ambition for Amplitel is to be Australia’s leading full-service wireless infrastructure, services and solutions provider.

Our plan on a page summarises our key strategic objectives:

- 1. Provide better access to our tower infrastructure
- 2. Improve service offerings & asset health
- 3. Pursue growth & drive asset efficiency
- 4. Be the home of tower infrastructure expertise

In relation to driving improved access to our Towers we will be a full-service provider to the industry of both passive and active solutions. While we will not be a mobile operator, we are seeing demand for the provision of both the passive and active elements of mobile network builds as well as strong interest for specific industry solutions.

Two of our outcome measures by FY25 will be 250 new towers constructed and 700 additional tenancies.

From a technology perspective we decided 9 months ago to stand up a new asset management solution for Amplitel. It provides the business with the contemporary technology platform it needs to manage all aspects of the asset base. The deployment has now enabled site and asset inventory for over 8,000 sites, tracking of design and construction of new sites, co-location site access and ordering, operational reporting and a customer portal.

We've also moved quickly to create digital twins of our network, leveraging drones and our asset management platform. We plan to have 90% of our mobile structures as digital twins by FY25 and lead the market in how digital twins can be leveraged to optimise customer outcomes.

Turning to shareholder value, there are items which we must execute well on to continue to drive long term value. The first is management of the cost base of which over 60% relates to property. The second is further improving our maintenance and life cycle management standards to be the best in the industry. Finally driving growth from new towers, new tenancies, new services, market expansion and site acquisitions. Strong execution across these areas will enable us to grow underlying EBITDAaL. The current FY25 outcome is for low to mid-single digit growth.

The last objective on this slide is a very important one as it relates to our people and our partners. We've seen a tremendous reaction from our staff, our sub-contractors and the broader industry to the launch of Amplitel. We aim to be the employer of choice, co-create strong construction and delivery partnerships and be agile in everything we do.

A core non-negotiable element of everything we do will be a focus on the health and safety of the extended team and maintaining a strong same day reporting regime will be one of our FY25 operational measures.

SLIDE 41 – USING DIGITAL TWINS TO CREATE A GREAT CUSTOMER EXPERIENCE

I'm excited to provide further details of our Amplitel Digital Twins program.

This is all about bringing real-world assets to life on our customer's digital devices to transform their experience.

Already we have over 1,000 Digital Twins and will complete the digitisation process for 90% of our mobile structures by the end of FY25.

Designing and deploying mobile networks requires long term, detailed planning and we believe Digital Twins will be a game changer in terms of cost, speed and quality.

We create a Digital Twin using drone scans, and these scans will feed directly into our asset management platform. For any subsequent drone scans, we have enabled auto updates of all data attributes in our systems.

The end-to-end solution will also enable a range of analytics and reporting capabilities as well as facilitating site incident reduction and optimisation of maintenance activities.

To bring things to life a little more let's go to a video on our Digital Twins program.

>> VIDEO <<

SLIDE 42 – OUR AMBITION FOR INFRACO FIXED

Our key strategic objectives for InfraCo Fixed are to:

1. Provide better access to our fixed infrastructure
2. Improve service offerings and long-term asset health
3. Drive asset efficiency, pursue growth and be ready for the next phase of optionality
4. Be the home of fixed infrastructure expertise

While we have been successfully providing access to our fixed infrastructure for many years, there are a range of initiatives we are taking to make this easier and more comprehensive.

The first is through new fixed products and we are planning to launch at least 10 new products by FY25. In the past 9 months we have launched new InfraCo dark fibre products. While our customers have wanted us to offer dark fibre, we first needed to develop and launch dark fibre services in order to address the market opportunity.

On a similar front we have under-utilised data centres but have not had clear market offerings, or the ability to offer network agnostic access. With our data centre product launch last month, we have now solved these challenges and there are plans to extend these data centre services across additional sites nationally.

Of course, everything we do needs to be digitised and we have our automated duct reservation system, new digital tools for fibre planning and ordering and improving tools for information on our data centres.

The security, monitoring, maintenance, emissions reductions and life cycle management of our assets is extremely important, and we are implementing new asset management platforms to drive these areas and working with industry to extend our focus on proactive maintenance practices. We also have a substantial build program for over 6,000 km of new fibre through to FY25.

A real time example of our focus, has been the risk analysis and climate modelling on our fixed infrastructure. The work has culminated in a new summer disaster preparedness program, for a range of flood and fire prone sites across regional Australia. As a result, we are completing ahead of the summer disaster zone, power site upgrades and fuel top-ups, battery life cycle replacements, grounds maintenance and cut-backs, helicopter landing make ready inspections and pro-active fibre repairs.

We have allocated \$600M of capital for new infrastructure to the end of FY25. Around 60% of this is for planned fibre growth with the remainder across our ducts, fixed network sites and data centres.

Our property rationalisation program will continue with plans for 50 sites by the end of FY25. We will leverage these as well as procurement and scheduling optimisation with our partners, to drive operating efficiency.

We are confident of delivering low single digit EBITDAaL growth to FY25.

Like Amplitel, InfraCo Fixed is also attracting a lot of interest from professionals looking for an exciting career in infrastructure.

Aside from building our talent, competencies and practices we also have other obligations and commitments to fulfill.

Much of our infrastructure crosses the lands of First Nations peoples. We believe InfraCo and the industry at large has more work to do on engaging with First Nations peoples to build more enduring land management models which respect cultural beliefs and sites. We have recently appointed a new land access executive and a team which includes one of our most senior indigenous leaders to intensify our focus in this area.

Our fixed network sites do consume significant energy and we are a key contributor to emissions reductions to support Telstra's emissions reduction commitment. We have commenced a program to reduce our overall energy consumption. This will be achieved through a combination of investment in lower consumption technology (such as automated LED lighting) and improving the efficiency of our air-conditioning at sites.

While the FY25 plans for InfraCo Fixed were created in line with Telstra's overall BAU capex envelope, there are additional growth opportunities we are currently evaluating.

The opportunities are long term in nature and will potentially service major customer needs or create nation building solutions for the future. We will update investors on these opportunities when it is appropriate to do so, and ensure they meet investment criteria for long term infrastructure projects, aligned to the company investment goals which Vicki will talk to shortly.

Lastly, I would like to comment on InfraCo Fixed post the corporate re-structure. While our plan is to be ready for the next phase of optionality, there will be an immense amount of preparatory work required. The Amplitel process has provided invaluable insights into areas which will require focus earlier in the preparation phase, property is one example. It has also helped us dimension what we

are likely to need in terms of external support to be ready across a much larger multi-asset portfolio business.

SLIDE 43 – INFRACO FIXED IS MAKING STRONG PROGRESS WITH DARK FIBRE AND WILL BUILD NEW INFRASTRUCTURE TO MEET MARKET NEEDS

Just to add more insights about our new dark fibre products.

In a little over 9 months we have delivered around 190 active services for 22 customers, which includes 8 first time InfraCo customers.

Our most recent dark fibre product was for pre-configured, high speed nbn POI rings across 6 capital cities, which also connect to our Data Centres.

This is on top of our extensive network of dark fibre with over 300 separate available paths and standardised connections to over 84 nbn POI's and 72 metro data centres across Australia.

We have 3 more dark fibre product launches planned for FY22, which will see a total of 5 new dark fibre products for this year.

SLIDE 44 – T25 SCORECARD

In closing, InfraCo is pleased to be a strong contributor to the T25 strategy and I'd like to highlight some of the key performance indicators on the company scorecard:

- Amplitel to build 250 new towers and add an additional 700 tenancies by FY25
- InfraCo Fixed to build over 6,000km of new fibre by FY25
- Amplitel to contribute low to mid single digit EBITDAaL growth, and InfraCo Fixed to contribute low single digit EBITDAaL growth before any additional investment in incremental growth programs
- For InfraCo to be an exciting place to work, with a high-performance customer centric culture which sustains us at the 90th percentile of employee engagement
- Finally, reducing our energy consumption aligned to Telstra's emission reduction goals.

With that let me now pass to our CFO, Vicki Brady.

VICKI BRADY – CFO

SLIDE 45 – Financial strategy

Thanks Brendon.

Good morning and thank you for joining us.

This morning I'm very pleased to take you through our financial strategy for T25. We will then open for questions.

SLIDE 46 – Financial strategy

Our financial strategy has five building blocks to deliver growth and value for shareholders. These blocks build on the strong foundations provided by our T22 strategy.

First, we will build financial momentum across our portfolio to deliver growth.

Second, we will deliver \$500 million of net fixed cost reductions from FY23 to FY25 while investing for growth.

Third, we will focus on cash conversion and generation.

Fourth, we will be active in portfolio management to unlock value and manage our Balance Sheet.

And finally, we will create shareholder value through our capital management framework.

Before providing you with more detail on each of the building blocks, I will comment on our financial growth ambitions to FY25 which Andy spoke about earlier.

SLIDE 47 – Our financial ambitions to FY25

Our underlying EBITDA and ROIC ambitions build on our current T22 commitments.

As announced at our FY21 full year results, our guidance for FY22 underlying EBITDA is \$7-\$7.3 billion. This represents mid-to-high single digit growth.

Our ambition is to achieve \$7.5-\$8 billion of underlying EBITDA by FY23 and mid-single digit CAGR from FY21 to FY25.

As illustrated today, we have confidence that the momentum we've built towards growth will continue to FY25.

For Underlying ROIC, our ambition is around 8% by FY23, and to grow beyond this to FY25.

For Underlying EPS, our ambition is a high-teens CAGR from FY21 to FY25. This level of underlying EPS growth from 9.7 cents in FY21 provides earnings clarity as we maximise our fully-franked dividend and seek to grow it over time.

For excess cashflow, our ambition is to invest for growth, and return excess cash to shareholders, in line with our capital management framework.

Turning to the first block of our financial strategy, building momentum across our portfolio to deliver growth on slide 48.

SLIDE 48 – Building financial momentum across our portfolio to deliver growth

This reflects the turning point we have reached thanks to our T22 strategy. We are entering a different phase and expect top line revenue growth to be a driver of EBITDA growth. Our ambition is to do the following:

First, to drive value growth through our 5G mobility leadership. Our FY21 results included around \$300 million of second half mobile EBITDA growth, on the prior corresponding period.

We are confident that mobile EBITDA growth will continue, underpinned by our ambition for a mid-single digit mobile service revenue CAGR and ongoing productivity. We also have the final EBITDA benefits flowing through from migrating customers off subsidy and lease plans in FY22.

Second, to profitably grow our fixed product portfolio across C&SB, Enterprise and Wholesale. This includes nbn resale, data and connectivity, and NAS.

Third, to deliver further net cost reductions while investing for growth. Our T22 strategy has achieved simpler and better outcomes for our customers, and we have delivered \$2.3 billion cumulative cost reductions since FY16.

Fourth, to profitably grow New Markets to scale across Telstra Health and Energy.

And finally, to grow returns from our infrastructure business.

Let me now turn to how we will drive mobile value growth on slide 49.

SLIDE 49 – Five building blocks driving value in mobility

Our ambition is to deliver a mid-single digit CAGR for mobile services revenue through our T25 strategy. Let me now speak to the drivers that support this ambition shown on this slide.

First, our technology solutions and our network leadership including Australia's largest 5G network, are critical to our strategy. Maintaining and extending our 5G network leadership will underpin our market position and our price premium.

Second, with the foundation built by T22 we are customer first with simplified plans, and no lock in contracts. The migration of all customers to these simplified mobile plans will provide us significant operational benefits and flexibility beyond T22.

We are also positioned to grow our hardware margin through unbundling, removing subsidy, and the insourcing of our retail stores.

Third, we believe value growth from 5G experience-based propositions can drive further ARPU growth.

Our lead indicator of postpaid handheld ARPU, Transacting Minimum Monthly Commitment, or TMMC, has grown by more than \$5 since FY19. This increase, as well as pricing changes across the base, are flowing through to ARPU and EBITDA.

We believe 5G experience-based propositions can drive further ARPU growth beyond FY22.

Fourth, new C&SB and Enterprise 5G products and an expanded device ecosystem will also provide new opportunities.

As you heard from Michael today, there is an increasing array of connected devices beyond handsets and tablets, to wearables, AR, VR, and appliances.

There are also emerging Enterprise 5G products that David discussed – from Enhanced Ethernet Wireless, to one of Australia's largest banks reimagining the 'branch of the future', and 5G and Edge in sports stadiums.

These new products all create optimised experiences for our customers, and drive value and growth in our core mobile business.

And finally, we also expect to continue value accretive growth through our multi-brand strategy. We will continue to use this highly successful strategy to increase reach. This includes Belong, JB Hi Fi, Boost, and our wholesale model where we have consistently achieved strong SIO and revenue growth.

In addition to mobile growth, there are other areas of growth across our portfolio which I will explain in more detail on slide 50.

SLIDE 50 – A further five areas of growth across our portfolio

Our full year FY21 results highlighted an inflection point in our fixed products.

In Fixed – C&SB, the nbn driven decline is now substantially complete. We expect growing and profitable home and business internet services, and are targeting a mid-teens nbn resale margin by FY23.

Across Small Business Apps & Services, our target is to double revenue between FY21 and FY25.

While we continue to explore, test and develop alternative technology options, we expect to limit legacy copper losses to less than \$100 million per annum.

We are further through the nbn driven decline in C&SB than in Enterprise.

In Enterprise - Fixed, our ambition is to return to growth in data and connectivity by FY24, and a mid-single digit NAS revenue CAGR to FY25 with mid-teens EBITDA margin.

Across Enterprise, we are targeting FY22 revenue and EBITDA growth in aggregate.

In Fixed – Wholesale, our ambition is to maintain annual EBITDA of around \$350 million until FY23 before the portfolio returns to growth.

Within Fixed – Wholesale, we expect data and connectivity to contribute to growth post the nbn driven legacy decline. Our focus is to grow through investment and product differentiation – including wireless resilience, active and dark fibre hybrid solutions, and API based services.

Turning to Infrastructure. We will continue to drive the performance and recognition of our world-class infrastructure assets.

In FY22, we expect to revise our disclosure to further elevate Amplitel and InfraCo Fixed, giving more focus and clarity on their performance.

As you heard from Brendon today, for Amplitel we are targeting low-to-mid single digit EBITDA after leases CAGR, 250 new towers and 700 additional tenancies by FY25.

For InfraCo Fixed, we are targeting low single digit EBITDA after leases CAGR, \$600 million of new infrastructure investment and 6,000km of additional fibre deployed. This infrastructure investment will be within our business-as-usual capex.

Turning to New Markets. Telstra Health is well positioned, and we are excited by the acquisitions of MedicalDirector and PowerHealth. Our ambition is to grow Telstra Health to become a \$500 million revenue business by FY25.

We are also focussed on diversifying growth across other verticals including in Energy where our ambition is to be a Top 5 retailer by FY25.

Turning to the second block of our financial strategy, to deliver net cost reductions while investing for growth on slide 51.

SLIDE 51 – Deliver net cost reductions while investing for growth

We have achieved \$2.3 billion of annual cost reductions since FY16, and are confident that we will deliver our \$2.7 billion T22 target by the end of this financial year.

We are targeting cost reductions in FY22 of \$430 million. This includes benefits from digitisation, reductions in IT and network costs, ongoing vendor optimisation and labour efficiencies.

From FY23 to FY25 we are targeting another \$500 million of net fixed cost out, while also investing for growth.

We believe this ambition will ensure we maintain and improve our leading operating cost metrics for a full-service telco. We are already top quartile across many metrics, however, we believe shareholder value is better supported by not targeting top quartile across all metrics, given our premium position in the market.

We have five focus areas to achieve cost reductions during T25.

We will significantly reduce our IT operating costs. The investment we have made transforming our IT digital stack during T22 enables us to now focus on removing legacy systems and consolidating platforms.

We will transform the Telstra Enterprise customer value chain cost base across order, delivery and activation processes.

We will deliver operational efficiency across C&SB billing, fixed assurance and fixed activation customer episodes.

We will realise further labour productivity through agile@scale across back-of-house and support areas.

And, we will expand productivity discipline across total costs including sales costs, fixed costs and capex.

Turning to the third block of our financial strategy, a focus on cash conversion and generation on slide 52.

SLIDE 52 – Focus on cash conversion and generation

Pleasingly in FY21 we delivered free cashflow of \$3.8 billion, an increase of approximately \$400 million compared to the prior year due to working capital improvements.

Cash generation continues to be a priority in our financial strategy, with a focus on converting EBITDA into cash.

Capex discipline and efficiency will benefit cash. Our expectations for business-as-usual capex are unchanged at around \$3 billion per annum excluding spectrum.

Volatility in hardware revenue in FY21 impacted our capex to sales ratio. This highlights a shortcoming in this metric.

Consequently, we have updated our capital management framework to reflect capex in absolute dollars rather than as a ratio. This change is consistent with how we manage capex internally.

Spectrum payments are more irregular than BAU capex. We expect to pay for the recently acquired mmWave spectrum over four further equal annual instalments. Full payment for any licences awarded in the upcoming 850 and 900 MHz spectrum auction is expected in late FY24.

I will return in a moment to further investments for growth above BAU capex.

In addition to capex discipline, there are several areas of additional focus that will benefit cash.

Enduring working capital improvements will benefit cash. We will continue to manage mobile handset receivables and focus on initiatives to deliver ongoing improvements in working capital across inventory management, receivables and payables.

Reducing leases will benefit cash. As flagged at our full year results, given our shift to hybrid working, we continue to assess our property requirements and may exit some leases early. This may have a short-term negative impact on D&A but should result in financial benefits over time.

Reducing finance costs will also benefit cash. Finance costs paid have been reducing due to both reductions in net debt and lower average borrowing costs. We expect this trend to continue as high-cost debt matures.

In addition to our focus on converting EBITDA into cash, we expect cashflow to remain ahead of accounting earnings, largely due to structurally lower capex than D&A.

In FY21, capex was \$1.4 billion lower than our D&A of \$4.5 billion.

After adjusting D&A for \$532 million of lease depreciation, and \$239 million of spectrum amortisation, capex was around \$700 million lower.

We expect that business-as-usual capex will continue to be around \$600 million lower than adjusted D&A, due to historically higher capex and mix of asset lives.

Cashflow remaining ahead of earnings provides flexibility for further investment and capital management that I will discuss shortly.

Turning to the fourth block of our financial strategy, active portfolio management to unlock value on slide 53.

SLIDE 53 – Active portfolio management to unlock value and manage our Balance Sheet

We have a strong record of generating additional cash, unlocking value and managing our Balance Sheet.

We illustrated this through T22 with our successful monetisation of \$2 billion of assets.

We have also now completed the sale of a 49 per cent non-controlling stake in our towers business. The transaction valued Amplitel at \$5.9 billion, representing an FY21 pro forma EV to EBITDA after leases multiple of 28x. Net cash proceeds were \$2.8 billion.

On Telstra InfraCo more broadly, we are delivering on the promises we made in our T22 strategy to provide greater transparency of our infrastructure assets, improve the efficiency of how we manage those assets, and provide optionality in an evolving industry.

This optionality includes ensuring InfraCo Fixed is ready to explore future monetisation or other opportunities.

Across our portfolio we also retain the discipline to grow or exit investments dependent on their ability to exceed ROIC targets. We will take an active approach to portfolio management to unlock value.

Now that I have taken you through how we will drive underlying EBITDA growth, cash generation and unlocking value, I will turn to the fifth block of our financial strategy and our capital management framework on slide 54.

SLIDE 54 – Capital management framework

We will continue to apply fiscal discipline and use this framework to manage capital and deliver shareholder value.

The objectives of the capital management framework are to maximise returns for shareholders, maintain financial strength and retain financial flexibility. These objectives are unchanged.

The framework includes four principles and we have made changes to three of them effective from today.

The first principle is a commitment to balance sheet settings consistent with an A band credit rating. This commitment is unchanged, as it continues to be important to shareholders and debtholders.

The A band credit rating demonstrates the strength of our business, and provides continued access to global low-cost capital.

The second principle is to maximise our fully-franked dividend, and seek to grow over time.

This principle reflects continued feedback from shareholders of the importance of our fully franked dividend.

It also reflects our intention to return as much cashflow to shareholders via fully franked dividends which can be sustainably supported by earnings and franking, while also balancing the objectives and principles of the capital management framework.

We are confident in maintaining a minimum 16 cents per share fully franked dividend, subject to no unexpected material events and the requirements of our capital management framework. However, our franking balance is low.

We reported FY21 EPS of 15.6 cents and underlying EPS of 9.7 cents. We need to grow underlying earnings in line with our financial ambitions, and grow our franking balance in order to grow fully-franked dividends.

This replaces our previous principle to pay fully-franked ordinary dividend of 70-90% of underlying earnings.

We have replaced this principle because we expect our cashflow to remain ahead of accounting earnings, and we are focussed on growing underlying earnings into our total dividend.

The split of ordinary dividend funded by underlying earnings, and special dividend funded by net one off nbn receipts becomes less relevant in the future. We remain committed to returning in the order of 75 percent of net-one-off nbn receipts, however we expect FY22 to be the last year of special dividend funded by the nbn receipts.

The third principle is ongoing business-as-usual capex of around \$3 billion per annum excluding spectrum, as I have already discussed.

Turning to the last principle of our capital management framework – to invest for growth and return excess cash to shareholders – on slide 55.

SLIDE 55 – Invest for growth and return excess cash to shareholders

This replaces our principle to “maintain flexibility for portfolio management and strategic investment”.

The new principle is more specific, and illustrates our intention to use the flexibility provided by our cashflow being greater than earnings, to invest for growth and deliver additional returns to our shareholders.

We expect to generate excess cashflow, after capital is deployed in accordance with the first three principles of our capital management framework.

With excess cash, our focus then shifts to investing for growth and returning excess cash to our shareholders.

When we invest for growth, we will continue to be disciplined and apply our previously communicated criteria for organic and M&A opportunities.

Our criteria for organic opportunities are an NPV that is positive, using WACC and appropriate risk analysis.

Organic growth opportunities could include a long term or nation building infrastructure investment, or a major customer project. We are currently exploring opportunities in these areas.

Our criteria for M&A opportunities are:

- To be EPS accretive in year two
- To have a Return on Investment above our Weighted Average Cost of Capital by year three, and
- any acquisition needs to be more value accretive than a share buyback of a similar size

We preserve discretion to take advantage of longer term strategic opportunities where we expect them to deliver financial returns that exceed the cost of capital and long-term value creation for shareholders.

We expect to outlay around \$450 million acquiring MedicalDirector and PowerHealth. We applied discretion acquiring MedicalDirector given its strategic significance to our Telstra Health portfolio.

Going forward on M&A, we expect our insourcing of retail channels will cost in the low hundreds of millions. We also continue to assess other M&A opportunities.

Turning to options for returning excess cash to shareholders. Our preference is to participate in options that involve the distribution of available franking credits.

If that is not possible, we will consider share buy-backs, capital returns and unfranked dividends. We have demonstrated this with our recent announcement of an up to \$1.35 billion on-market buy-back from the proceeds from the sale of a 49% stake in Amplitel.

SLIDE 56 – We will deliver growth through our T25 strategy

To conclude.

Over the last three years we laid the foundations for growth and to take advantage of the opportunities ahead.

We are now a simpler, leaner and a more digital company compared to where we started T22.

We are also a market leader with unparalleled scale, brand and network.

We are values based and focused on doing business responsibly.

We have world class infrastructure assets and we will deliver further value from them.

We are excited by the future with FY21 marking an important inflection point for our financial performance.

We will deliver growth through our T25 strategy by staying disciplined and focused.

By continuing to build financial momentum across our portfolio to deliver growth.

By delivering \$500 million net fixed cost reduction from FY23 to FY25 while investing for growth.

By having a strong balance sheet and focussing on cash conversion and generation.

By being active in portfolio management to unlock value.

And by creating shareholder value through our growth strategy and updated capital management framework.

I will now hand over to Nathan to take us through Q&A.

[END]

**Statement on behalf of Telstra Corporation Limited in support of
application for merger authorisation**

Annexure AP-03

**RE: TELSTRA CORPORATION LIMITED AND TPG TELECOM LIMITED ARRANGEMENT
FOR THE SHARING OF ACTIVE INFRASTRUCTURE AND SPECTRUM IN REGIONAL
AUSTRALIA (APPLICATION)**

Statement of: Andrew Richard Penn

Address: Level 41 242 Exhibition St Melbourne, Victoria, 3000 Australia

Occupation: Chief Executive Officer, Telstra Corporation Limited

Date: 12 August 2022



TELSTRA CORPORATION LIMITED

Response to the Regional Telecommunications Review 2021 Issues Paper

Public version

30 September 2021





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Executive Summary

A thriving regional Australia is fundamentally important to Australia's success and viability both socially and economically. A thriving regional Australia is also important to Telstra. We are one of its biggest supporters and investors, a major employer, and we supply much of the infrastructure that keeps regional Australia connected. We remain committed to playing our part in regional Australia and welcome the Regional Telecommunications Review.

The triennial Regional Telecommunications Review plays an important role in highlighting the changing needs and priorities of regional Australia. The Committee through this latest review has identified some key opportunities where innovation and investment could be prioritised to improve the coverage, quality and resiliency of the telecommunications services available in regional Australia. We agree with these priorities and believe that realising these opportunities should be informed by four factors:

1. The economic context of regional Australia.
2. The policy and regulatory settings that apply to the provision of services in regional Australia.
3. The Government's aspirations and priorities for regionally-based primary industries.
4. The changing needs and expectations of regional consumers.

The third and fourth factors outlined above are factors that will require Government policy decisions and we will be guided by those policy decisions. Our submission takes into account our understanding of these points and focusses on:

- the key concerns raised with the Committee as we understand them;
- how the current social and economic context as well as the policy and regulatory settings impact innovation and investment decisions;
- the investments Telstra has made and has committed to make in the future and our support provided to regional communities;
- our recommendations for consideration by the Committee as to how the industry (including Telstra), Governments and the community can work together to improve services offered in regional Australia and address the concerns raised with the Committee. There are many who benefit from enhanced regional telecommunications, so policies and initiatives that recognise this will accelerate investment in regional telecommunications; and
- our answers to the specific questions asked in the Issues Paper.

We are available to discuss any aspect of this response further with the Committee.

Key concerns raised with the Committee

Consistent with our commitment to regional Australia, we have been at every hearing held by the Committee to listen to and help address concerns raised by our customers and regional communities.

Based on the feedback we have heard from customers and stakeholders, the five priority areas as we understand them are:

1. **Technology upgrades over time (3G/4G transition):** as technology develops over time, legacy technology needs to be necessarily retired in order to make way for investment in new technology. For example, Telstra has announced that it will close its 3G network by June 2024 and migrate all customers to the 4G network. Some customers have raised concerns about whether the transition from 3G to 4G will reduce their coverage. Telstra has committed to ensuring that it will expand the 4G network to provide at least the same coverage as its 3G network prior to closing its 3G network;



2. **Mobile coverage and congestion:** concerns about lack of coverage and perceived or real diminishing coverage due to congestion as data volumes and demand grow;
3. **Mobile resilience:** concerns about outages, including during natural disasters and more generally;
4. **Fixed line resilience and service performance for basic telephony:** concerns with the performance of fixed voice services and the process for getting services fixed in the event of a fault; and
5. **Digital inclusion, literacy and awareness:** how to build both digital ability and awareness of different technology solutions.

Regional Australia context

Australia's demographics, geography and topology present challenges in providing telecommunications services in large parts of regional Australia. This means that it will not always be possible from an economic perspective to provide the same level of coverage, redundancy and quality throughout Australia, and basic voice and broadband services will only be provided with some kind of Government support.

In addition, congestion is a function of data demand and we are seeing data volumes and demand grow dramatically for a number of reasons, including:

- digital adoption is increasing, customers are increasing their use of new data intensive services such as streaming services, and businesses are adopting different ways of operating which increases their demand for data;
- demographics are changing and we are seeing more people move into regional areas;
- the COVID-19 pandemic is increasing the number of people who are working and studying from home and increasing their demand for data for entertainment; and
- the pandemic is increasing the level of domestic tourism in regional areas which, in turn, increases congestion in those areas.

These factors are leading to substantial increases in the demand for, and use of, data. The only way to meet this demand is to increase capacity and this creates a challenge for network operators as increasing capacity requires significant capital investment and we are currently seeing real pressure to increase this capacity, but do so without increasing the cost to consumers.

The economics of providing fixed services are fundamentally different to providing mobile services.

In fixed, nbn co is required under its Universal Service Guarantee (**USG**) to connect all premises in Australia with high-speed fixed broadband, including premises in regional Australia. nbn co provides these services via different types of fixed technologies in built up areas and via fixed wireless and satellite outside of these areas.

Outside nbn co's fixed line footprint, Telstra provides a fixed voice service through its Universal Service Obligation (**USO**) and meets the specific Customer Service Guarantee (**CSG**) obligations. Unlike the nbn co obligations, Telstra is required to provide these services via specific technology (i.e. its copper network wherever that is available). The challenge with the copper network is that is an ageing technology and it will inevitably be prone to more and more failings over time.

While it is not economic to provide mobile coverage everywhere within Australia, it is economic in many areas and this has seen the development of a competitive and high performing mobile market evidenced by Australia being ranked first in the global Mobile Connectivity Index,¹ which assesses networks based on performance, affordability and availability.

¹ <https://www.mobileconnectivityindex.com/>



There are certain parts of Australia, however, where the economics for mobile coverage don't support investment without some form of Government support. This is where the Government's co investment programs such as the Mobile Black Spot Program (**MBSP**) have been critical and have supported commercial operators to successfully deliver mobile coverage.

The reality is that even with Government support it is never going to be feasible to provide mobile coverage everywhere in Australia. There will remain large parts of the country that are difficult to reach with existing terrestrial wireless/mobile services. However, technologies are emerging which have the potential to greatly improve the delivery and economics of connectivity in these more remote parts of Australia. One of the emerging satellite technologies that will help to support regional and remote connectivity is Low Earth Orbit (**LEO**) satellites. While there are challenges to overcome, and while satellite will never be a replacement for mobile, this technology may ultimately provide greater capacity and more responsive communications (with lower latency) than what is possible from current satellite options.

Mobile technology depends on radio waves and these are impacted negatively by physical obstructions such as walls, buildings as well as the surrounding topography and vegetation. As a result, it is unrealistic to expect that consumers will be able to get the same level of coverage everywhere within every building in Australia or that the coverage will not change over time as the topography or vegetation changes. This is why the primary service for use indoors is a fixed service. However, the good news is that there are technologies such as Wi-Fi calling which use a mobile phone over the home fixed broadband network to send and receive messages and calls in the event that the radio signal is compromised.

Mandated roaming has often been raised as a potential solution to improve mobile services in regional Australia. It is important to understand how mandated roaming works to appreciate the implications it would have on investment in regional Australia because, on the face of it, it can seem appealing. Mandated roaming obliges mobile network operators to allow customers of their competitors to use their network, giving the competitors' customers access to the other operators' coverage, network performance and capacity. Where an operator, say Operator A, has been investing in coverage and network performance as a competitive differentiating factor, clearly when they are then required to make this available to their competitors the incentive to further invest is lost for Operator A. Operator B has no incentive to invest either because there is no need as its customers can just use Operator A's network in the areas where it has no coverage.

The situation is further exacerbated because the capacity that Operator A has invested in for its customers is now being used by its competitor's customers leading to congestion on Operator A's network and a deteriorating performance for all customers. Operator A has no incentive to invest in more capacity to only have it used up by its competitors' customers.

So what may sound like a straight forward solution to improve experience and options for regional customers has exactly the opposite effect. The inevitable outcome of this dynamic is a gradual and systematic decline in network experience with no incentive for anyone to invest to offset it. Ultimately the only solution is for Government to step in and take on the investment responsibility, which would essentially mean the creation of a second nbn, this time for mobiles. In a market that today has the leading mobile networks in the world, this would be a disaster for all mobile customers in Australia with regional customers being the worst affected.

It is true that there are models around the world where versions of mobile roaming are in operation and do work, however the market dynamics, including the position of the various competitors in them, are very different.

Telstra's investment in Regional Australia

Telstra's purpose is to build a connected future so that everyone can thrive. Delivering great coverage and high quality and resilient services for our customers in regional Australia is an absolute priority for Telstra. It is reflected in our investment in regional Australia and in our commitments going forward, our organisational structure, operating model, governance frameworks, and our strategy.



Financial investments

Over the last five years to June 2021 Telstra invested \$8 billion on its mobile networks nationally with \$3 billion of that in regional Australia, and over the same time period we invested over \$5 billion on our fixed networks with \$1.3 billion of that in regional Australia. These networks serve customers across Australia, and in many locations where we are the only non-Government provider to have invested.

Participation in co investments

Telstra has been the largest industry participant in the MBSP. Once all five rounds of the MBSP are completed, Telstra will have invested approximately \$300 million and built around 930 new sites to improve coverage for regional areas around the country – more than two thirds of the total sites co-funded by Government under the MBSP since 2015.

Telstra has also participated significantly in the Commonwealth Government's Regional Connectivity Program (**RCP**). In the two tranches of Round 1 of RCP, Telstra was the only major mobile provider to win projects and commit funding to improve services. We will deliver 72 projects under Round 1 of RCP, and we will contribute \$24 million of our own funds to these projects. An advantage that RCP provides is the greater flexibility to propose solutions to enhance regional networks compared with previous programs.

Other investments

In addition to our financial investments, we have established frameworks to ensure we understand and can address issues in regional communities, with those communities. These have included:

- The establishment of Regional Advisory Councils with third parties represented to ensure that we continue to understand and address concerns raised by regional Australian communities. These provide us with direct feedback on community concerns and expectations and ways in which they can be addressed.
- Appointing Regional General Managers and dedicated Regional Network Advisers who live and work in communities and help us understand and address community concerns and expectations.
- Committing to answering all voice calls in Australia by 30 June 2022 and bringing our Telstra retail stores back to direct Telstra ownership. We currently have 138 stores in regional locations across Australia providing sales and service support to those communities.
- Partnering and supporting state and national stakeholder groups that are focussed on delivering better outcomes for regionally based industries or communities. These partnerships support us in understanding the needs of these different groups and how we can collectively deliver improved services to their members. This includes organisations such as the National Farmers Federation, state farming organisations, the Isolated Children's Parents' Association (**ICPA**), the Country Women's Association (**CWA**), the Regional Australia Institute (**RAI**), state Local Government Associations and many regionally based organisations.
- Partnering with a number of community organisations to improve digital literacy, particularly for vulnerable customers. This includes the elderly via our Tech Savvy Seniors and Social Seniors programs, individuals impacted by tech facilitated abuse via our Telstra Safe Connections program, and indigenous communities through our Deadly Digital Communities and inDigiMOB programs. We are also partnering with the Centre for Appropriate Technology to deliver a new digital literacy program in the Northern Territory.
- Providing the most extensive offering for low income, vulnerable and disadvantaged customers delivering more than \$3 billion in value since 2002. Assisting people on low incomes or facing financial hardship to maintain access to telecommunications services via our Access for Everyone program – these programs focus specifically on ensuring that digitally excluded customers such as the elderly, indigenous Australians and children in low income families remain connected as well as those experiencing homelessness, family violence or those who have been impacted by natural disasters.
- Recognising that our customers have experienced particular frustration with being able to contact us and resolve issues over the last year during the COVID-19 pandemic, we have invested in our domestic and international contact centre operations to improve our customer experience. At the



peak of COVID-19 impacts in 2020, we prioritised taking calls from vulnerable customers and customers with a service fault, and we directed other customers to messaging for some enquiries. This workaround was progressively removed and, since June 2021, all customers have been able to contact Telstra in their channel of choice. We have now restarted our dedicated routing for service calls to our South Australian based team for our regional customers. We also continue to prioritise handling of complex and high risk customer groups, many of whom are in regional Australia. This includes our First Nations Connect team, our SAFE team supporting victims of family and domestic violence and our Specialised Assistance and Priority Assistance teams.

We are committed to continuing this investment in regional Australia and have made the following commitments specifically focussed on regional Australia:

- \$150 million in FY22 to improve regional network customer experience, including addressing areas affected by congestion through prioritising the upgrade of over 180 3G only sites, augmenting capacity at selected 4G sites with high traffic, and further 4G site optimisations to better balance 3G/4G traffic and address localised customer demand.
- \$75 million from the partial sale of our towers business will be directed toward enhancing connectivity in regional Australia, which will be guided by the recommendations of the RTIRC 2021 Review.
- \$200 million co-investment funds over four years to further extend regional coverage through partnering with Commonwealth, State and Local Governments and local communities. This investment will support our commitments made as part of our recently announced T25 strategy which includes expanding 4G/5G coverage in regional Australia by at least 100,000 km².
- improving services by expanding our 4G network and to provide coverage to those who can currently only access the 3G network.
- expanding our 5G network to cover 95 per cent of the population and 80 per cent of all mobile network traffic being on 5G by FY25.
- trialling ways to deliver better coverage, redundancy and quality, including by 4G fixed wireless technology and introducing a satellite service in FY23.
- continuing our battery life cycle replacement program that prioritises locations of increased natural disaster risk - since November 2020 we have replaced batteries in over 280 sites and will target 600-700 sites this financial year.
- committing \$5 million to targeted investment program to address fixed line issues in areas of challenging performance due to ageing infrastructure in order to improve network quality and customer experience.
- supporting digital inclusion by continuing to support our digital inclusion programs, including:
 - supporting at least 1 million customers in vulnerable circumstances to stay connected each year to FY25; and
 - increasing digitally active customers by 2 million including building the digital skills for more than half a million Australians

Recommendations

Taking into account the social and economic reality of providing telecommunications services in regional Australia and the investments and commitment currently made by Telstra, we believe that there are eight additional matters that the Committee could consider in order to improve the coverage, quality and resilience of telecommunications services in regional Australia.

1. **Mobile congestion** - that the telecommunications industry, through Communications Alliance and the Australian Mobile Telecommunications Association (**AMTA**), develop an education campaign on mobile congestion – what it is, what impact it has and information around how the sector manages customer concerns on impacts on performance due to congestion in the mobile network.



2. Improving understanding of connectivity solutions

- a. **Fault identification and rectification** - that all fixed network operators in regional Australia provide transparent reporting on fault identification and rectification to help ensure customers know what they are getting at all times. Greater transparency of the capabilities and performance of fixed network services would benefit customers as they make choices about the best mix of services and service providers to suit their needs. For example, Telstra publishes monthly data on our fault rectification performance broken down by geographical areas (<https://www.telstra.com.au/consumer-advice/customer-service/network-reliability>), but to our knowledge there is no comparable regional-specific data provided by nbn co or other network service providers.
- b. **Role of regional LGAs** - that Government be encouraged to direct funds towards regional LGAs to assist in both raising the levels of understanding of connectivity solutions and technologies most appropriate for their specific communities.

3. Digital inclusion

- a. That Commonwealth and State/Territory Governments, in conjunction with the industry, be encouraged to scale and enhance existing, localised digital inclusion programs that improve digital capability, especially for vulnerable Australians.
- b. That nbn co develop and offer to Retail Service Providers (**RSPs**) an affordable nbn consumer plan to benefit all households receiving government income benefits.

4. Mobile resilience – that the Commonwealth Government:

- a. continues to support the Commonwealth Government's Strengthening Telecommunications Against Natural Disasters (**STAND**) program; and
- b. commits to implementing and funding Cell Broadcast emergency notification capability to enhance regional resilience in natural disasters.

5. USO reform - that the USO for basic telephony services be reformed to focus on outcomes to be delivered for customers rather than the technology used to deliver those outcomes. The USO could be reformed to ensure that the entity responsible for the USO be required to provide at least the same level of coverage, resilience and quality using technology that best delivers and enhances these outcomes over time with the nbn broadband services used to provide voice back up services for these communities in the event that the primary service were to fail.

6. Co-investment programs - building on the strengths of programs such as the MBSP and RCP, that future co-investment programs provide greater flexibility for telecommunication providers to deliver improved connectivity to regional communities given the economic challenges of delivering regional connectivity – these include the enhancements recommended in section 7.4 of the submission.

7. Greater coordination – that Commonwealth Government funding and support be directed toward greater coordination between Governments at all levels, local communities and telecommunications providers to enable the development of plans for enhancing connectivity for local communities based on the specific geographic and social needs of those communities, including to support community resilience during natural disasters. For example, local planning initiatives which would improve connectivity but are prevented from progressing because local planning permission cannot be obtained.

8. Infrastructure sharing – while Telstra does not support mandated roaming because of the impact on innovation and investment incentives, policies and programs which enhance the opportunity for passive telecommunications infrastructure sharing should be encouraged.



1. Introduction

Telstra welcomes the opportunity to provide a submission to the 2021 Regional Telecommunications Review.

We have a long history of investing in and supporting regional Australia. We take this responsibility seriously and have an absolute commitment to delivering high quality services to our customers in regional Australia. This includes our investments to improve telecommunications coverage, capacity and performance in regional Australia, as well as service and fault restorations.

This does not come without its challenges, but we have been doing it for 150 years and understand those challenges better than anybody. Our commitment to regional Australia is unwavering.

We are always focused on how we can improve our service and our customers' experience. It is also important to note that often we are the only telecommunications company criticised because we are the only telecommunications company offering services to these communities.

In the five years to the end of June 2021, we had invested \$8 billion in our mobile network nationally with \$3 billion of that in regional areas so more Australians can participate in the digital economy.

We have the largest mobile network in Australia, covering around 33 per cent of Australia's land mass and reaching 99.5 per cent of the population, with the overwhelming majority of the capital invested in this network having been made since privatisation. This demonstrates our commitment to investing in new technologies for regional Australia, which has been a commercial decision made by Telstra.

We understand the challenges of delivering coverage in regional Australia, and we continue to invest where others do not. In the two tranches of Round 1 of the Commonwealth Government's Regional Connectivity Program (**RCP**), we were the only major mobile provider to win projects and commit funding to improve services. We will deliver 72 projects under Round 1 of RCP, and we will contribute \$24 million of our own funds to these projects.

In the Commonwealth Government's Mobile Black Spot Program (**MBSP**), after this latest supplement to Round 5, and once all five rounds of the MBSP are completed, we will have invested up to \$300 million and built around 930 new sites to improve coverage for regional areas around the country – more than two thirds of the total 1296 sites co-funded by Government under the program since 2015.

We don't do any of this because we have to, or to meet any regulatory obligation. We invest commercially for our customers to ensure they can receive the benefits of Australia's largest mobile network.

Our commitment to regional investment will continue. We have made further significant regional investment announcements in 2021, including:

- In May we announced our intention to spend \$150 million over the next 12 months to enhance our networks in regional, rural and remote Australia.
- In May we also announced we are contributing \$200 million of co-investment funds over four years to further extend regional coverage, starting from FY22. This will stimulate co-investment with Government, local councils and businesses in areas that would otherwise be difficult to justify on economic grounds.
- On 30 June we announced \$75 million from the partial sale of our towers business would be directed toward enhancing connectivity in regional Australia, which would be guided by the recommendations from this review.

In addition, over the five-year period that ended in June 2021, we had invested around \$1.3 billion in our fixed network in regional and remote areas of Australia. This investment has primarily been to maintain, upgrade and expand the capacity of our fixed networks covering the Core, Transport, and Aggregation networks, Exchange site power and cooling, and in the provision of Wideband services to support high speed data access products.



The reliance on mains power is of critical importance for many of our sites and can often be a major cause of outages to our network. As a result, we continue to invest in battery back-up as part of our overall power resilience strategy. For example, we have replaced batteries at over 2,100 network facilities nationally over the last two years. This program is continuing through FY22.

1.1. Telstra's new corporate strategy – T25

Over the past three years, we've been on a journey of transformation that we called T22. On 16 September we announced our T25 strategy to help us accelerate growth, enhance customer experiences and capitalise on permanent shifts in how people work and live.²

T25 will be made up of four core strategic pillars to deliver:

- An exceptional **customer experience** you can count on.
- Leading **network and technology** solutions that deliver your future.
- Sustained **growth and value** for shareholders.
- The place you **want to work**.

The core pillars are as much aimed at regional Australia as they are metro Australia. However, the T25 strategy includes several key announcements for regional customers, including:

- Adding at least another 100,000 square kilometres of mobile coverage to our national footprint to support regional and remote customers.
- Continuing our investment in our 5G network leadership with 95 per cent population coverage and 80 per cent of all mobile network traffic being on 5G by FY25.
- Supporting digital inclusion for regional and vulnerable customers by continuing to make significant investments in regional Australia, launching a satellite service in FY23, helping keep one million customers in vulnerable circumstances connected, and building digital skills for 500,000 Australians.

Our announcements through T25 demonstrate our continued commitment to delivering the best technology solutions for regional and remote communities.

1.2. Future technology to support regional telecommunications

In the Terms of Reference provided to the Committee it is encouraging to see a focus on emerging technologies that could significantly improve the delivery of services to regional and remote Australia.

As the current Universal Service Obligation (**USO**) provider for the basic telephony service, we have been encouraging reform of the USO arrangements for many years. Under the existing contract with the Commonwealth we are required to deliver standard telephony services using the ageing copper fixed line network and associated infrastructure, which is holding back our ability to invest in new technologies for fixed voice services.

Our submission covers this technology horizon in more detail in section 6.

To address the connectivity needs of regional and remote communities requires the involvement of multiple parties. As the major telecommunications provider in Australia, and one of the few making significant investments in regional Australia, we have a part to play in delivering these services.

² Our T25 strategy was announced on 16 September 2021. Refer to the following link:
<https://exchange.telstra.com.au/introducing-t25-our-plan-for-growth-and-enhanced-customer-experiences/>



However, the responsibility is not solely that of Telstra. Commonwealth and State / Territory Governments, regulators and the industry all have a part to play. Getting the policy settings right will be part of the solution, as will the direction of regional investment programs from Governments. This is outlined in more detail in section 7 of our submission.

Our commitment to regional Australia is also demonstrated in our engagement with this review. In order to listen and respond to regional communities we have attended all the consultation meetings held by RTIRC in 2021 and remain committed to working with the Committee to help them form their recommendations.

1.3. Understanding the roles in delivering telecommunication services to regional Australia

It is important to highlight that due to the large geographic expanse, low population density and challenging terrain, providing telecommunications connectivity in large parts of regional Australia is commercially challenging.

We have a USO to ensure standard telephone services (**STS**) and payphones are reasonably accessible to all people in Australia on an equitable basis, wherever they work or live. This is an obligation on Telstra both under legislation and under a contract with the Commonwealth Government. We fulfil this obligation by providing customers access to a voice telephony service, and by ensuring connections and faults associated with this service are undertaken and repaired within a reasonable time.³

Despite this, there's still a gap between the USO requirements for fixed voice services and community expectations. That's why we're asking for a change to the USO so we can offer customers appropriate technology solutions to meet their needs – solutions that don't just rely on traditional PSTN phone services over copper, which has increasingly become an outdated technology.

We are also just one contributor to improving connectivity in regional Australia. Rolling out, maintaining and upgrading telecommunications technology in regional and rural Australia, particularly in remote areas, is expensive and far from simple.

We are responsible for delivering the USO. However, we don't believe it's our role or our shareholders' role to provide a level of service on the outdated copper network technology beyond the scope of the current USO. We believe there is a role for Government in helping to meet the expectations of regional communities, which have increased significantly since the USO was first put in place.

In addition, through the policy of successive governments, the last decade has seen nbn co given accountability to connect all Australians with high-speed broadband, no matter where they live or work. This policy was designed to ensure ubiquitous availability of high-speed broadband and increase competition in the market.

nbn co uses fibre-based technologies to meet its objective in built up areas, and fixed wireless and satellite in regional Australia. Importantly, the nbn rollout has been declared complete. This is an important point because while Telstra and other providers may choose to offer non-nbn based broadband solutions to customers in a competitive market, it is not our accountability to do so should a broadband user not be satisfied with their nbn performance.

Provision of mobile connectivity – both voice and data – is a different matter. In a commercial market, like Optus and TPG (Vodafone), we invest where it is commercially viable to do so. This has been the case since the Commonwealth Government finalised the sale of Telstra to Australian shareholders in 2006. Since Telstra was privatised the size and scope of our investment in mobile coverage and technology has been unequalled. This investment has played a critical part in Australia being ranked first

³ For example, within timeframes set out in the *Telecommunications (Customer Service Guarantee) Standard 2011*.



in the global Mobile Connectivity Index which assesses networks based on performance, affordability and availability.

The scale of the Australian landmass and concentration of our population density means that economically it is not feasible to expect all of Australia will receive mobile coverage. The cost of investing, delivering and maintaining services in large parts of Australia is not commercially viable. We will continue to work with customers, communities and Government to deliver the most extensive mobile network to regional Australia, but there is a limitation to the extent that coverage can be delivered. That is where we see future technologies, as outlined in section 6, will play a role.

2. Acknowledging community concerns raised through RTIRC 2021 consultations

Our commitment to regional and remote Australia is reflected in our support of the community meetings undertaken by the Committee. Telstra representatives attended each of the RTIRC community consultation forums held through July to September.

This was a similar approach taken with the previous review in 2018. In response to the recommendations of the 2018 review we undertook a program of work to repair and replace cable joints, migrate customers from ageing high capacity radio concentrator (**HCRC**) networks onto NextG Wireless Local Loop (**NGWL**), replace around 200 batteries in exchange and roadside cabinets, and we increased our stock of pair gain units. These types of measures to support fixed line resiliency are still relevant in 2021, which reflects the challenge we have in delivering regional connectivity on ageing networks.

Based on the feedback we have heard from customers and stakeholders directly and through the Committee meetings, we see five main areas of concern regarding the adequacy of telecommunications services in regional, rural, and remote parts of Australia:

1. **Technology upgrades over time (3G/4G transition)**, which includes some concerns about coverage equivalency of the 4G network and cost to change over technology as we move toward the 3G closure in June 2024.
2. **Mobile coverage and congestion:**
 - a. General concerns about lack of coverage (such as along major highways) and perceived diminishing coverage.
 - b. Awarding competitor towers through the MBSP in areas predominantly covered by Telstra. This is where a customer lives in an isolated small area of coverage from one mobile provider without contiguous coverage, creating an 'island' of mobile coverage. Looking at additional co-location options is a path to addressing this concern.
 - c. Network congestion – the rapid regionalisation of Australia and the increased reliance on technology for school, health and work due to COVID-19 has placed increased demand on the network. In addition, some regional areas also experience seasonal fluctuations in population (for example, during peak tourism seasons), which can also cause congestion.
3. **Mobile resilience** – the impact of mains power loss as a major contributor to telecommunications service outages, particularly during natural disasters such as cyclones, floods and bushfires. However, outages in mobile networks are felt strongly as our society increasingly relies on connectivity for accessing services or payment systems.
4. **Fixed line resilience and service performance for basic telephony** – the importance of fixed services and the restoration of services on ageing technology. Alternative technologies are a solution, acknowledging there is still a lack of confidence in relation to satellite services, the main areas of concern being quality of service due to weather impacts, latency and speed, the amount of data available on satellite service plans and the high price of plans.
5. **Digital inclusion, literacy and awareness** – digital ability and awareness of different technology solutions in regional areas and how to deliver this successfully is a consistent theme. We also



note that Public Wi-Fi has been raised as a possible solution to access and affordability for low socio-economic areas.

We also acknowledge some customers have expressed concern around customer service, and this has been particularly amplified due to the increased reliance on telecommunications during the COVID-19 pandemic. These concerns primarily focused on three key issues:

- Not being able to contact Telstra by phone and being forced to use a digital service.
- Regional customer service issues are often more complex and specific to an area, sometimes making them difficult to resolve.
- Telstra and nbn co not being seen to work together in a co-ordinated way to resolve issues.

Communities have also expressed a desire for better planning, prioritisation and funding of connectivity solutions. This includes a call for more assistance being provided to communities to build resiliency in times of natural disaster, including the use of various connectivity options given no telecommunications infrastructure can be fully protected against natural disasters.

We note that during the RTIRC consultation phase, the Australian Broadband Advisory Council's (ABAC) Agri-Tech Expert Working Group provided a report, which included a recommendation about planning for local needs. In their report the ABAC Working Group recommended a whole-of-government approach towards long-term planning for connectivity whereby greater co-ordination is placed on all levels of Government and aligned with the priorities of regional areas.⁴

We acknowledge and understand the concerns raised by those who attended the consultation meetings held by the Committee. They are familiar to us through our own engagement with regional and remote customers and stakeholder groups. We have a number of initiatives underway that are aimed at addressing and responding to these issues. Section 3 provides details and responses to these five key themes, plus also responding to the specific concerns raised regarding customer service during the pandemic.

As outlined in section 1, to reflect our ongoing commitment to regional Australia, we have already committed \$75 million from the partial sale of our towers business towards enhancing connectivity in regional Australia, with this investment to be guided by the recommendations from this review. This is in addition to our \$200 million of co-investment funding over four years and the \$150 million in FY22 toward regional networks announced in May.

3. Responding to regional connectivity themes

Access to connectivity and modern technologies is critical for digital inclusion and participation in the digital economy. We also recognise this access can be more challenging in regional areas, which is why we have invested more than \$3 billion in our regional mobile network and \$1.3 billion in our regional fixed network over the five years to June 2021. These headline investment figures only reflect capital expenditure – they do not include operational expenses in areas such as maintenance and field technicians, customer complaint handling and resolution in general, or site rental and power costs — collectively our expenditure in these areas is substantial.

We note the \$3 billion mobile investment in regional areas over the five years to June 2021 has been over indexed towards regional. This means we spend proportionally more in regional areas (and especially rural and remote areas) than in metro areas on a population basis. For example, over this same five-year period we invested 7 per cent of our capital on the remotest 2 per cent of the population. This investment has funded extension of our rural and remote coverage in hundreds of new areas nationwide, delivered over 200 regional small cells for small town and community coverage, continued

⁴ ABAC Agri-tech Expert Working Group report. Released 10 September 2021. Source: <https://www.communications.gov.au/documents/agri-tech-expert-working-group-june-2021>



the expansion of our 4G footprint to deliver equivalent coverage to 3G ahead of the 3G closure in June 2024, and rolled out 5G in more than 200 regional cities and towns – far more than any other carrier.

Further, coverage extension devices can extend the range of existing mobile towers. We estimate that customers would benefit from an additional 10,000 kilometres of 4G coverage along some 60,000 kilometres of national highways and roads, with the use of extension devices.

3.1. Technology upgrades over time (3G/4G transition)

In October 2019, we announced our intention to close our 3G network in June 2024.⁵

Our 3G closure announcement was significant for regional areas in a number of ways and we're supporting customers with the transition from 3G to 4G.⁶ There are many reasons why we are closing our 3G network.

No 3G coverage will be removed or reduced before the June 2024 closure date.

While 3G has been important in delivering our current mobile coverage to 99.5 per cent of the population and 2.5 million km² of Australia, our rollout of the more advanced 4G technology is rapidly approaching this coverage, reaching 99.4 per cent of the population today and an area of over 2 million km² of the country. We're continuing to grow our 4G coverage and will be providing equivalent 4G coverage before the closure of our 3G network in June 2024.

4G is a more advanced technology than 3G and will support better end user experiences. Additionally, as 3G traffic declines we can progressively re-farm 850 MHz spectrum for 5G services without any reduction to 3G coverage, as is already happening in selected areas today. Ultimately, once 3G is closed in June 2024 we will be able to use our full holdings of the 850 MHz band for the expansion of 5G services in regional Australia.

The 3G to 4G transition will enable better experiences for regional customers, opening up greater opportunities for digital inclusion and participation in the digital economy.

From a speed perspective, while people using 3G handsets within our 3G coverage areas experience typical download speeds of 550kbps – 20Mbps. Telstra customers with the latest capable 4G devices typically get much faster download speeds in the 5Mbps – 500Mbps range.

From a spectrum and capacity perspective, our 4G service in regional areas will utilise our 700 MHz spectrum, where bandwidths are greater compared to our 850 MHz holdings. This provides greater capacity.

While we take network capacity very seriously, and our mobile network is designed and managed under strict world-standard guidelines to minimise congestion, the capacity of 3G-only sites is necessarily limited and, in some instances, where the number of users greatly exceeds the normal traffic at that location, congestion can occur. When a site is suffering significant congestion 'cell breathing' can occur, whereby the edge of the cell coverage effectively retracts inward to manage the demands being placed on it.⁷ Where we have identified sustained congestion of certain 3G-only sites we have fast tracked those locations for 4G upgrades. The additional capacity 4G brings is critical for supporting customer data demand growth of ~40 per cent each year. More capacity typically means less congestion

⁵ See <https://exchange.telstra.com.au/1-2-3-4-and-5-the-continuing-evolution-of-our-mobile-network/>

⁶ 3G closure will be a national closure.

⁷ While Cell Breathing is possible with 3G, 4G and 5G technologies its impacts are less significant on 4G and even less again on 5G due to advances in technology that are included in the standards associated with these technologies. For example, Antenna Beam forming technology on 5G reduces the occurrence of breathing, but also overcomes the effects of breathing by targeting the RF signal to the location of the handset.



(i.e. 4G capable traffic moves to the 4G layer, de-loading the 3G layer in the process and alleviating any congestion and associated cell breathing that may have occurred) and higher and more consistent speeds. See section 3.2 for more detail about mobile congestion concerns.

From a coverage perspective, 700 MHz spectrum used for 4G is 'low band' just like the 850 MHz used for 3G, with similar — indeed slightly better — propagation (relating to how well the frequencies travel over distance and through walls etc). Further, with our radio equipment vendor we also developed and deployed software in 2020 that increases the maximum distance range of 4G technology up to 200 kilometres. This will support our program to ensure we match 3G in all areas.⁸ In combination, these considerations mean we are able to make our 4G coverage equivalent to 3G well in advance of the 3G closure in June 2024.

Delivering 4G coverage equivalence requires upgrades to 3G-only sites and a small number of greenfield 4G sites to provide additional 4G coverage where unique site configuration or limitations means the 4G coverage is currently less than 3G. We have already upgraded more than 8,200 3G sites to include 4G technology. All remaining required site upgrade activity to establish 4G coverage equivalence will be completed before 3G closure proceeds at end June 2024. As we progress with this upgrade program, we will be analysing network data at newly upgraded sites to confirm 3G-4G coverage equivalence and will also undertake sample field testing of upgraded sites to cross-check our internal analysis and ensure alignment to our 4G upgrade coverage prediction.

It is important to recognise that 3G is not our first network closure. In fact, we've previously closed three mobile networks to introduce new technologies and meet the growing demand of customers.⁹ Our previous experiences in closing networks have provided us with learnings on how to support customers through network transitions and how to ensure our customers retain coverage, which we are drawing upon.

For the vast majority of our customers, the closure of our 3G network won't require any action on their part to retain coverage and service. Most modern phones are already 4G capable, meaning they'll continue to work on the upgraded network as before.

For customers using 3G-only devices, they will need to take action. Through network data we can identify and track the number of 3G-only handsets on our network. These devices are typically already older than six years, and we can see a high level of natural attrition as customers upgrade to devices with 4G capabilities.¹⁰ Despite this trend we are proactively engaging with customers that have 3G-only devices from Q2 FY22, so they are aware of our 3G closure plans and the options which are available to them. The box below outlines some of the educational and 3G closure awareness activities we have recently initiated in regional areas, and these will continue in various forms until the time of 3G closure.

⁸ <https://exchange.telstra.com.au/making-our-4g-coverage-go-even-further/>

⁹ The AMPS network was closed in Metro areas in 1999 and Regional areas in late 2000, CDMA was closed in April 2008 and 2G closed in December 2016.

¹⁰ 3G only devices are distributed across Metro and Regional areas, broadly consistent with population shares — that is, there is no strong concentration of 3G only devices in Regional areas or 3G only areas. This is not a surprising observation as our 4G footprint is already very expansive (covering 99.4 per cent of the population in June 2021), customers move about and generally devices are upgraded every three to four years on average.



Service messaging

In September 2021 we began an SMS campaign to contact customers impacted by our 3G closure. This will extend to ~1.1 million customers with 3G-only or Non-Volte capable devices.

These messages remind customers of our upcoming closure and provide a link where they can access more information.

Device upgrade/setting update

In August 2021 we began our device upgrade / software setting update initiative, where we will be using targeted messaging (SMS as shown, local newspapers, radio and telephone) to encourage people with 3G-only devices to visit us in-store to upgrade their hardware or update their software settings.

The initial focus is on the regional centres of Townsville (QLD), Toowoomba (QLD) and Saddleworth (SA).

Today 10:11

From June 2024 your 3G mobile phone won't operate on the Telstra Mobile Network. You won't be able to call, SMS or use data. Check if your mobile is affected <https://www.telstra.com.au/support/mobiles-devices/3g-closure>

Come and see our team to ask how this affects you
 Dates: 26th-27th August
 Times: 10am-4pm
 Location: Bee & Hill Park, Belvidere Rd, Saddleworth

As part of our community engagement activity, we will be advising local communities of when 4G upgrades are coming to their area. In FY22 this activity will be focused on locations with high traffic demand on the 3G network, and we will cover the remaining 3G-only areas in FY23 and FY24.

Figure 1 summarises our work to ensure coverage migration from 3G to 4G.

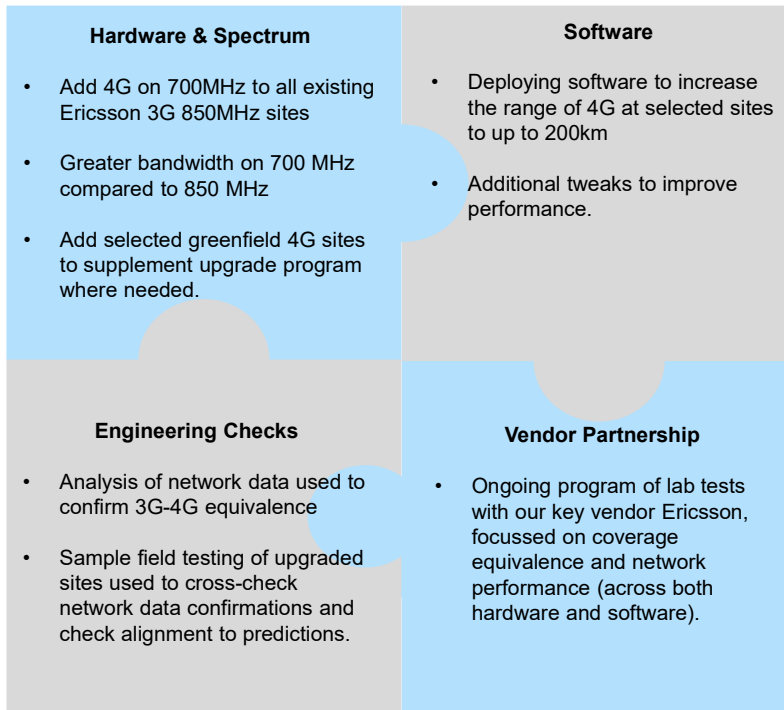


Figure 1. Framework for ensuring coverage equivalence in migration from 3G to 4G



A range of affordable 4G/5G handsets starting at \$49 are available. We continue to monitor and as part of supporting customers with the transition we are offering discounts off selected handsets and Telstra Points to be redeemed on customers' accounts.

In respect to customers who use our Next G Wireless Loop (**NGWL**) service, which is partially dependent on 3G, we are developing and trialling a 4G fixed wireless (**4GFW**) voice solution as a 'go to' product and we expect to start implementing this for customers from 2023.

NGWL services

We currently have several thousand NGWL services. As these services utilise 3G technology, we will be migrating them to a 4G solution before June 2024.

We anticipate that most of these customers will migrate to a 4G Fixed Wireless (FW) solution, coupled with the third generation of our Smart Modem, which will have an antennae port allowing for connections to an external aerial. We will be working to ensure the voice service will meet current USO requirements.

We expect migration of NGWL customers will commence in 2023, and where customers already have an external antennae we expect in many cases this will be re-usable with the 4G FW solution.

With the evolution of mobile technology to new generations, mobile providers must ensure that customer concerns regarding the switch-off of 3G mobile network technology are addressed. More specifically, consistent with the commitments we have made regarding the 3G closure, mobile providers should:

- rollout equivalent 4G coverage to match 3G coverage prior to the switch-off of any 3G mobile network;
- provide transparency of the number of sites that have been upgraded to 4G and upcoming planned upgrades, and undertake targeted community engagement and regular briefings to regional groups to address concerns; and
- run national and local campaigns and create a dedicated online information source for customers about the 3G switch-off.

3.2. Mobile coverage and congestion

We have the largest mobile network in Australia, covering around 33 per cent of Australia's land mass and reaching 99.5 per cent of the population, with the overwhelming majority of capital invested in this network having been made since Telstra's privatisation. This demonstrates our commitment to investing in new technologies for regional Australia, which has been a commercial decision made by us.

As highlighted in section 1.3, the provision of mobile connectivity – both voice and data – operates in a commercial market. Like Optus and TPG (Vodafone), we invest where it is commercially viable to do so. This has been the case since the Government finalised the sale of Telstra to Australian shareholders in 2006. Since Telstra was privatised the size and scope of our investment in mobile coverage and technology has been unequalled.

The scale of the Australian landmass and concentration of our population density means that economically it is not feasible to expect all of Australia will receive mobile coverage. The cost of investing, delivering and maintaining services in large parts of Australia is not commercially viable. We continue to work with customers, communities and Government to deliver the most extensive mobile network to regional Australia, but there is a limitation to the extent that coverage can be delivered. That is where we see future technologies, as outlined in section 6, will play a role.

Co-investment programs such as the MBSP and RCP have been significant for enabling the provision of new mobile coverage to regional and rural areas that are not economic for mobile network operators to invest in.



We have been a strong supporter of these Government co-investment programs, and the largest of these programs is MBSP. Through our participation across 5 rounds (including the supplementary Round 5A), we will have invested up to \$300 million and built more than 930 new sites to improve coverage in regional areas around the country – more than two thirds of the 1296 sites co-funded by Government under this program since its 2015 inception. We have also contributed \$24 million towards RCP, and recently we announced a further \$200 million co-investment fund to generate additional investment to improve regional coverage.

We continue to extend newer mobile technologies to regional and remote areas, as summarised in section 3.1 regarding our closure of the 3G network and our commitment to bringing 5G technology to regional Australia (see section 6.1). Section 7.4 outlines areas of change we think are required to the MBSP.

Mobile congestion

There appears to be some misapprehension that service levels are or have been wound back on the regional network in recent years. This is not the case. What has happened is rapid growth in customer demand and usage of mobile data, which has sometimes run ahead of our ability to add capacity in some areas.

Customer demand and usage on the mobile network has grown considerably over the last three years, and this growth is as much a feature of regional mobile customers usage as it is for more metropolitan customer usage.

Figure 2 shows customer usage in regional Australia (made up of the four ABS remoteness zones of inner and outer regional, remote and very remote), measured in petabytes, grew at the same rate as the nation as a whole – almost threefold in just three years. Further, demand in the remotest areas of Australia (very remote) actually grew more than any other zone.

To view this a different way, imagine for a moment vehicle traffic on the national highway grew three times in three years. There would be no way to expand the highway sufficiently to keep traffic moving at the same rate as before. It’s the same for the mobile network.

Upgrades have been ongoing through this period but keeping up with such growth is an incredible challenge and more so in regional and remote areas where logistical complexity and costs to deploy are higher in line with increasing remoteness, making the overall site economics more challenging.

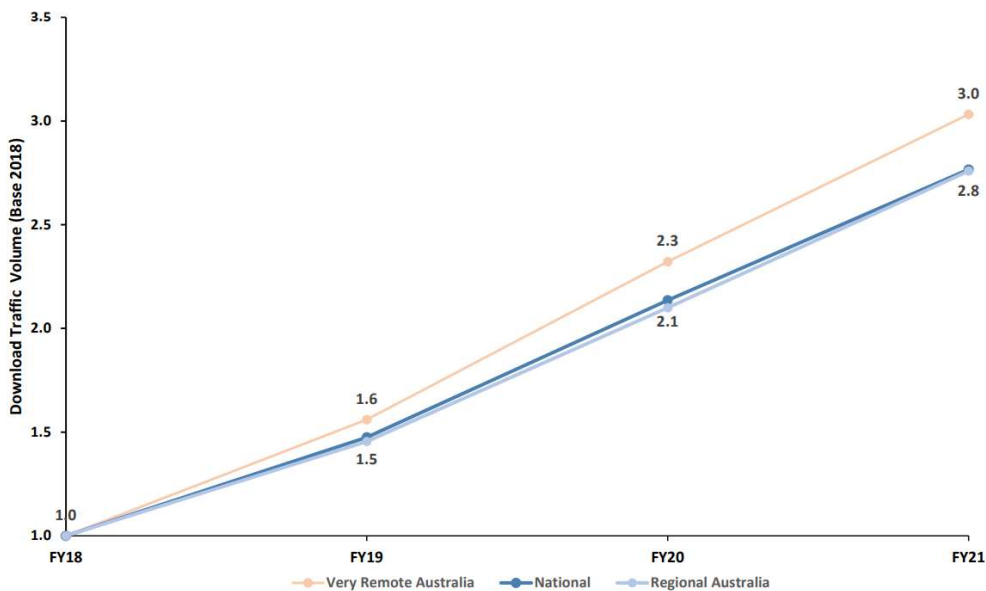


Figure 2. Data growth trends for download traffic volumes since 2018, for regional and remote areas compared with the national trend



Figure 3 below shows traffic volume year on year for download alone (so with upload would be higher again). More than 43 per cent of the total data downloaded on the mobile network is downloaded in regional Australia and the volumes involved are enormous – 760 petabytes downloaded in 2021 in regional Australia is 760 million gigabytes. 1 Gigabyte is around an hour of Netflix streaming, so the result here is equivalent to a download of around 760,000,000 hours of Netflix in regional Australia.

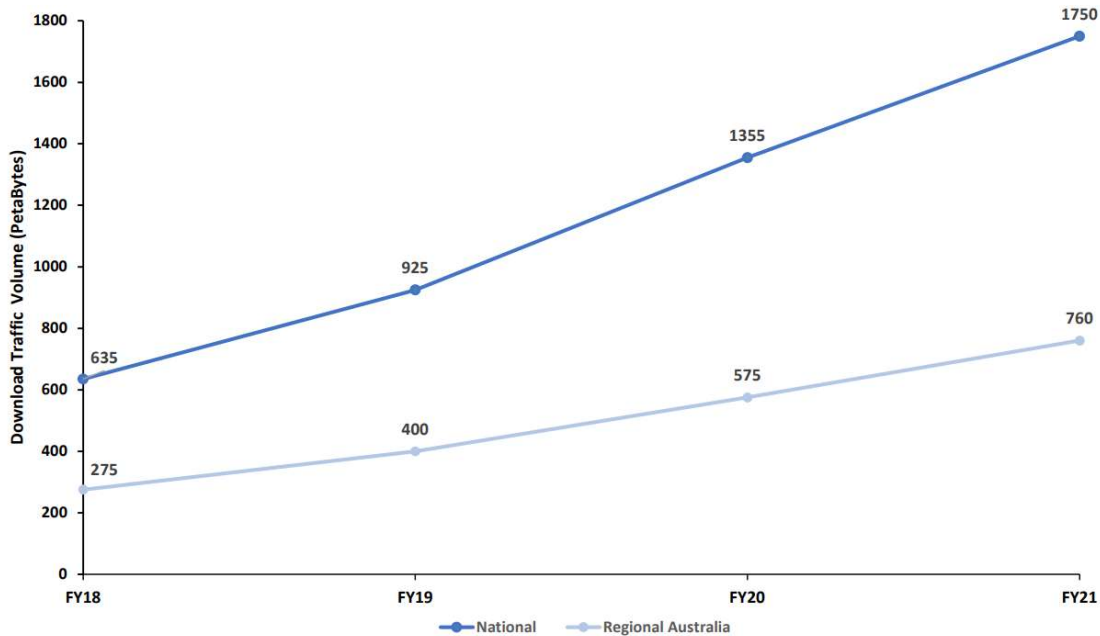


Figure 3. Data growth in petabytes for download traffic since 2018, for regional and remote areas compared with the national trend

Another driver of congestion is the delivery of services through app-based technology. This can place a higher demand on data capacity within the network. We are continuing to invest in new capacity and newer technologies to meet growing demand, but there is also a need for developers to consider the optimal design of apps that does not assume continuous coverage everywhere or endless network capacity in areas that typically have fewer customers present.

The challenge caused by higher capacity demand by app-based technology has been evident in some recent remote special events where the available capacity can struggle to keep up with brief peaks in demand. As an example of how design options can assist, for QR code applications such as those used by state Governments during the current COVID-19 pandemic, these could use QR code caching until a connection becomes available. Designs of apps should take into consideration data capacity.

Recommendation

- 1. Mobile congestion** - that the telecommunications industry, through Communications Alliance and the Australian Mobile Telecommunications Association (AMTA), develop an education campaign on mobile congestion – what it is, what impact it has and information around how the sector manages customer concerns on impacts on performance due to congestion in the mobile network.



3.3. Mobile resilience

We maintain internal targets for service restoration on the mobile network where critical incidents occur, and we do better than these targets on a consistent basis.

An often-raised concern in relation to mobile network resilience is power redundancy. It is important to note:

- The role of the battery is to maintain continuity of telecommunications services during short power interruptions only. Where power interruptions are expected to extend beyond the battery reserve limits, this reserve also provides the valuable time needed for staff to attend sites when safe to do so and support the network with a portable back-up power supply (generator). The back-up solutions we implement are tailored to each site, delivering resilience whilst balancing practical constraints – in some cases this will be 12 hours, but in other cases a 12-hour reserve may not be needed.
- Most sites are reasonably accessible, so the basic battery reserve is up to 3 hours.
- Installing 12-hour batteries is appropriate in some circumstances, noting this involves extra costs for (a) the batteries; (b) huts or shelters to accommodate the batteries; and (c) opex to run the incremental infrastructure (including site lease costs, which go up with any additional structures installed). Costs can easily reach \$50,000+ per site.
- When reserves are increased, the associated costs start to increase exponentially. With some sites that are reasonably accessible and do not take long to access, for example, extended reserves may not be necessary. Adding more batteries at a given site may require more huts as batteries should ideally be sheltered, and in some cases we won't have permission or suitable space for additional huts.

Section 4 covers telecommunications in disaster situations and is also relevant to network resilience (both fixed and mobile).

EFTPOS devices and their resilience

EFTPOS is now the preferred method of payment for most customers, with the share of cash-based transactions decreasing over time.¹¹ As part of business continuity planning, retailers should take the time to ensure their EFTPOS terminals are configured to use alternative connectivity in the event of a mobile service disruption.

Today there are a wide range of EFTPOS terminals available in the market. These typically utilise mobile networks such as 3G or 4G, with many also having Wi-Fi/ethernet capabilities and/or a dual SIM capability.¹² Some EFTPOS terminals may also be supported by satellite-based products, with the enablement via the connectivity provider as opposed to the terminal itself. We provide a certification service to EFTPOS terminal suppliers, but we do not supply EFTPOS terminals ourselves.

EFTPOS terminals can be impacted by mobile network outages and power outages, with differing scenarios depending on exactly what occurs.

In the case of a mobile network outage, where power otherwise remains available:

- Terminals with wireless and Wi-Fi/ethernet capabilities will be able to toggle between the two connectivity options and should switch automatically to a Wi-Fi/ethernet connection where one is available.
- Terminals with dual SIMs will be able to toggle between different mobile networks, provided they have SIM cards from different mobile network operators inserted.

¹¹ This trend was reported on in the RBA's 2019 Consumer Payments Survey, released June 2020. See: <https://www.rba.gov.au/publications/bulletin/2020/jun/cash-use-in-australia-results-from-the-2019-consumer-payments-survey.html>

¹² EFTPOS terminals have fairly low data rate requirements, and 3G and 4G networks have plenty of bandwidth to support EFTPOS transactions.



- Terminals with electronic fallback options will be able to continue processing transactions within certain payment limits, despite there being no mobile connectivity.
- Terminals supported by Telstra enterprise satellite products will continue to operate.

If there has been a physical impact to the network (e.g. due to a natural disaster), we may be able to deploy temporary infrastructure such as a Cell on Wheels (**CoW**) or a Satellite Cell on Wheels (SATCOW) to restore connectivity to the Telstra mobile network, which will allow EFTPOS services to function normally, while our field crews assess and repair damaged sites and/or infrastructure.

In the case of a power outage, EFTPOS terminals will not work unless they have a back-up source of power. Where EFTPOS terminals can access back up power, they will be able to continue operating as normal if the mobile network is still operating, but if the mobile network is also impacted only terminals that have electronic fallback or utilise a Telstra enterprise satellite product will be able to continue operating.

In addition, satellite connectivity also has vulnerabilities as satellite signals, for example, can be affected by heavy clouds or storms and satellite dishes can be damaged by cyclones and bushfires.

We have identified a number of potential resilience options for EFTPOS terminals. These include:

- Exploring use of nbn co's SkyMuster satellite as a back-up connectivity option (noting this option requires access to power in order to be operational);
- EFTPOS terminal suppliers could explore allowing transactions up to a certain limit (per customer and/or in total) to be processed for a terminal disconnected from the payments network as a resilience measure (noting this option also requires access to power in order to be operational); and
- Banks or other payment entities could develop a variation on the old-style click/clack credit card mechanical slips for low-value transactions, an option that requires neither power nor mobile connectivity.

3.4. Fixed line resilience and service performance for basic telephony

We have invested more than \$1.3 billion in our regional fixed networks over the five years to June 2021. This investment has occurred across more than 4,000 Exchange Service Areas (**ESAs**) that are within regional areas, including a mix of wideband, fibre and fibre capacity extensions, inter-exchange connectivity upgrades, improvement works to buildings and our equipment, resilience measures such as battery life-cycle upgrades and other maintenance adding to or improving network assets.

Despite nbn co now reaching 92 per cent fixed line service coverage in Australia, we continue to see growing customer demand across our fixed networks in regional areas, and this has required investment to upgrade fibre paths and establish new transmission rings (providing redundancy) in many locations. Our upgrade activities have also included installing, within multiple exchanges, new high-capacity systems for managing access to broadband services delivered over the copper network. In addition to relieving localised congestion, these investments have also allowed new service connections to be established at many exchanges.

Some of our investment in regional fixed networks is directed towards landline maintenance. This investment has been undertaken to ensure we meet our Customer Service Guarantee (**CSG**) benchmarks and comply with our Network Reliability Framework (**NRF**) obligations, on which we report regularly to the ACMA. Across regional Australia we have been exceeding service level restoration targets established under the CSG standard. We are continuing to be more proactive in our overall life cycle management of the copper access network, from exchanges to customer premises, to increase the resilience of the copper network and support the ongoing delivery of voice and broadband services which operate across it. Notwithstanding these improvements, as we outline in section 7 copper is an ageing technology that is increasingly difficult to maintain, so migration to newer technologies will be necessary to continue delivering services to regional Australians.

Where there is no nbn technology available and the copper network remains, we use network insights, fault data and customer feedback to strengthen our network and improve the customer experience.

These programs mean sending teams of technicians to scope cable pathways and identify remediation and improvement activities. This can often be in challenging terrain and require a number of solutions, including replacing copper cables, fixing aerial cable, replacing and remaking joints (this is a cable join between the exchange and customer premises) and removing network elements where simplifying the network will also improve the customer experience. Pair Gains Systems can be a point of failure and removing these improves network stability for end customers.

We expect these programs to prevent 18,000 faults across this network to June 2022. We have recently removed 350 Pair Gains Systems and intend to increase this to 4,000 over the next 6-12 months.



Figure 4. Onsite in the Tweed Coast Hinterland on the NSW North Coast

One of our services which is dependent on the copper network is the high-capacity radio concentrator (HCRC). Questions about plans for HCRC services came up in a number of the RTIRC hearings. The box below covers the short-term outlook for HCRC services.

HCRC services

We currently have just over 10,000 HCRC services, supporting voice services in the 'last 8 per cent' (that is, areas outside of nbn co's fixed footprint). Almost all of these services fall within nbn co's SkyMuster footprint.

While we have no immediate plans to exit this service, noting it is provided as part of our USO obligations, we are monitoring possible future replacement technologies:

- About 5,000 current HCRC services (~43 per cent) may be within reach of a mobile solution, so could possibly be addressable by the 4G fixed wireless product referenced earlier (an early version is currently being trialled as part of the Alternative Voice Trial).
- Low Earth Orbit (LEO) and Geostationary Earth Orbit (GEO) satellites could be part of the technology replacement – this is likely still some time away, and would require changes to current USO arrangements in relation to voice services.

Section 6 discusses satellite technology and the future technology horizon we see as playing a role in the delivery of connectivity to regional and remote Australia. While section 7 outlines the policy changes required to effect change.



3.5. Digital inclusion, literacy and awareness

Digital inclusion is a shared and complex national challenge. Businesses, the education sector, non-profit organisations, community groups and government need to collaborate and cooperate to address the gaps that currently exist with digital affordability, literacy and awareness.

The Australian Digital Inclusion Index (**ADII**) tells us that lower levels of digital inclusion are related to lower levels of education, employment and income. People with disabilities, older Australians, and some industry sectors are at greater risk of being digitally excluded. There is also a significant country–metro divide, with people in rural and regional Australia tending to have lower levels of digital inclusion.

First Nations peoples living in Australia's 1,100 remote communities are among the most digitally excluded Australians. Recent studies show that digital inclusion for First Nations Australians diminishes with remoteness. Affordability is a key issue, driven by a disproportionate use of mobile only and prepaid connectivity. The specific factors underlying the lower levels of digital inclusion need to be analysed in more detail as they differ by community. The Mapping the Digital Gap project will provide a valuable contribution to these efforts, however ongoing research and investment in remote communities is essential.

Resolving First Nations digital exclusion is critically important. The Commonwealth Government recently acknowledged this with the creation of a new Closing the Gap Target (2020, Target 17) for digital inclusion and access to relevant media services, championed by First Nations Media Australia and the Coalition of the Peaks.

We have partnered with the Centre for Appropriate Technology (based in Alice Springs) to deliver a new consumer education program in the Northern Territory called Mobile My Way. In FY22-FY23 the program will be delivered in remote Indigenous communities that have recently received new telecommunications infrastructure to increase residents' awareness and understanding of Telstra products and services.

Addressing the challenges to digital inclusion, especially for regional and remote Australia, must become an integral part of the Government's digital economy strategy and involve collaboration across all levels of government, business, and the community. We partner with the government and community sector to develop and deliver a wide range of digital inclusion programs to assist our most vulnerable regional and remote customers and communities in support of our purpose – to build a connected future so everyone can thrive.

We have recently announced as part of our T25 strategy we will be supporting digital inclusion by helping to keep one million customers in vulnerable circumstances connected and building digital skills for 500,000 Australians.

Our initiatives are predominantly informed through the research findings of the ADII and include programs and partnerships, as well as products and services, that address each of the fundamental components of digital inclusion.

In addition to our significant ongoing investment in our network and adoption of new technologies, including satellite small cells and coverage extension devices, we are also focused on addressing affordability and digital ability in regional and remote communities.

Affordability

- We have the largest and most extensive product offering in the industry for low income, vulnerable and disadvantaged customers (see details below) – providing more than \$3 billion in value since 2002.
- Our Access for Everyone program is designed to assist people with low income or facing financial hardship to maintain access to telecommunications. This includes a range of measures to improve affordability, including the Telstra Home Phone Pensioner Discount and Telstra Top-up program, which provides a complimentary \$40 mobile credit recharge to those who are experiencing or at risk of homelessness, family violence or impacted by natural disaster.
- We have specific plans targeted at vulnerable customer segments including the Seniors Starter Bundle. This was launched in 2016 in conjunction with state government Seniors Card programs. It provides a low cost, entry level broadband solution for those getting started online.



- We have introduced a \$30 / month Value Mobile Offer for eligible customers with a Health Care Card.
- We have given around 100,000 of our voice-only nbn customers access to the internet as part of their existing plan, at no additional cost to them.
- We have removed excess data charges from all new fixed and post-paid mobile plans (i.e. unlimited data for web browsing) to provide cost certainty.
- We are migrating our pre-paid mobile customers on legacy plans to in-market pre-paid mobile plans over the coming months which will give them better value for money through call inclusions and higher data caps.
- We do not charge late fees for customers on direct debit and customers can immediately suspend services as their needs change.
- Boost Mobile offers a range of affordable pre-paid plans on the Telstra 4G network.

Digital ability

Ensuring all Australians have the basic digital skills needed to operate in today's society is a matter of urgency.

We have several targeted digital ability training programs for people who have minimal or no digital literacy skills. These programs help participants understand the internet's relevance to their lives and, how to get started, then support them to build their digital skills and confidence to complete simple online tasks safely.

We are focused on building the digital literacy skills in a range of programs including:

- **Tech Savvy Seniors** and **Social Seniors** programs designed to build digital capability in people aged 65+ who are Australia's least digitally included age group, as well as individuals with a language other than English (**LOTE**).
- **Telstra Safe Connections** provides pre-paid smartphones with \$30 credit to women impacted by tech facilitated abuse. To June 2021, the program had distributed over 28,000 devices.
- **Deadly Digital Communities** (Qld) and **inDigiMOB** (NT) programs focus on developing digital capability and cyber safety awareness for First Nations peoples in remote communities, where remoteness and socio-economic disadvantage pose distinct challenges.
- The Telstra Foundation works with community partners to provide access to digital skills needed for the future of work. Through its **Code Club Australia** program and partnership with **Indigital**, the Foundation enables greater digital inclusion of teachers and students across Australia. The Foundation also trains, supports and funds multiple non-profit partners, via **Tech4Good**, to create better technology products and services for diverse, vulnerable, and disadvantaged groups.

Building on Telstra's Tech Savvy Seniors and Deadly Digital Communities programs, we are set to pilot a new digital literacy program in Queensland, Tech Savvy Communities. It is being delivered in partnership with the Queensland Government and local councils for eight regional council areas with populations under 15,000. Learnings from these initiatives could inform an expansion of these programs that could be delivered in partnership with Commonwealth, state, or local Governments nationally.

The COVID-19 pandemic also highlights the importance of digital inclusion for social resilience and economic security. The impacts of COVID-19 will continue to challenge progress, particularly for those who are vulnerable, and the Government has a clear role to play in mitigating this impact.

Additional attention also needs to be given to ensuring regional and remote communities have a place where people can access digital equipment, free Wi-Fi and skills to perform essential online tasks. COVID-19 has reinforced how important it is that all school students can access suitable connectivity and devices for education – wherever they live – at school and at home.



Communities and individuals need to understand what services are available and suitable for their needs. The existing Regional Hubs go some way to addressing this need. In addition, in response to the 2018 RTIRC, the Commonwealth Government committed funding toward the establishment of a Regional Tech Hub. This service, which is being delivered by the National Farmers Federation (NFF) also goes some way to addressing this need. However, Government and industry should work together to continue to improve support so that regional, rural and remote Australians can access the technologies that they need to get and stay connected.

Recommendations

2. Improving understanding of connectivity solutions

- a. **Fault identification and rectification** - that all fixed network operators in regional Australia provide transparent reporting on fault identification and rectification to help ensure customers know what they are getting at all times. Greater transparency of the capabilities and performance of fixed network services would benefit customers as they make choices about the best mix of services and service providers to suit their needs. For example, Telstra publishes monthly data on our fault rectification performance broken down by geographical areas (<https://www.telstra.com.au/consumer-advice/customer-service/network-reliability>), but to our knowledge there is no comparable regional-specific data provided by nbn co or other network service providers.
- b. **Role of regional LGAs** - that Government be encouraged to direct funds towards regional LGAs to assist in both raising the levels of understanding of connectivity solutions and technologies most appropriate for their specific communities.

3. Digital inclusion

- a. That Commonwealth and State/Territory Governments, in conjunction with the industry, be encouraged to scale and enhance existing, localised digital inclusion programs that improve digital capability, especially for vulnerable Australians.
- b. That nbn co develop and offer to Retail Service Providers (RSPs) an affordable nbn consumer plan to benefit all households receiving government income benefits.

3.6. Customer service

After experiencing significant COVID-19 related resourcing impacts last year, we have invested in our contact centre operations in Australia and improved the resilience of our international operations. At the peak of COVID-19 in 2020, we had to prioritise taking calls from vulnerable customers and customers with a service fault, and we directed other customers to use messaging for some enquiries. This was progressively removed and, from June 2021, all customers can now contact us via their channel of choice.

We have now turned back on the dedicated routing for service calls to our South Australian based team from our regional customers. We also continue to prioritise handling of complex and high risk customer groups, many of whom are in regional Australia.

This includes our First Nations Connect team, a dedicated Darwin-based hub, using staff who are regionally based and of Indigenous descent. This team has been established to support our Indigenous customers and we're also anticipating that some of these calls will be taken and solved in-language for our Indigenous customers.¹³

¹³ <https://exchange.telstra.com.au/supporting-indigenous-customers-with-new-centre/>

We also have our SAFE team supporting victims of family & domestic violence and our Specialised Assistance and Priority Assistance teams.

In addition, as part of supporting our regional customers we have committed to:

- answer all voice calls in Australia by 30 June 2022;
- bring our Telstra retail stores back to direct Telstra ownership. We currently have 138 stores in regional locations providing sales and service support to those communities;
- make it easier for customers to call their local Telstra store for support. Telstra store contact details have been made readily available through Telstra.com, including the ability for customers to book appointments with our store teams;
- make national calls for free from Telstra payphones (which we did in August 2021);
- ensuring that, by FY25, 90 per cent of customer service contacts will be resolved on the first contact - once and done; and
- reduce our customer complaints by 33 per cent by FY23 and 50 per cent by FY25.

Additionally, we have introduced some fall-back options to help customers get the support they need – for example:

- We have introduced a number of mechanisms for our staff to report faults or help customers with a fault (including our field technicians). This includes direct access to back of house teams for our field staff to resolve a fault and an internal site for staff to report issues on behalf of customers, which get picked up and managed by our subject matter experts.
- We have also introduced a range of ways customers can contact us if they are still having problems getting their issue resolved, including a web page on Telstra.com and specialised phone numbers for residential and small business customers.

Expert coverage advice for regional areas

After running a successful pilot, in October 2020 we launched the Regional Advisory Network (Network Adviser), a new program for regional, rural and remote customers to help with their connectivity wherever they are in Australia. Using our experts from across our business, this network provides customers with a range of services from a simple fix to fully integrated and bespoke network solutions to ensure customers are able to make the most of their connection using our regional footprint.



The Network Advisor program has been designed to help customers who are having connectivity issues in their home, business premises or on the road. We want to be able to fix these problems the way that our regional customers need - by putting the right people on the job who understand the issue in detail and who can recommend a solution.

Our dedicated regional team have deep technical knowledge, understand the reality of regional connectivity and are able to help all customers make the most of our network.



4. Telecommunications in disasters

4.1. The role we play

As the country's largest telecommunications provider, we play an important role in the community when it comes to facing disasters and emergencies. Staying in touch is something most of us take for granted during the best of times, and we understand its importance during the worst of times. This is one of the reasons we made the decision to make our national network of 15,000 payphones free for use, given the critical nature they play in disaster and emergency situations when communities are vulnerable.

4.2. How we manage natural disasters

In our long history we've had considerable first-hand experience dealing with disasters, which helps us prepare for future events. We proactively monitor threats so that, when disasters hit, we already have tailored plans ready based on previous planning and the current situation. After a disaster strikes, we re-enter that area as soon as emergency services inform us that it's safe, so we can start restoring services for impacted communities and those supporting the important work of rebuilding.

Our network, field, emergency management and other teams work year-round to prepare for natural disasters. We have State-and hazard-specific plans in place to prepare for, respond to and recover from those events. We start testing our network, refreshing our plans and preparing our infrastructure in the lead up to the disaster season. This includes:

- testing our back-up network infrastructure, such as alternative transmission paths and temporary infrastructure;
- identifying and remediating optic fibre transmission cables in remote locations which have become exposed from previous wet season floods and other events;
- assessing battery back-up reserve capacities;
- for those critical sites that have a permanent onsite generator, ensuring the generator has adequate fuel reserves and is functioning correctly;
- site inspections and remediation activities to address potential areas for water/rodent/ember ingress, infrastructure damage, air-conditioning faults, vegetation growth within the site compound and site accessibility (access tracks);
- sandbagging potential at-risk exchanges where there is an imminent potential impact and we are able to do so; and
- ensuring we have continuity plans for critical staff.

When restoring infrastructure we first prioritise our core network. This forms the backbone of our network and without it we cannot provide services. After our core network, we prioritise services for emergency services agencies and others directly related to the disaster response, as well as communities in isolation. Our Emergency Services Liaison Officers (**ESLOs**) work with local and state emergency services to support their communications needs and ensure we prioritise the restoration of critical emergency and utility services. We leverage our national teams of field technicians and contractors to ensure we have the right people when and where they're needed.

Following a disaster, we set up a community response team to support our customers in the area, with a dedicated 1800 number answered by Australian-based consultants to help them access our assistance packages. Those packages can include diverting calls from an impacted home or business phone to a mobile, providing additional mobile data, providing pre-paid top-ups and (for customers displaced from their homes or businesses) waiving connection fees.



Temporary Infrastructure

We have temporary infrastructure at key locations around the country to expedite deployment after a natural disaster has damaged our permanent infrastructure, including:

Mobile Exchanges on Wheels (MEOWs): these are primarily used to restore landline phone and ADSL broadband services, along with providing downstream transmission capacity, where an exchange has been heavily damaged and will take weeks or months to be repaired or rebuilt. These may take several days after being transported to site to become fully operational.



Different Mobile Exchange on Wheels (MEOW) units

Cells on Wheels (COWs): used to partially replace or supplement mobile network coverage following a disaster. Like MEOWs, these may take several days after being transported to site to become operational.



Cell on Wheels

Satellite Cells on Wheels (SATCOWs): A SATCOW is a COW which uses satellite transmission to connect to Telstra’s broader network. Some SATCOWs are air-transportable, making them the fastest deployment option available. However, by their nature they provide a smaller coverage footprint and more limited bandwidth than other COW options. In addition, due to the inherent latency (delay) experienced when using satellite communications, a SATCOW is not a deployment option if any other neighbouring mobile coverage is present as it could disrupt other mobile communications to the area.



Fly-away Satellite Cell on Wheels (SatCOW) – both set up and ready for transport by helicopter

4.3. Power resilience

Recent experience shows the vast majority of service interruptions following natural disasters are due to loss of mains power.¹⁴ Our sites have site-specific back-up power arrangements (typically batteries, but also permanent generators at some critical sites) to provide power resilience during mains power outages.

We have increased our investment in power resilience since the Black Summer bushfires, and have replaced batteries at over 2,000 network facilities nationally over the past two years. In addition, with assistance from the Australian Government's Strengthening Telecommunications Against Natural Disasters (**STAND**) program, we are upgrading back-up batteries to at least 12 hours reserve at over 340 mobile sites nationally.

The role of the battery is to maintain continuity of telecommunications services during short power interruptions only. Where power interruptions are expected to extend beyond the battery reserve limits, this reserve also provides the valuable time needed for staff to attend sites when safe to do so and support the network with a portable back-up power supply (generator).

Our experience from the Black Summer bushfires was that even if 12- or 24-hour battery reserves had been in place at all affected Telstra mobile sites, most outages at those sites would still have occurred. This is due to a combination of factors including the scope and severity of the fires, access issues and most significantly the length of the mains power outages. A key consideration is that back-up solutions are generally site specific, but mains power outages during times of natural disasters can have broad geographical impacts which take out not just mobile sites, but supporting transmission infrastructure which also requires power.



Figure 5. Jingellic mobile and radio tower with portable generator at front, following the Black Summer bushfires

Despite the serious challenges major power outages pose to the operation of our network during times of natural disasters, we make extensive use of portable generators to mitigate impacts. For example, we deployed over a hundred portable generators during the Black Summer bushfires, pre-positioning many of them on the edge of fire-affected areas so they could be in place as quickly as possible. These are not a panacea as generators also have challenges, such as refuelling requirements which in turn require ongoing access. We are currently working to make it easier for third party generators to be used with our infrastructure to keep it up and running, and also for communities to refuel our generators. At some sites

¹⁴ <https://www.acma.gov.au/publications/2020-04/report/impacts-2019-20-bushfires-telecommunications-network>

we also use a combination of solar panels, batteries and permanent back-up generators to provide power. However, this is not feasible for all sites and in any case still requires sufficient sun to power the solar panels and fuel to run the generators, neither of which may be available during a disaster. We note that for our site at Mt Terrible below, we fully utilised all of the space that was made available for our power equipment, and this in turn required greater use of diesel in place of more solar.



Figure 6. Telstra tower at Mt Terrible, Victoria – powered by solar panels, batteries and permanent onsite diesel generators.

Back-up power sources will always have their limitations, and similarly it is not reasonable to expect telecommunications providers to implement other alternative power solutions for the equipment and sites that make up their networks in order to try to manage extended mains power outages. Power utility companies are responsible for mains power resilience and for restoring mains power where outages arise, and via our peak industry body (the Communications Alliance) we're working with the electricity industry to improve collaboration and information sharing so there is better visibility of overall priorities, and by extension, service restoration times. Additionally, in some locations power companies are working with us to install Stand Alone Power Systems (**SAPS**) to improve the reliability of electricity supply to our infrastructure.

4.4. Action on climate change contributes to resilience against natural disasters

As highlighted by the Royal Commission into National Natural Disasters Arrangements last year, climate change is leading to more frequent and more severe natural disasters. It is also a point noted by this RTIRC that since the last review in 2018 there have been many severe natural disasters that have impacted large parts of regional Australia. We're taking action to reduce our contribution to climate change. We've been certified carbon neutral in our operations by Climate Active since July last year. And we're going further, investing significantly in Australian renewable energy generation and committing to reducing our absolute greenhouse gas emissions by 50 per cent by 2030 (from a FY19 baseline).

4.5. Emergency roaming and Cell Broadcast Emergency Notifications

We understand the importance of receiving critical information during an emergency and are conscious of proposals for roaming between carrier mobile networks as a way to improve access to critical information during emergencies (emergency roaming).



The global mobile standards body, 3GPP, have started working on a mobile network standard to support emergency roaming, although a commercial grade solution is likely still some years off. Without an emergency roaming 3GPP standard, any large-scale failure of one network could result in connection failures and congestion for all users (existing and roaming) on the remaining in-service network as that network would be “overwhelmed” by the abrupt addition of a high volume of new users, which combined with existing users may be far beyond the normal demand that network is able to meet.

In the interim, we believe there are better and more readily available solutions than emergency mobile roaming to address concerns about access to information during natural disasters.

The best solution to address concerns about access to information during emergencies is **Cell Broadcast emergency notifications**. This technology, widely used internationally, can broadcast emergency warnings to large volumes of nearby recipients instantaneously via mobile networks. Like Triple Zero calls, it works even if a mobile handset is on a different network to the base station sending out the message, without the complexity of roaming. We welcome the funding allocated by the Australian Government in its 2021-22 Budget to design a National Messaging System (**NMS**) based on Cell Broadcast technology. We support the allocation of further funding to complete implementation of that system and extend the use of Cell Broadcast to other emergency notification applications.

Regardless of approach, it’s important to note that neither emergency roaming nor Cell Broadcast emergency alerts are guaranteed solutions to ensure connectivity during emergencies and natural disasters. Widespread power disruption or damage to fibre backhaul will likely impact all carriers’ coverage in an area. Similarly, in many cases carrier cell sites are collocated on the same site and/or towers so any physical disruption as a result of natural disaster (whether fire, flood or storm) will again disrupt coverage for all carriers. Maintaining access to alternative communication such as satellite phones that are less impacted by localised terrestrial disasters should be an important part of any emergency communications back-up strategy.

In order for Cell Broadcast to be implemented, it will require additional investment from the Commonwealth Government and we believe it is important that the Government make commitments to fully implement Cell Broadcast emergency notifications nationally.

4.6. Public Safety Mobile Broadband (PSMB)

We support the implementation of a National Public Safety Mobile Broadband (**PSMB**) network to provide high-capacity mobile connectivity for emergency services agencies. We agree with the findings of the Productivity Commission report in 2016 that mobile broadband (including via a PSMB) offers significant potential to improve how police, fire, ambulance and other PSAs deliver their services and communicate with each other.

However, the proposed network architecture for the PSMB Proof of Concept (**PoC**) — a separate network with dedicated spectrum plus roaming onto commercial carrier networks — would be (as far as we can ascertain) unique and not used anywhere else in the world. We are also not aware of any country (other than Belgium) which has implemented roaming for a PSMB.¹⁵ PSMB roaming has been examined and reported on in detail by the Productivity Commission, which noted that “implementing a multiple-carrier option would be complex”, involving higher costs and “a risk that technology upgrades would be delayed ... given the need to coordinate such upgrades across multiple network operators”.¹⁶

¹⁵ The Productivity Commission described the Belgium case as “not considered a mission critical service” and without “an ability to seamlessly roam across networks”: <https://www.pc.gov.au/inquiries/completed/public-safety-mobilebroadband/report/public-safety-mobile-broadband.pdf> page 284.

¹⁶ See <https://www.pc.gov.au/inquiries/completed/public-safety-mobile-broadband/report/public-safety-mobile-broadband.pdf> page 24.



Consistent with the findings of the Productivity Commission, we believe that an architecture which involves a partnership model using an existing mobile network with a lead carrier would be significantly less expensive and faster to implement than the current proposed PSMB architecture. Such an approach would also be consistent with the model utilised in a number of foreign jurisdictions, including the United States of America and the United Kingdom.

Recommendation

4. **Mobile resilience** – that the Commonwealth Government:
 - a. continues to support the Commonwealth Government’s Strengthening Telecommunications Against Natural Disasters (**STAND**) program; and
 - b. commits to implementing and funding Cell Broadcast emergency notification capability to enhance regional resilience in natural disasters.

5. Driving innovation through technology and connectivity

We are deeply committed to vibrant and sustainable rural and regional communities. An essential part of that is enabling the industries that support and grow those communities. In addition to our market leading mobile coverage footprint, we also support an extremely wide availability of Internet of Things (**IoT**) solutions with 3 million km² LTE-M coverage and around 4 million km² in Narrowband IoT (**NB-IoT**) coverage today — these levels of coverage will grow further by June 2024.¹⁷

Our industrial IoT solutions focus on smart infrastructure, using sensor technology and leverage data to improve the customer experience. Together with our professional services, we are in a position to help customers monitor their assets by digitising their physical environment and providing new insight into their business so they can protect what matters most.

Applied in the rural setting, deployment of our solutions has helped customers save precious resources, optimise processes and logistics, and improve their safety.

5.1. Agribusiness & supply chain: The food & fibre value chains

Agribusiness is one of the biggest drivers of Australia’s rural and regional economies. It is also an industry that is still at an early stage of digitisation.

We note the ABAC Agri-Tech Expert Working Group report pointed to ‘salt and pepper connectivity’ being a major barrier to the widespread adoption of technology across the agricultural sector.¹⁸ Whilst acknowledging that connectivity is a challenge for agricultural technology (**AgTech**) adoption, we believe it is important to recognise that there is an evolving range of connectivity solutions targeted at AgTech (including low earth and geostationary satellite networks, and alternative wireless technologies), of which cellular connectivity is only one option (see section 6). We also note that the agribusiness use cases in regional and remote Australia are many and varied. It is difficult to set out the appropriate connectivity to service the industry without first understanding the needs of those use cases, many of which are not reliant on continuous high-speed connectivity. For example, applications such as water meters, rain gauges, and location sensors require only low bandwidth and can involve infrequent connections – these are best served through the extended coverage of technologies like NB-IoT. Others generate so much

¹⁷ LTE-M and NB-IOT have been approved by 3GPP as 5G MMTTC (Massive Machine-Type Communications) technologies — that is, they are considered 5G for this use case.

¹⁸ ABAC Agri-tech Expert Working Group report. Released 10 September 2021. Source: <https://www.communications.gov.au/documents/agri-tech-expert-working-group-june-2021>



data that transmission via the mobile network is simply not feasible, and they are best served by placing processing capability very close to site using technologies such as edge computing.

We are actively working with the industry to help drive digitisation which, in turn, forms a platform for innovation, greater competitiveness, higher yields, increased margins and better access to markets.

We are a foundation partner in AgriFood Connect – a Toowoomba based, industry-led, national collaboration network seeking to radically improve translation of Australia's great research into adoptable, commercially viable solutions for participants in all sectors of Australia's AgriFood supply chain. AgriFood Connect will drive focused innovation, extension and translation programs addressing industry needs. A key focus area is translational education programs centred around digital skills. We have committed to create an open Advanced Technology Solutions Centre in Toowoomba in conjunction with AgriFood Connect. This will enable individuals, organisations and solution providers to learn about advanced digital technologies including IoT, 5G and edge and cloud computing and importantly, to rapidly develop, test and validate commercial solutions using them.

Whilst Australia's rural and regional industries and the supply chains that service them are used to dealing with volatility and change, the past two years have been extremely challenging, with businesses dealing with the impact of drought, floods, bushfires, a global pandemic and the economic disruption that has followed. Australian businesses face different challenges to other nations including greater climate variability and long, volatile supply chains. We see access to accurate and timely data as critical to enabling resilient industries that respond more quickly to disruptions to import and export supply chains and to production.

We are creating a portfolio of products and tools to better support businesses in managing their supply chains. One key capability is creating transparency over those supply chains, which especially benefits regional customers. Going forward we will expand on this proposition to further improve productivity and logistical offerings.

5.2. Telehealth

Access to reliable telecommunications and internet services is increasingly important for healthcare.

The majority of health and aged care providers use digital health software and systems to access and maintain patient records, for clinical decision support, and to communicate with patients, other providers and national systems such as the My Health Record and National Cancer Screening Register. Being able to use and access these systems has direct benefits for patient safety, reduces the need for patients to travel long distances for care, as well as efficiencies for healthcare providers. In areas that are impacted by regular weather dependent power, phone and internet failures, hybrid paper systems need to be maintained and those communities do not fully benefit from digital health.

Since early 2020, the number of people across Australia accessing care virtually has dramatically increased including adoption of telehealth, electronic prescriptions and remote (at home) monitoring. This has been driven by barriers to accessing face-to-face care for those in remote areas during the 2020 bushfires, and COVID-19. This has enabled more people to access care from home during lockdowns and to protect healthcare workers from unnecessary exposure risk during the pandemic. For example, remote monitoring of COVID-19 patients convalescing at home has been commonplace. Importantly, increased adoption of telehealth has been enabled by policy changes to the Medicare Benefits Schedule, and regulations governing electronic prescriptions.

Increased adoption and enabling policy changes mark a watershed for telehealth in Australia, although the ultimate benefit and equity of digital health will be dependent on reliable telecommunications services.

5.3. Education

Our many partnerships with Education bodies demonstrate our commitment to regional Australia. Over the past two years we have undertaken the following programs of work:



- South Australian Education – delivered high-speed fibre optic cable to more than 500 schools, provided internet speeds of up to 1GBps and delivered improved connectivity to regional towns across South Australia.
- NSW Education – delivering speeds of up to 1Gbps to more than a thousand schools, upgraded over 500 exchanges across regional NSW and boosted internet connectivity for regional business in towns like Grafton.
- Western Australia – delivered high-speed fibre optic cable to more than 700 public schools, an investment of around \$30 million upgrading local exchanges and backhaul capacity in regional towns which provides a platform for accelerating 5G mobile rollout within regional areas.

We are continuing to work closely with Education Departments in both Victoria and Queensland with the aim to provide similar outcomes for teachers, students and regional communities.

These programs have benefited regional communities in a number of ways:

- Helping provide equity of internet access for students in regional areas, enabling contemporary teaching methods for STEM and improved learning and development capabilities for teachers.
- Reducing or eliminating upfront costs for business and governments who want to get a new connection to the internet or improve their existing connection. In South Australia we have seen this help attract business investment in regional areas.

Working with an independent third party we were able to demonstrate the economic benefit for South Australia of this investment:

- Prior to COVID-19 impacts, between \$1.8 and \$2.2 billion were forecast to be added to South Australia's Gross State Product (**GSP**) over the next 10 years as a result of the SWIFT program.
- The potential to add over 14,000 new jobs, many in regional areas, over the next six years in the fields of ICT, construction, finance, education, health and more.

5.4. Importance of cyber security

Even before COVID-19, cyber security was a large and growing area of risk that went to the very heart of the safety and security of the nation, of every family and business, regardless of where they are.

We acknowledge the leadership the Commonwealth Government is taking on cyber security as part of the digitisation of the Australian economy. This includes the establishment of Australia's expert Industry Advisory Committee (**IAC**) on cyber security, chaired by Telstra's CEO Andy Penn, which aims to ensure industry continues to help shape the delivery of actions set out in the Cyber Security Strategy 2020.¹⁹

COVID-19 has amplified the cyber security risk because so many of us are now working and studying from home. This means activities we used to undertake within the traditional and sophisticated firewalls of enterprises, governments and education institutions are now being completed from home over VPNs. As an organisation responsible for enabling so much of today's connectivity, and as one of Australia's largest companies, we certainly feel the responsibility to continue to help our customers to stay connected. We also feel the responsibility to keep our customers safe from cyber risk and cyber-attack which, unfortunately, remain a clear and present danger.

Many of our customers do not have the resources to adequately protect themselves from cyber threats. We have been working on a Cleaner Pipes initiative to reduce instances of customer data being compromised through malware, ransomware and phishing. This involves significantly upscaling our

¹⁹ Source: <https://www.homeaffairs.gov.au/about-us/our-portfolios/cyber-security/strategy>



Domain Name System (**DNS**) filtering, where millions of malware communications are being proactively and automatically blocked every week as they try to cross Telstra's infrastructure, as well as other initiatives.

To support our enterprise customers, we have launched and are constantly reviewing a suite of solutions and managed services that help customers protect themselves from cyber-attacks. These include security assessments and recommendations, simulations to check vulnerability, as well as advisory and governance services for ongoing protection. The aim is to empower our customers to assess their level of vulnerability and assist them in implementing the right solutions to keep their data and the data of their customers safe.

Since the onset of COVID-19, we have seen some small businesses (**SMBs**) strive forward. Some are using online platforms and services to sell direct to consumers. Others are using collaborative tools to enable their teams to work from home. However, many really struggle to get moving. Our customers and stakeholders tell us that they can see the benefits of using online platforms and services but lack the time and expertise to fully utilise and benefit from them. In response, we have created end-to-end solutions that allow us to set up digital solutions and run them for SMBs. These services include IT support, Cyber security services, digital marketing services such as website building tools, collaboration tools and connectivity. We have also launched a 'Go Digital' consultation service for small businesses where we work with them to analyse the specific digitisation opportunities for their business and build them a bespoke roadmap for digitisation, which they can take away and use. We find this helps many businesses who simply don't know where to start.

6. Future technology to deliver regional connectivity

6.1. Our deployment of 5G in regional areas is creating further opportunities

5G is the newest mobile technology and will play an important role in helping Australia participate in an accelerated digital economy. 5G offers end users a new frontier of connectivity experiences with even more capacity and faster speeds, building on the foundation that 4G provides today. Significantly, and unlike other carriers, we aren't restricting our 5G rollout to metropolitan areas.

More than 75 per cent of Australia's population is now covered by 5G and around 1.6 million 5G devices are connected to the Telstra network. There are over 3,800 Telstra 5G sites on-air across the country, providing coverage in more than 240 cities and towns (including over 200 regional cities and towns) and over 3,200 suburbs. Our customers are increasingly accessing this technology, with the number of 5G devices on our network growing each week.

Our 5G deployment is mainly based on our 3600 MHz spectrum, with significant bandwidth to support upload and download speeds that are better than 4G and providing more capacity to support our customers. In many regional locations we have also added 5G using some of our low-band 850 MHz spectrum freed up by the decline in 3G traffic referenced above. The use of 850 MHz spectrum helps extend 5G further and deeper into buildings, and its relatively better propagation compared to 3600 MHz means our 5G signals have additional reach from sites where it is deployed. These attributes make the addition of this low-band 5G layer especially important for regional 5G coverage.

In our recent T25 strategy announcement, we committed to maintaining our investment in leading networks, including our mobile network. Our customers will keep enjoying our investment in 5G, which will reach 95 per cent of the population by the end of FY25. We will also be delivering a 100,000 square kilometre increase in our existing mobile footprint, substantially increasing regional coverage.

6.2. Satellite technology and looking to the horizon

Satellite technology often plays a complementary role in the connectivity needs of some people in regional Australia, and in some instances is the only option available. It will likely remain the only option where connectivity via a terrestrial network (fixed or mobile) is not available or not viable (either technically or commercially). Australia has such a vast and sparsely populated land mass it is not viable



to provide mobile or fixed coverage to the entire country, and so there will always be a role for satellite technology.

We currently use a Geo-stationary Earth Orbit (**GEO**) satellite to deliver telephony services as part of our USO obligation to some customers in remote areas. A GEO satellite is suitable for this use case as it relies on established technology, is stable over time, and can provide a large coverage footprint with a single satellite. While today the GEO satellite only provides telephony services, GEO technology has been steadily improving over time. GEO satellites can also provide data services, as currently used by nbn co to provide broadband in some remote areas, and the next generation of satellite systems are expected to provide a step change improvement in capacity compared to what is available today.

One of the emerging satellite technologies is Low Earth Orbit (**LEO**) satellites, and while there are challenges to overcome, this technology may ultimately provide greater capacity and more responsive communications (with lower latency) than what is possible via GEO satellite technology. LEO satellites orbit much closer to the earth than GEO satellites, which means it takes far less time for signals to travel to and from the satellite. This is important for real-time communications like voice and video conferencing. Additionally, as LEO satellites involve large satellite fleets, they can offer greater capacity relative to other satellite options.

We will continue to monitor developments with GEO and LEO satellites (and other High-Altitude Platforms) and are engaging to understand the economic and technical viability, commercial models and service capability of these solutions.

Of particular interest is the potential for these technologies to bring connectivity suitable for high quality voice and fast data services to residential customers in regional and rural areas as a possible future replacement for ageing copper-based ADSL technology outside the nbn fixed and fixed wireless footprints, and for copper and HCRC-based fixed voice technology outside the mobile network footprint.

Below is a graphic showing the current availability of satellite solutions and our estimated availability dates for some of the future products and technologies discussed above (Figure 7).

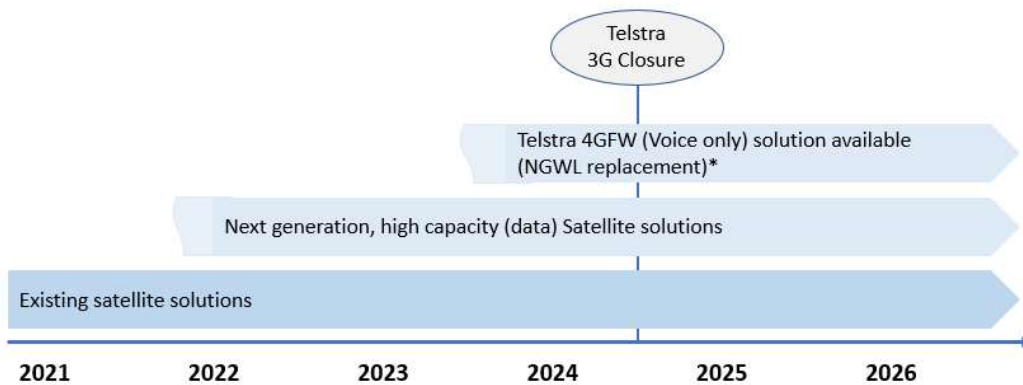


Figure 7. Estimated availability dates for future products and technologies (not exhaustive; * denotes timing is subject to change)

As part of our T25 strategy, we announced that we will be launching a satellite service in FY23.

The use of alternative technologies in the delivery of connectivity for regional and remote Australia is hindered when policy is directed toward specific technology solutions. Taking a technology agnostic approach to telecommunications policy would help to deliver the environment that supports future technologies. This is covered in more detail in section 7 of this submission.



6.3. Investment in fibre in regional areas

Telstra InfraCo is the leading provider of passive fibre infrastructure in Australia, with Australia's largest business fibre footprint. As the first organisation to lay fibre in Australia in 1987, we have decades of experience in building and managing fibre in Australia. This includes our regional and intercity fibre network, which connects all regions across Australia with redundancy routes and unparalleled capacity with over 250,000 sheathed kilometres of fibre nationally.

Our fibre network enables fixed and mobile telecommunications services in regional Australia from Telstra, nbn co and others. It also supports essential government services in regional areas including the Department of Defence and state schools. Fibre is also a key infrastructure underpinning innovation and growth in regional areas.

7. Shaping policy and programs for future telecommunication needs in regional and remote communities

As outlined in section 1.3, while our obligations under the USO relate to providing a standard voice service and payphones, through the policy of successive governments, the last decade has seen nbn co given accountability to connect all Australians with high-speed broadband, no matter where they live or work. This policy was designed to ensure ubiquitous availability of high-speed broadband and increase competition in the market.

nbn co uses fibre-based technologies to meet its obligation in built up areas, and fixed wireless and satellite in regional Australia. Importantly, the nbn rollout has been declared complete. This is an important point because while Telstra and other providers may choose to offer non-nbn based broadband solutions to customers in a competitive market, it is not our accountability to do so should a broadband user not be satisfied with their nbn performance.

Provision of mobile connectivity – both voice and data – is a different matter. In a commercial market, like Optus and TPG (Vodafone), we invest where it is commercially viable to do so. This has been the case since the Government finalised the sale of Telstra to Australian shareholders in 2006. Since Telstra was privatised the size and scope of our investment in mobile coverage and technology has been unequalled. This investment has played a critical part in Australia being ranked first in the global Mobile Connectivity Index which assesses networks based on performance, affordability and availability.

The scale of the Australian landmass and concentration of our population density means that economically it is not feasible to expect all of Australia will receive mobile coverage. The cost of investing, delivering and maintaining services in large parts of Australia is not commercially viable. We continue to work with customers, communities and Government to deliver the most extensive mobile network to regional Australia, but there is a limitation to the extent that coverage can be delivered.

7.1. Role of government programs in supporting regional connectivity needs

There are a number of government policies and programs focused on supporting the connectivity needs of Australians living in regional areas. Foremost amongst these is the Universal Service Guarantee (**USG**) for the delivery of voice and broadband services for all Australians. Under the USG, nbn co is responsible for delivering broadband services and we are responsible, as part of the USO, for delivering fixed telephone services using our existing copper and radio networks in nbn fixed wireless and satellite areas. Unlike nbn co, which is able to use satellite and wireless technologies to meet its broadband obligation, in most cases we are required to use the ageing copper network to meet our voice obligation. In recent years several new programs focused on co-investment with mobile network operators (**MNOs**) to improve regional mobile coverage have been established.

Sections 7.2 to 7.5 set out our views on the role of programs we're involved with in supporting connectivity in regional areas, and potential future changes given ongoing developments in technology and community expectations.



7.2. Telstra Universal Service Obligation Performance (TUSOP) Agreement

The Telstra Universal Service Obligation Performance (**TUSOP**) Agreement between Telstra and the Commonwealth was one of the original nbn Definitive Agreements. The TUSOP Agreement commenced on 1 July 2012 and continues to define our obligations to provide telecommunications universal services across Australia and its island territories.

Under the TUSOP Agreement, we have significant obligations and responsibilities for delivering a range of telecommunications services in regional areas. These obligations include provision of the national Emergency Call Service (i.e. Triple Zero), assistance to voice-only customers migrating from the Telstra copper network to the nbn Fixed Line Network, provision of Telstra payphones and provision of STS. We consistently meet our demanding annual operational performance obligations under the TUSOP Agreement, and we've introduced innovation into a number of aspects of the USO which benefit a range of vulnerable and disadvantaged, as well as mainstream, customers.

Recent examples of innovation delivered through the TUSOP Agreement include making all Telstra payphones free of charge for national calls on a permanent basis, and the rollout of Advanced Mobile Location (AML) technology for the Triple Zero service.

Payphones were first made free of charge in approximately 570 remote Indigenous communities at the start of the COVID-19 pandemic. The success of this initiative saw it extended to all 15,000 Telstra payphones Australia-wide. Reaction to this initiative has been particularly strong in regional locations and since the announcement usage of payphones has more than doubled.

AML technology assists emergency services — fire, police or ambulance — to pinpoint the exact location of Triple Zero callers and has the potential to save lives across Australia. The technology allows mobile phones to send precise location coordinates when a call to Triple Zero is made.

While the TUSOP Agreement has been amended by joint agreement on 10 occasions since its inception, we consider further amendments are necessary and appropriate so the TUSOP Agreement continues to evolve with changes in telecommunications technology to deliver better outcomes for Australians living and working in regional areas.

Some current provisions of the TUSOP Agreement limit our flexibility and discourage investment in providing innovative digital solutions based on the most appropriate technologies. We continue to advocate for USO reform in order to better meet future regional telecommunications needs. These matters are discussed further in section 7.3 below.

The TUSOP Agreement Module B annual payment of \$230 million (excluding GST) is funded from the Telecommunications Industry Levy, of which Telstra is the largest contributor. In practical terms, this means we contributed approximately \$94 million (41 per cent) of the \$230 million annual payment we received for service delivery under Module B in 2020.

7.3. Policy settings required to meet regional community needs

The Commonwealth Government's USG envisages the efficient and ubiquitous delivery of high-quality voice and broadband services for all Australians, no matter where they live or work. This is a commitment to our regional, rural and remote communities that we fully support and have a central role in delivering. However, for the USG to be fully realised and remain relevant far into the future it must be technology-agnostic, so that customers are not tied to a single technology that will inevitably age and become less relevant over time.

The greatest barrier to achieving a technology-agnostic USG is the current requirement for us to use the old copper network to deliver telephone services, in most cases outside the nbn fixed line footprint. This copper has served us well for many decades, but it is now approaching the end of its useful life. There are already a range of technologies that provide better-performing, more resilient telephone services than is possible over copper including fixed wireless, and there are more that will be available in the near future, including low latency, Low Earth Orbit satellite services (as outlined in section 6.2).



We understand the desire for regional communities to have access to new technologies and to expand their range of communications options, but it will be much more difficult to deliver on this desire if we are required by Government policy to continue investing in maintaining the ageing copper network. This requirement is holding back the development and large-scale rollout of new technologies. The resiliency and redundancy concerns that have generated support for copper in the past are now squarely addressed by the expanding range of distinct networks becoming available in increasingly remote areas. If one network fails, there will be others to maintain connectivity.

To its credit the Government has recognised the importance of alternative communication technologies to the future of regional Australia by funding the Alternative Voice Services Trial. Under this program we have deployed 4G fixed wireless and low-impact USO satellite telephone services, and we are partnering with nbn co to trial its fixed wireless and satellite solutions. Although it has been challenging to attract customers to the trial, we are confident it will illustrate the strength of these alternatives to copper and rightly increase confidence in them

Recommendation

5. **USO reform** - that the USO for basic telephony services be reformed to focus on outcomes to be delivered for customers rather than the technology used to deliver those outcomes. The USO could be reformed to ensure that the entity responsible for the USO be required to provide at least the same level of coverage, resilience and quality using technology that best delivers and enhances these outcomes over time with the nbn broadband services used to provide voice back up services for these communities in the event that the primary service were to fail.

7.4. Areas of potential change to the MBSP

Government co investment programs, such as the MBSP and RCP, have been critical and have supported commercial operators to successfully deliver mobile coverage.

However, with the MBSP the main challenge is that after five rounds and hundreds of new black spot site builds, most remaining black spot candidate locations are increasingly remote and costly to build and operate while also benefiting fewer customers. This makes many of them commercially unviable without reform to program guidelines.

We have identified several potential changes to the MBSP, as summarised below:

- Removal of the government \$500,000 funding cap – the declining economics of mobile black spot sites makes it more difficult to find sites that are economic to bid for even with government contributions. Removing the cap while still awarding funding on a value for money basis would help support the delivery of new coverage for areas unserved.
- Extend the definition of MBSP eligible solutions to include coverage extension devices and satellite handsets – the use of coverage extension devices for vehicles can dramatically increase existing coverage for those who use it and need it most. Extending the coverage of existing mobile towers via coverage extension devices is the most cost-effective means of providing new handheld coverage in areas with poor economics due to sparse populations. Subsidy programs for coverage extension devices could be targeted to customers who are likely to benefit from them the most. Satellite handsets can be an effective and resilient way of attaining coverage in areas prone to natural disasters (especially when a natural disaster occurs) and should therefore be candidates for funding. Any subsidy program for satellite handsets could also be targeted, possibly focusing on local government groups and/or organisations involved in disaster assistance activities.
- Extend the MBSP to include new indoor coverage, or infill coverage, in urban fringe, rural and remote areas – for many customers who raise concerns over coverage the issue is patchy, unreliable and/or absent indoor coverage. These customers often perceive the experience they are having to be the result of a wider black spot. Recognising new in-building coverage would address areas where customers find existing coverage does not meet their indoor performance expectations.



- Extend funding to cover ongoing operational costs – while the MBSP has recently allowed government contributions to be put toward some ongoing costs such as satellite and backhaul, other costs associated with the ongoing operation and maintenance of sites in regional locations are excluded.²⁰ These operational costs for remaining remote sites typically well exceed any revenue that can be expected from the sites which means they would run at a loss regardless of how much Government contributes toward the build. Operational costs that could be opened up to government contributions include the costs to maintain and upkeep primary solar powered systems, and for the costs to deploy maintenance staff to sites in very remote and disaster-prone areas, especially when this requires unusual seasonal costs (e.g. far northern Australia in monsoon areas may require helicopter access during flood season).
- Allow funding to be allocated for new and upgraded capacity backhaul links where these directly support new or improved mobile coverage – upgrades to existing fibre backhaul and core capacity should be considered eligible for funding where these directly support new or improved (e.g. technology upgrades) mobile coverage in rural and remote areas. These areas of investment will maximise the use of existing infrastructure to support new coverage and provide cost effective solutions to the MBSP. It would also help address network congestion concerns as outlined in section 3.2 of this submission.
- Extend black spot qualifying criteria to include public Wi-Fi or public broadband – deployment proposals that include the provision of public Wi-Fi (or any other mobile network wireless broadband medium) in addition to mobile coverage could be factored into the MBSP guidelines. This would provide customers of other operators with access to data services outside of their mobile coverage. Calls and texts could also be made using voice and SMS over Wi-Fi technology or via over the top (OTT) voice and messaging services through third party applications.
- Government linking literacy and awareness program funding to awarded co-investment locations to support and better leverage the improvements made to connectivity in a specific region (see section 3.5).

While changes to program guidelines such as those outlined above are one way to support improved connectivity in regional and rural areas, challenges are also frequently encountered around site acquisition and associated approvals. Local and State/Territory Governments can play a role in supporting site acquisition and associated approvals to reduce the challenges in the deployment of solutions.

Finally, RCP is a welcome addition to the government programs supporting regional Australia because the program's focus is far broader than mobile black spots alone. RCP provides a degree of flexibility that we support and allows for a wider range of connectivity solutions to be considered to meet the needs of regional and remote communities.

Some of the benefits of the RCP include:

- Support for a broader program of activity that can allow for upstream build (in particular, transmission upgrades), not just downstream coverage. This means we can undertake works that improve capacity and end customer performance as well as basic connectivity.
- For mobile projects it is less prescriptive as it allows for improvement in coverage depth not just new outdoor coverage, so we are able to better address black spots in indoor coverage.
- It is not focused on narrow specified prediction thresholds or metrics such as the area of new outdoor coverage, rather allows a more holistic consideration of social and economic community benefits to be considered.
- More flexibility to combine different projects, without firm single solution funding caps.

²⁰ We note that the draft guidelines for the Peri Urban Mobile Program (PUMP) provide for Government co-contributions to be directed towards opex. This is welcome, but we have not seen this provision to date in guidelines for the MBSP.



Recommendation

6. **Co-investment programs** - building on the strengths of programs such as the MBSP and RCP, that future co-investment programs provide greater flexibility for telecommunication providers to deliver improved connectivity to regional communities given the economic challenges of delivering regional connectivity – these include the enhancements recommended in section 7.4 of the submission.

7.5. Increased opportunities for commercially negotiated infrastructure sharing between mobile network operators

Telstra expects that there will be increased optionality for mobile network operators in deciding how to upgrade and expand their networks in the most efficient and competitive means available. This includes increased opportunities to negotiate infrastructure sharing between mobile network operators (**MNO**), driven by:

- Increased cost of capital investment of deploying 5G networks. Over the last 20 years, MNOs have been engaged in 'serial network deployment' as they have built and upgraded their networks for 2.5G, 3G, 4G and now 5G networks. There is an increased commercial imperative to defray costs, including through potential modes of 'sharing' networks;
- The challenges of scale as mobile network push further into lower populated areas in regional and rural Australia;
- The increasing options for sharing of infrastructure in the network stack made technically feasible by vendor innovations and enabled by global standards; and
- Changes in the market structure at the passive infrastructure level with the intensifying competition between specialised, non-vertically integrated tower companies, including Amplitel, Axicom and Optus' forthcoming divestiture of another tranche of its tower portfolio.

RAN sharing

RAN sharing is one form of infrastructure sharing that, in simple terms, involves the sharing of radio access network equipment. RAN sharing can realise a number of efficiencies including, depending on the specific circumstances of the network operator and the structure adopted:

- Decrease in duplication of investment and more efficient deployment of capital.
- Potential improved quality of service.
- Product and technological innovation by permitting operators to compete on service innovation and technology.
- Increased consumer choice as entry and expansion becomes easier and speedier through network sharing.

However, mandating RAN sharing would be unnecessary, unworkable and ultimately counterproductive for effective mobile competition in regional and rural Australia, for the following reasons.

First, in every overseas market in which RAN sharing has been deployed, it has been commercially negotiated between mobile operators. Figure 8 illustrates the European markets in which RAN sharing has been agreed between operators:

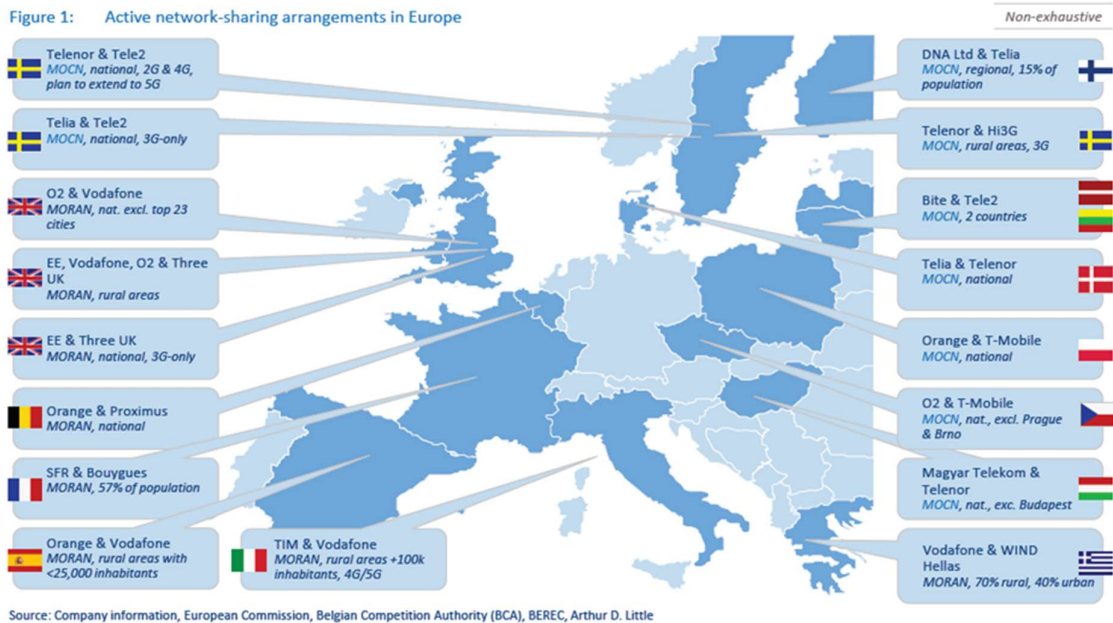


Figure 8. Active network-sharing arrangements in Europe²¹

In addition, RAN sharing has been agreed between mobile operators in Canada, India and the US.

Second, there is no single form of RAN sharing or one-size-fits all model for RAN sharing. For example, there can be a common RAN connected to separate Home Location Registers (**HLRs**),²² a common RAN connected to different core networks (MOCN) or a common RAN access node with the spectrum logically split into independent spectrum (MORAN). As Figure 8 shows, some EU operators have implemented RAN sharing in the form of MOCN while others have decided on MORAN.

Decisions about the form of RAN sharing which is appropriate between two or more mobile operators are not feasibly made by policy makers or regulators. This decision will depend on the specific strategic, commercial and technical drivers of each of these mobile network operators and their decisions about how to optimise the various parts of the infrastructure to service customers. Mandating RAN sharing would require the regulator to be deeply involved in choices about network design and the commercial and competitive structure between the RAN sharing MNOs on an ongoing basis.

Third, mandating RAN sharing would undermine the value that it could deliver to achieving better coverage and investment. Active infrastructure sharing requires the mobile operators to agree to align network design, vendor equipment and pooled spectrum. The participating mobile network operators need to work together to effectively manage the complexity of handover between the active shared network and the neighbouring base stations of each network to avoid call drop out and diminished service levels. Introducing vendor equipment not already present in each mobile operator's network stack can result in a loss of customer service features and functions as they 'swap' between their home network and the shared RAN network.

²¹ Source: [Network sharing in the 5G era | Arthur D Little \(adlittle.com\)](#)

²² A HLR is a database for mobile subscriber management, and contains customer data including location, service entitlements and call-routing information. In combination with the International Mobile Subscriber Identity (IMSI), an HLR provides the network mechanism for both the cell-to-cell handover of calls and for local and international roaming.



Therefore, the strategic and commercial feasibility of RAN sharing between any two mobile operators will be determined by the level of pre-existing vendor and network alignment before active sharing and the costs of achieving the higher level of alignment needed to ensure RAN sharing works to the benefit of the participating mobile operators and customers.

Given each operator has different network design considerations, spectrum holdings (including non-adjacent frequencies) and vendor relationships, any mandated RAN sharing must necessarily default to accommodating the lowest common denominator of preferred network design. Competition in active RAN sharing areas, and potentially more widely through each mobile network, will lose the benefit of service and product innovation which 5G otherwise can bring to market. The need to find this baseline for mandating RAN sharing is likely to value-destructive for end users – such as 5G network slicing.

Preserving conditions for efficient mobile network infrastructure deployment

RAN sharing should be seen as expanding the range of strategic and commercial options for infrastructure sharing available to each MNO. Commercial negotiations allow for a richer and more flexible ability for network operators to organise their infrastructure models and deliver specific value for bespoke networks; while sufficiently preserving the ability to dynamically adjust this model over time as technologies change.

There is a role for regulation in 'anchoring' the range of infrastructure options with an effective regulatory regime for tower and site sharing between mobile network operators. Flexible negotiated RAN sharing arrangements together with passive infrastructure sharing (with the emergence of the specialist tower companies) is likely to drive the most efficient outcome. Passive infrastructure sharing ensures that there is a baseline alternative both for the party seeking commercial forms of infrastructure sharing or mobile wholesale services and the MNO which has been commercially approached to provide the service - while negotiated RAN sharing will preserve the ability to dynamically negotiate active sharing of the network arrangements that meet the technology and user demands at any particular point in time.

Recommendations

7. **Greater coordination** - That Commonwealth Government funding and support be directed toward greater coordination between Governments at all levels, local communities and telecommunications providers to enable the development of plans for enhancing connectivity for local communities based on the specific geographic and social needs of those communities, including to support community resilience during natural disasters. For example, local planning initiatives which would improve connectivity but are prevented from progressing because local planning permission cannot be obtained.
8. **Infrastructure sharing** – while Telstra does not support mandated roaming because of the impact on innovation and investment incentives, policies and programs which enhance the opportunity for passive telecommunications infrastructure sharing should be encouraged.

8. Response to RTIRC 2021 Issues Paper Questions

Question 1: What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services?

To meet current and future needs, regional Australia requires:

- access to affordable fixed and/or mobile networks which allow customers to realise opportunities from the digital economy, while also supporting their education and social needs;



- access to affordable products and services that allow them to be secure and maximise the benefits from being online; and
- the ability to know what to buy to best meet their needs and how to use the products and services.

There is no doubt many things that regional communities and businesses need or want to do but can't with their existing services. We have seen an increase in demand for data and online services during the pandemic, which is summarised in our response to Question 6.

Section 6 of our submission outlines the technology horizon that will support improved telecommunication services for regional Australia. To achieve this horizon we need to ensure a technology agnostic approach is taken to the delivery of telecommunication services to regional and remote Australia, as summarised in section 7.

Question 2: What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?

Similar to the national trends, demand for telecommunications services in regional, rural and remote Australia has increased exponentially. This is illustrated in section 3.2 with the demand for data on the mobile network. This will continue to increase as communities digitise and as consumers continue to increasingly rely on telecommunications services to perform many functions of everyday life.

As outlined in section 7, the scale of the Australian landmass and concentration of our population make the cost of investing, delivering and maintaining services in large parts of Australia commercially unviable. nbn co uses fibre-based technologies to meet its objective in built up areas, and fixed wireless and satellite in regional Australia. In terms of mobile coverage, these factors mean it is not feasible to expect all of Australia will receive mobile coverage.

This is why the different Government programs have been so important in supporting providers, like Telstra, to expand coverage into more remote areas. The increase in demand and economic realities are factors that will not change and will determine the level of investment in regional Australia. The challenge is to revise Government policy to ensure that policy and regulatory settings provide incentives for investment in, and use of, the telecommunications services required by regional communities. This is also discussed in our response to Question 3.

Question 3: How have the Government's policies and programs affected telecommunications service outcomes in regional, rural and remote Australia? How can these be improved?

The Government's USG provides for the efficient and ubiquitous delivery of high-quality voice and broadband services for all Australians, no matter where they live or work. This is a commitment to regional, rural and remote communities that we fully support and have a central role in delivering. For the USG to be fully realised and remain relevant far into the future it must be technology-agnostic, so that customers are not tied to a single technology that will inevitably age and become less relevant over time.

The greatest barrier to achieving a technology-agnostic USG is the current requirement for Telstra to use the old copper network to deliver telephone services in most cases outside the nbn fixed line footprint. This copper has served us well for many decades but is no longer fit for purpose. There are already a range of technologies that provide better-performing, more resilient telephone services than is possible over copper, including fixed wireless, and there are more that will be available in the near future including low latency, Low Earth Orbit satellite services.

We understand the desire for regional communities to have access to new technologies and to expand their range of communications options, but it will be much more difficult to deliver on this desire if we are required by Government policy to continue investing in maintaining the ageing copper network. This requirement is holding back the development and large-scale rollout of new technologies. The resiliency and redundancy concerns that have generated support for copper in the past are now squarely addressed by the expanding range of distinct networks becoming available in increasingly remote areas. If one network fails, there will be others to maintain connectivity.



The Government recognises the importance of alternative communication technologies to the future of regional Australia by funding the Alternative Voice Services Trial. Under this program we have deployed 4G fixed wireless and low-impact USO satellite telephone services and are also partnering with nbn co to trial its fixed wireless and satellite solutions. We are confident this trial will illustrate the strength of these alternatives to copper and rightly increase confidence in them as an alternative, not an addition, to traditional copper landlines. Although we recognise that more work will need to be done by the Government and USG providers (Telstra and nbn co) to provide the confidence and possibly the incentives for consumers to move away from the copper network and onto alternative technologies.

Co-investment programs such as MBSP and RCP have been significant for enabling the provision of new mobile coverage to regional and rural areas that are not economically viable for mobile network operators to invest in. We have been a strong supporter of Government co-investment programs, making significant contributions to the MBSP and RCP among other initiatives. Section 7.4 outlines some identified areas of potential change to the MBSP, so the connectivity experiences of people in regional areas continue to improve.

Question 4: How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?

We recognise that regional communities and businesses are dependent on connectivity for their work, education and to stay socially connected. With the ever-increasing reliance on connectivity to support e-commerce, e-learning and connecting with people the demand on telecommunications continues to grow. This is demonstrated in section 3.2 where we outline the demand over the past three years for data alone.

The importance of resiliency is addressed throughout our submission. In order to increase the resilience of telecommunications networks, we need to address the potential for, and impact of, power outages. We have also made comments about EFTPOS resiliency (see section 3.3), the importance of cyber security (see section 5.4) and consideration of the design of apps (see section 3.2).

As we have outlined in section 6, emerging technologies will be part of this solution as we look to migrate regional and remote customers off older networks. This will require the right investment and policy settings to enable this change, as we outline in section 7.

Question 5: How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?

Sections 3.3 and 3.4 of our submission provides our suggestions on how to better enhance network resiliency and reliability. In relation to natural disasters, we outline how we manage outages in section 4 of the submission.

Question 6: How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?

As depicted in Figure 2 above (section 3.2), there has been significant ongoing growth in the volume of download traffic in regional and remote areas in recent years, and the COVID-19 pandemic — which saw more people working, and undertaking educational activities, from home — has been a contributor to this trend. The general insight for service delivery is that digitisation is of increasing importance to all Australian's, with digital inclusion requiring a strong focus on ensuring people can access and use technology so they can beneficially participate in the digital economy. As discussed in the main part of our submission, and in response to question 8 below, there are opportunities to better coordinate and align government policies to support greater participation in the digital economy.

Question 7: What can be done to improve the access and affordability of telecommunications services in regional, rural and remote Indigenous communities?



Section 3.5 of this submission provides our suggestions on how access, affordability and digital ability could be improved in regional, rural and remote Indigenous communities.

We have also established a First Nations Connect team. This dedicated Darwin-based hub is staffed by people who are regionally based and of Indigenous descent. This team has been established to support our Indigenous customers and we're also anticipating that some of these calls will be taken and solved in-language for our Indigenous customers.

Question 8: How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?

The digital economy has the potential to lift investment, productivity, employment, wages, and overall quality of life for Australians and the Commonwealth Government has quite rightly committed to making Australia a leading digital economy by 2030.²³ This is also summarised in section 5 of our submission.

The need for better co-ordination and alignment in policies is relevant now as we see an increasing move toward growth in population and investment in regional Australia. Recent evidence released in September by the Regional Australia Institute and the Commonwealth Bank, through their Regional Movers Index, demonstrates there was an 11 per cent rise in the number of people moving from capital cities to regional cities in the June 2021 quarter when compared to the corresponding quarter in 2020.²⁴

As outlined by the NFF in February, better coordination of priorities between Commonwealth and state Governments, including taking a long-term approach to assessing infrastructure investment, will also be important to ensuring effective support for regional development.²⁵

As we have articulated in this submission, taking a technology-agnostic approach to the policy settings and investment decisions when it comes to telecommunications infrastructure will support regional Australia and give the most advanced solutions to meet their technology needs.

Question 9: What role could innovation, including new models, alternative investors or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?

There are a number of key policy settings which could be revised to encourage innovation and infrastructure investment, including:

- the terms of the Government's co-investment programs, including better co-ordination for approvals, as outlined in section 7.4;
- the full implementation of Cell Broadcast emergency notifications to support information sharing during emergencies as outlined in section 4.5; and
- reform of the USG towards technology agnostic obligations focused on the outcomes to be delivered rather than the technology by which they are delivered, which is covered in section 7.3.

In addition, increased opportunities for commercially negotiated infrastructure sharing between mobile network operators is covered in section 7.5 of our submission.

Question 10: To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?

²³ Source: <https://digitaleconomy.pmc.gov.au/>

²⁴ Regional Australia Institute (2021), *Regional Movers Index*. June 2021 Quarter, released 17 September. Source: www.regionalaustralia.org.au/home/regional-movers-index/

²⁵ NFF's *Regionalisation Agenda*, released February 2021. Source: www.nff.org.au/regionalisation-agenda/



We believe new technologies will deliver significant change in the telecommunications services available to regional Australians, as summarised in section 6.

The key barrier to accessing these technologies in regional Australia is investment given that it is simply not economic to make the investments required to deliver these services in large parts of regional Australia. Government supported co-investment programs and USG policy settings are critical to address these investment barriers. Refer to section 7.3 of this submission for our response to this question and our response to Questions 3 and 9.

Other potential barriers, such as affordability and ability (including awareness), can be readily addressed with programs structured toward providing education and support for customers, so they are informed about how technology is altering service provision, and how they too can use technology is this is their preference. This is covered in more detail in section 3.5.

Question 11: How can Government better support the rapid rollout of and investment in new telecommunications solutions in regional areas?

Refer to section 7 of this submission for our response to this question and our response to Questions 3, 9 and 10.

Question 12: How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?

We have experienced the challenges of the fragmented and inconsistent approach to state and territory digital infrastructure planning, which is undermining the potential economic and social impact of digitisation. It is manifesting in a duplication of infrastructure, which in turn can reduce the economics of private sector investment, failing to leverage the more material Commonwealth Government telecommunications funding, particularly in relation to co-investment programs. This compounds the situation by making it difficult to evaluate the effectiveness of existing programs.

As our understanding of digital inclusion opportunities and challenges continues to increase, improved regional planning across governments and industry would enable initiatives to be better targeted, scaled and evaluated. For example, city deals and other smart city initiatives provide positive opportunities to leverage the industry's substantial investment in 5G and other asset management capabilities to improve the planning, construction, maintenance and security of smart infrastructure.

Question 13: What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

Section 7.4 outlines the key changes which we believe need to be made to the MBSP and the regional connectivity solutions provided through RCP. We also recommend the Government make additional investments to continue the roll-out of the STAND program, as outlined in section 4.

Question 14: How can regional consumers be better supported to identify, choose and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?

Sections 3.5 and 3.6 outline the investments made by Telstra and the ways in which the Government and communities could act to help regional consumers better identify, choose and use the best connectivity options for their circumstances and understand and use their consumer rights.

Question 15: To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?



As the Issues Paper outlines, mobile network operators have adopted consistent terminology around coverage information. However, we note your interest in understanding the extent to which technical differences in predictive coverage mapping still persists.

It is important to note when considering predictive maps that definitive accuracy is not possible. Wireless technologies, such as mobile, is inherently variable and accurate modelling of indoor coverage can be challenging and uncertain as there are significant and highly variable signal losses incurred due to local building density and the building materials used (for example steel framing or metallic window tints can block signal) as well as local geography/topography, vegetation growth and the devices being used by customers.

Mobile technologies are far more variable than other technologies. The current mapping used is sophisticated and detailed, and it is designed to provide the best indication that can be made, however it isn't possible to account for all these variances in a coverage map as they take place at a very local level and change over time. We provide guidance on how the published maps are created and the factors affecting coverage experience on the "View coverage details" link in the map legend on our coverage map page.

In addition, in response to the 2018 RTIRC, who found there was a significant market for a simple platform aimed towards regional Australians to help them navigate digital technologies, the Commonwealth Government committed funding toward the establishment of a Regional Tech Hub. NFF, in collaboration with the Australian Communications Consumer Action Network (**ACCAN**), were awarded the contract to deliver this service. The Regional Tech Hub offers independent advice and support and helps regional Australians negotiate often confusing phone and internet options and technical issues.²⁶ We have provided input to support their content development and also an escalation pathway for customer related issues.

Question 16: What other matters should the Committee consider in its review and why are they important?

We believe all relevant matters have been covered in our submission.

²⁶ Source: <https://regionalttechhub.org.au/>



**Statement on behalf of Telstra Corporation Limited in support of
application for merger authorisation**

Annexure AP-07

**RE: TELSTRA CORPORATION LIMITED AND TPG TELECOM LIMITED ARRANGEMENT
FOR THE SHARING OF ACTIVE INFRASTRUCTURE AND SPECTRUM IN REGIONAL
AUSTRALIA (APPLICATION)**

Statement of: Andrew Richard Penn

Address: Level 41 242 Exhibition St Melbourne, Victoria, 3000 Australia

Occupation: Chief Executive Officer, Telstra Corporation Limited

Date: 12 August 2022

RADIOCOMMUNICATIONS (SPECTRUM LICENCE LIMITS—850/900 MHz BAND)
DIRECTION 2021—EXPOSURE DRAFT CONSULTATION



TELSTRA CORPORATION LIMITED

**Radiocommunications (Spectrum Licence Limits—850/900 MHz
Band) Direction 2021**

Exposure draft consultation

Public submission

24 May 2021



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EXECUTIVE SUMMARY

Low-band spectrum is highly valued as it is a scarce resource and highly desired by mobile operators because of its good coverage in lower density population areas, and its in-building penetration in metro areas. The 850 MHz and 900 MHz licences sold in this auction will represent some of the highest value and most important long-term spectrum investment decisions made in Australia. Efficient investment in these licences will be critical for delivering the Government's world leading digital economy ambitions and maximising customer experience outcomes over the 20 year licence term, especially in regional Australia. So it is essential the allocation limit decision is considered carefully to ensure that such investment is encouraged.

The proposed low-band allocation limit of 82 MHz for the 850/900 MHz auction is too restrictive and puts Australia's digital growth ambitions at risk. It effectively leaves Telstra with less spectrum than we have today and insufficient room to meet the future needs of our customers, especially in regional areas where we are seeing net migration for the first time in the wake of COVID-19. This appears to be a significant change in policy which is concerning because policy to date has enabled Australia to have a leading mobile market with some of the best mobile services in the world. The proposal will undermine Telstra's existing and planned investments, including in 5G, that are key to the digital economy, have a negative impact on competition in the mobile market and result in poorer outcomes for regional consumers and businesses.

To avoid these adverse outcomes, the allocation limit should be increased to a total of 102 MHz. Given the size of these impacts we also strongly disagree with the Office of Best Practice Regulation's (OBPR) assessment that a regulatory risk impact statement (RIS) is not required. We will live with these decisions for decades and they will define the future prosperity of regional Australia — it is essential that a regulatory impact statement analysis is completed to properly inform the final decision.

The proposed allocation limit will discourage investment by Telstra that is critical for achieving the Government's digital economy ambitions

We have seen a fundamental shift in expectations for telecommunications services since the onset of the COVID-19 pandemic. There is an unprecedented demand for better coverage, services, and experiences at the same time as more people are migrating from metro to regional areas. 5G and other new technologies are also more capable than ever to deliver the coverage, services, and experiences that customers are seeking.

Telstra strongly supports the Government's Digital Economy Strategy to grow Australia's future as a modern and leading digital economy by 2030. World class telecommunications services are fundamental to achieving this ambition and the Government needs to have policies that encourage investment in them. Telstra's network covers approximately 1 million additional square kilometres when compared with the Optus and TPG networks. The overwhelming majority of the investment to achieve this coverage has been made since privatisation. As the largest geographic network with the most customers across Australia, investment in the capability of Telstra's mobile network is pivotal to achieving Australia's digital growth ambitions.

Telstra is committed to doing its part to ensure that Australia can meet the digital demands of a world leading digital economy and society, by continuing to invest in improving the coverage and performance of our mobile network throughout Australia and especially in regional Australia. We have already invested \$3 billion over the last 5 years to end of June 2020 in regional Australia. This investment is



incentivised by our ability to compete vigorously with other mobile network operators on the quality of our mobile services, everywhere our customers need to use them in Australia.

Additionally, Telstra has been the biggest partner and co-funder of the Federal Government's regional telecommunications programs. When the current round of the Mobile Black Spot Program is complete, we will have invested approximately \$290 million and built over 880 sites.

Telstra's regional investment relies on appropriate Government policy settings that enable us to gain access to sufficient spectrum to keep improving the quality of our network and services throughout Australia. The proposed low-band allocation limit of 82 MHz does not do this as it will leave us with less spectrum than we currently have access to in regional areas, even if we are able to acquire the maximum quantity possible. This represents a significant policy shift from previous allocation limit directions, as bidders in previous auctions have always been given the opportunity to maintain their existing holdings (i.e., in the worst case, exit the auction with no additional spectrum) or acquire additional spectrum. Such a policy shift would undermine the billions of dollars already invested in our mobile network, including the co-funding investments made by the Government and Telstra, and creates significant uncertainty for our future investment plans.

The proposed allocation limit will harm customers, especially in regional areas

Access to sufficient low-band spectrum is a critical input to providing our customers with a quality service. A limit that leaves Telstra with access to less low-band spectrum in regional areas than it has today, let alone enough to meet expected growing regional customer demand over the next twenty years, is simply not enough. This will result in our regional customers suffering slower speeds and will also limit the potential of, and access to, 5G and other future technologies that we could otherwise offer to them with more spectrum. Investing in additional sites and towers to offset the lack of spectrum is not a commercially viable alternative in most of these areas due to the low population density.

We will end up with less low band spectrum per customer in regional areas than what we have today, and much less than what Optus and TPG will likely end up with. However, relying on Optus and TPG to use the spectrum they acquire to offer a better alternative solution is unlikely to be realistic for many regional customers, especially those outside major towns and in more remote areas. The proposed limit creates a high risk of poor customer outcomes in areas where Optus and TPG do not make the network investment needed to put this spectrum to use. This includes the many parts of regional Australia only covered by Telstra, typically outside the larger towns, where Optus and TPG have not invested. A higher limit would allow Telstra to continue to provide quality services in areas where it is the only provider prepared to invest in its network as well as allowing ample scope for Optus and TPG to buy additional low-band spectrum to support the expansion of their regional offerings. It is also key to making sure we can continue to compete vigorously to spur on greater customer benefits everywhere else in Australia.

Increasing the allocation limit to 102 MHz will improve customer outcomes

To avoid the adverse outcomes of discouraging vital investment to support Australia's digital economy, poorer regional customer experience, and reduced competition in the mobile market, we believe the proposed allocation limit for the auction must be increased. We recommend that the low-band (sub 1 GHz) limit be raised by 20 MHz to a total of 102 MHz, enabling Telstra to bid for up to 30 MHz of spectrum in both regional and metro areas.

This increased limit will still allow Optus and TPG to bid for the quantities of spectrum envisaged in the ACCC's advice to the Minister, will encourage investment and competition in the mobile market, ensure



a fairer and more competitive auction and, most significantly, deliver better outcomes for regional customers.

Increasing the limit will also reduce the risk the spectrum is sold below market value

History shows that more relaxed auction limits lead to more competitive auctions. This results in the best outcome for the Government as it ensures the spectrum is sold at true market value and means that those who most need the spectrum to continue to deliver the services customers need can acquire it.

If Telstra can only compete for a very small portion of the spectrum in the auction, there is a risk that some of it remains unsold and a much greater risk it will be sold at less than its full market value, considering that the main bidders are likely to be the mobile network operators. For every cent in unit price that that each spectrum lot sells at below value, the Government will forego \$2.6 million in revenue. If all spectrum going to auction sold at 55c below value, the Government would lose \$1 billion.

The impacts of this decision are major and must be subject to a regulation impact statement

We strongly disagree with the Office of Best Practice Regulation's (OBPR) assessment that this proposal only has minor impacts and a regulation impact statement is not required. The 850 MHz and 900 MHz licences sold in this auction will represent some of the highest value and most important spectrum in Australia. Efficient investment in these licences will be critical for delivering the Government's world leading digital economy ambitions and maximising customer experience outcomes in regional Australia over the 20 year licence term. So it is essential the allocation limit decision is considered carefully to ensure that such investment is encouraged. The proposed allocation limit is too restrictive and will have a significant adverse impact on investment, customer outcomes and the digital economy, especially in regional Australia. It also represents a departure from previous policy decisions by effectively reducing the quantity of spectrum that a mobile network operator has access to.

For these reasons a decision on the proposed allocation limit is one of the most important telecommunications policy decisions this decade and must be subject to a robust regulatory impact analysis before the final decision is made.

Other matters that need to be addressed

The proposed regional lot structure for the 850 MHz band and national lot structure for the 900 MHz band reduces the substitutability of this spectrum in the auction process. To ensure this spectrum remains substitutable as per the policy intent for allocation and to improve the utility of this spectrum, we remain of the view that both bands should be allocated as national licences. If not, they must be identically split.

In the event that set-asides are given to Optus and TPG, we believe 'build' or 'coverage' obligations must be applied to those 'set aside' lots. It would be a very poor policy outcome for this scarce spectrum to be allocated on a preferential basis on the basis of promoting service continuity, but then go unused, or partially unused, for the intended purpose for the duration of the licence term.



01 The proposed limit will jeopardise Australia's digital economy ambitions and harm consumers

Spectrum in the 850/900 MHz band is a scarce and highly valuable public resource which will be used for the delivery of 5G and future generations of mobile services for decades to come, providing essential connectivity for our digital economy. The propagation characteristics of this low-band spectrum mean it is ideally suited to provide widespread deployment of 5G services in regional areas as well as being important for indoor coverage in metro areas. It is crucial the spectrum is allocated in a way that promotes vigorous competition in mobile services, incentivises investment in the rollout of 5G services across Australia and maximises the benefit of its use for the Australian community. The proposed allocation limit carries a significant risk of undermining these outcomes, especially in regional areas.

In particular, the proposed limit will result in Telstra having access to less low-band spectrum in regional areas than it does today. This will lead to a poorer customer experience for regional customers, while also undermining Telstra's ability to invest in expanding and enhancing its regional network for the benefit of these customers, including the potential of new technologies such as 5G. These constraints will lessen Telstra's ability to use the quality of its regional network as a point of differentiation and thus also reduce its ability to be a vigorous competitor in the mobile market.

1.1. Telstra will be left with less regional spectrum

The Government's current proposal would have the effect of reducing our spectrum holdings in regional Australia. Even if we are successful in acquiring spectrum up to the proposed limit, we will exit this auction with 6.8 MHz less spectrum in regional areas than we can access today. This is because our current nationwide 900 MHz apparatus licences will be cancelled (total of 16.8 MHz) and we can only bid for 10 MHz of additional regional spectrum under the proposed allocation limit.¹ This outcome would leave us with no room to grow our capacity and enhance our services to meet the future needs of our regional customers—potentially for the next 20 years (the term of these licences).

The fact that Telstra, under the allocation limit proposed, will exit this auction with less spectrum in regional areas than it owns today is unprecedented in Australia—we are not aware of any previous auction where an incumbent user with an expected ongoing need for the spectrum would, by design, be forced to exit that auction on a best case scenario with less spectrum than what they owned prior.

1.2. The proposed allocation limit will undermine our investment

Regional Australia depends on Telstra more than any other provider because of our significant historic and ongoing investment in building and upgrading our regional networks. We understand better than anyone the challenges of providing telecommunications services in regional Australia—we have been doing it for 150 years. We have already invested \$3 billion over the last 5 years to end of June 2020 in regional Australia. We are the biggest partner and co-funder of the Federal Government's regional telecommunications programs, including the following current examples:

¹ The 2 MHz of 850 MHz downshift spectrum is purely intended to facilitate a 'downshift' of the existing 850 MHz band and create an interference guard space between it and the 900 MHz band. It is not intended to be 'usable' spectrum and in any event is only available to the purchaser of the bottom block of 900 MHz spectrum.



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- Earlier this month we announced we would invest \$150 million over the next 12 months to continue to improve networks in regional, rural, and remote Australia.²
 - We also announced a \$200 million co-investment fund aimed at enhancing and extending mobile coverage in rural and regional areas.³
 - On top of that the Federal Government just announced the outcome of its Regional Connectivity Program in which Telstra was the only major provider to both win projects and commit its own funding to help fund \$55 million of network upgrades.⁴
 - After the latest fifth round of the MBSP has been completed, we will have invested approximately \$290 million and built over 880 sites. This is more than two thirds of the total sites co-funded by Government under the Program since 2015. Our contribution to the program amounts to more than double the capital of the rest of the industry put together.

This investment relies on appropriate Government policy settings that give us the opportunity to gain access to sufficient spectrum to keep improving the quality of our network. The proposed low-band allocation limit of 82 MHz does not do this, as it will leave us with less spectrum than we currently have access to in regional areas, even if we are able to acquire the maximum quantity possible. This represents a significant policy shift from previous allocation limit directions, as bidders in previous auctions have always been given the opportunity to maintain their existing holdings or acquire additional spectrum. Such a policy shift would undermine the billions of dollars already invested in our mobile network and also creates significant uncertainty for our future investment plans.

For these reasons, we are very concerned the proposed limit of 82 MHz undermines our substantial existing investment commitment and discourages future investment by us. As explained below this would also reduce our ability to compete in the mobile market.

1.3. The proposed limit will reduce competition in the mobile market

The approach to the allocation limit for this auction represents a significant policy departure from light-touch regulation that has underpinned Australia's mobile services being some of the best in the world. Such intervention carries a material risk of distorting the competitive dynamics in the mobile market and causing poor customer outcomes, by reducing Telstra's incentives and ability to improve network coverage and differentiate its offer through the quality of its mobile service. Most particularly, this decision will harm Telstra's future ability to compete in the national mobile market by providing high quality services throughout Australia.

Fuelled by our network investment, Telstra currently competes with other MNOs on its network quality. The ACCC has previously found mobile networks that differ from each other in terms of coverage, technology and quality provide more choice for consumers and more competitive tension between

² Telstra, *Telstra announces \$200 million co-investment fund to extend and enhance coverage in regional Australia*, Media Release, 4 May 2021. Available at: <https://www.telstra.com.au/aboutus/media/media-releases/telstra-coinvestment-fund-2021>.

³ Ibid.

⁴ Department of Infrastructure, Transport, Regional Development and Communications, *Regional Connectivity Program—funded projects*, 23 April 2021. Available at: <https://www.communications.gov.au/documents/regional-connectivity-program-funded-projects>



operators.⁵ Unsurprisingly, it found that the importance of network reliability, depth of coverage, and service quality to customers has contributed to Telstra's position in the national mobile market.

The proposed auction limit will stop Telstra from being able to bid for the low-band spectrum we need to keep providing high quality mobile services. The position is especially stark in regional areas, where low-band spectrum is very important for efficiently carrying customer data over the long distances that need to be covered in these areas. Investing in additional sites and towers to offset the lack of spectrum is not a commercially viable alternative in most of these areas due to the low population density.

The proposed limit, by not even giving us the opportunity to access as much low-band spectrum as we can today, will result in our regional customers suffering slower speeds and will also undermine the business case for 5G and other future technologies - such as 6G - which will clearly need more spectrum. This will further exacerbate the digital divide for connectivity between regional and metropolitan areas in Australia. In a decade's time, we run the risk of people living in metropolitan areas enjoying 6G, while people in regional Australia are still on 3G and 4G.

The proposed limit is also insufficient to allow us to meet the expected growth in demand for new services over the 20 year period of the licences in metropolitan areas.

The ACCC's advice to the Minister⁶ has considered disparity of holdings as a constraint on ability to compete. But it has not adequately considered the (forward looking) sufficiency of holdings for all operators to support competition in quality of service for the next twenty years. The focus of its analysis appears to be entirely on Optus being able to acquire more low-band spectrum.

It is notable that the ACCC's advice did not expressly consider the competition implications of a sub-1GHz "low-band" limit higher than 80 MHz (such as a limit of 90 MHz or 100 MHz) which would still provide Optus (and TPG) with a very reasonable opportunity to acquire additional low-band spectrum and protect against the risk of monopolisation, but which would not have the chilling impact on investment and competition of the current proposal that forces Telstra's regional holdings to be reduced. Given the major impacts of this decision, we consider it imperative that these options are transparently considered in a robust regulatory impact analysis before a final decision is made.

1.4. Regional customers will be worse off

Mobile coverage and quality of service are vital issues for consumers and businesses in regional, rural, and remote areas of Australia. This is especially so as our primary industries such as agriculture, mining, and forestry, along with other industries that support them such as transport and logistics, will become increasingly reliant on 4G/5G mobile connectivity. The same can be said for our tourism operators and government service delivery.

This auction will allocate scarce low-band (sub-1GHz) spectrum that is vital for supporting regional investment in upgraded mobile technologies (e.g. 5G), and to enhance and grow mobile services to meet future customer needs out to 2044. The need is especially pronounced in regional areas, where large areas need to be cost effectively covered at the same time as we see pandemic-related growth in regional Australian hubs and increasing working-from-home arrangements. The ABS recently reported

⁵ ACCC, *Domestic mobile roaming declaration inquiry – Final Report* (October 2017), available at: <https://www.accc.gov.au/regulated-infrastructure/communications/mobile-services/domestic-mobile-roaming-declaration-inquiry-2016/final-report>.

⁶ ACCC, *Allocation limits advice for the 850/900 MHz spectrum allocation* (March 2021), available at: <https://www.accc.gov.au/regulated-infrastructure/communications/mobile-services/spectrum-competition-limits/request-for-advice-850-900-mhz-spectrum>.



record rates of migration from capital cities to regional areas (net migration of 42,971 people to regional areas in just the past year—equivalent to the entire population of Orange or Tamworth).⁷

As the largest geographic network with the most customers across Australia, the performance of Telstra's mobile network is pivotal to meeting the data needs of regional Australia so as to deliver on Australia's digital growth ambitions. Regional Australia depends on Telstra more than any other provider because of our significant historic and ongoing investment in building and upgrading our regional networks. Our competitors are noticeable by their significantly smaller regional footprints and own investment track record. Their minimal take up of the MBSP and RCP programs indicates they have limited interest in investing in regional Australia outside regional centres.

The reduction in regional low-band spectrum available to Telstra under the proposed limit will limit our ability to invest in the growth and enhancement of our network over the next 20 years to meet the future needs of our customers including access to new mobile technologies such as 5G. With less low-band spectrum, given the growing demand for data, consumers and businesses who depend on Telstra will, over time, receive slower speeds and more congestion.

Investing in additional mobile sites and towers to offset the reduction in spectrum is often not a realistic option for most regional areas where due to the low population density and it would not be economic to make such an investment.

We also observe that the proposed limit is likely to result in Optus and TPG acquiring most of the spectrum on offer. Indeed, they allow Optus to buy **all** of the spectrum at this auction, except for the spectrum 'set aside' for TPG. Given our competitors' track record for investment in regional Australia, there is a high risk that the spectrum they acquire will not be used in many parts of regional Australia or at least not for some time. If they do not invest in the 1 million square kilometres that are only covered by Telstra then customers in this area will be much worse off—those customers will end up with a poorer outcome from Telstra and will not have access to any alternative from Optus or TPG.

Increasing the allocation limit so that Telstra has sufficient opportunity to acquire additional low-band spectrum to keep delivering quality services to the regional customers who may need to continue to rely on our network investments over the next twenty years avoids this risk—at no cost to the ability of Optus and TPG to invest in an expanded regional offer should they so choose.

1.5. High risk that spectrum will be sold at less than its true market value

If Telstra can only compete for a very small portion of the spectrum in the auction, there is a risk some of it will go unsold, and a much greater risk that it would be sold at less than its real market value. For every cent in unit price that that each 2x5 MHz spectrum lot sells at below value, the Government will forego \$2.6 million in revenue. If all spectrum going to auction sold at 55c below value, the Government would lose \$1 billion.

This is not a theoretical risk. The residual 700 MHz auction, held in March 2017, was competitive between at least two bidders. The reserve price was set at \$1.25/MHz/pop, but the final price of the 2x10 MHz lot was \$2.80/MHz/pop—a premium of \$1.55/MHz/pop. Translated across the full 2x35 MHz of spectrum being sold in this auction, this would represent approximately \$2.8 billion in revenue.

⁷ <https://www.abs.gov.au/statistics/people/population/regional-internal-migration-estimates-provisional/latest-release>



Any spectrum that is unsold would be a very unsatisfactory outcome, especially in terms of it not being used to deliver benefits to consumers and business, but also the loss of a fair return to Government for the asset.

History shows that less restrictive auction limits lead to more competitive auctions and a proper, market-based process of price discovery. This results in the best public outcomes, as it ensures the spectrum is sold at true market value, which imposes a discipline on the owner of that spectrum to utilise it efficiently and obtain a return on that investment, and means that those who most value the spectrum to continue to deliver the services customers need acquire it.

02 The allocation limit needs to be increased to 102 MHz

To address the risk of the negative outcomes of the proposed limit, as explained above in section 1, we recommend an increase to the limit on bidding in the upcoming auction. All bidders should have a fair opportunity to participate and acquire the spectrum they need to serve their customers across Australia over the course of the twenty-year licence period.

Increasing the allocation limit for the auction from 82 MHz to 102 MHz would allow Telstra to bid for 30 MHz (of the 72 MHz in total available) in both regional and metro areas. That's 43% of the available spectrum in the auction. The allocation limit needs to be increased so we are not left with less spectrum and can access sufficient additional spectrum to meet the expected growth in demand for new services over the 20 year period of the licences.

We are not asking for more than we need, and we are not asking for restrictions to be placed on others. This increased limit doesn't prevent others having the opportunity to buy spectrum. It doesn't reduce how much spectrum could potentially be bought by Optus, TPG or anyone else. It simply ensures that Telstra has a fair chance to bid for a fair share of the spectrum that is going to auction, so that we can keep competing on the merits of the quality of our services and the investments we have made in regional Australia.

03 A regulation impact statement must be produced

No Regulation Impact Statement (RIS) has been prepared for the draft Direction. The exposure draft of the explanatory statement for the Direction states a RIS is not required to be prepared for the Direction on the grounds it will have a no more than minor impact on the implementation of the reallocation process. This is fundamentally incorrect. This decision, as currently proposed, will seriously undermine the Government's aspiration for Australia to have a leading digital economy by 2030 and it will also exacerbate the digital divide between metropolitan and regional areas at exactly the time we are seeing net migration to regional Australia and when it needs improvement in connectivity and bandwidth the most.

The present consultation process is not a substitute for a RIS which robustly considers the impacts of different options on the range of stakeholders whose interests could be materially disadvantaged by the wrong policy decision and which will dictate outcomes for regional and rural customers for the next two decades.

Telstra considers a RIS should have been prepared given the significant regulatory impact the allocation limits will have on Telstra and other mobile network operators. We note that a RIS was prepared for the most recent spectrum auction in the 26 GHz band, in which several options available to the Minister



were discussed.⁸ We consider that given the disproportionate intrusiveness of the Ministerial interventions proposed for the 850/900 MHz band auction, a RIS must be prepared.

The Australian Government Guide to Regulatory Impact Analysis and the User Guide to the Guide to Regulatory Impact Analysis (User Guide) provide that a RIS must be prepared for any non-Cabinet decision that is likely to have a more than minor impact on business, community organisations or individuals.⁹ These documents only contemplate that a RIS will not be required where a decision is non-regulatory, or where any regulatory impact is only of a minor or machinery nature. Relevantly, the User Guide provides the following guidance about when the regulatory impact of a decision will be minor:

Minor changes do not substantially alter the existing regulatory arrangements for businesses, community organisations or individuals. A minor change may involve a small one-off cost but no ongoing costs; examples are the introduction of an online application process, an indexation arrangement, or the setting of opening and closing dates for a fishing ground.

If the Direction is made in the terms proposed, it will clearly have a more than minor impact on Telstra and other mobile network operators, as well as on the carriage of the auction and the income received by the Commonwealth:

- There will be ongoing and very significant impacts on Telstra due to the allocation limits imposed as part of the draft Direction ahead of the 850/900 MHz spectrum auction.
- Placing limits on the allocation of a range of spectrum impacts Telstra's ability to provide our customers with a competitive service especially in regional areas.
- The fact that Telstra, under the allocation limit proposed, will exit this auction with less spectrum in regional areas than it owns today clearly points towards a high risk that the impact of this on business, community organisations or individuals will not be 'minor'. This is unprecedented—never has there been a situation where an auction participant would, by policy design and implementation, exit with less spectrum than what they owned prior.
- The geographic boundaries in the extended 850 MHz lots reduce the utility of the spectrum for all carriers because interference co-ordination is required along geographical spectrum boundaries; added to which the geographic boundaries are misaligned with the existing 850 MHz band creating further adjacent spectrum coordination difficulties and likely causing inefficient dead zones.
- We estimate the impact of the overly restrictive competition limit will result in many millions of dollars in lost revenue to the Commonwealth in the auction process, as a consequence of reduced auction tension and a failure of this process to find the true 'market value' for this spectrum, and—as a corollary—create a windfall benefit to the beneficiaries of the competition limit such as Optus of the same total value. For every cent in unit price that that each spectrum lot sells at below value, the Government will forego \$2.6 million in revenue. If all spectrum going to auction sold at 55c below market value, the Government would lose \$1 billion.
- Low-band spectrum is highly valued due to it being a scarce resource and highly desired by mobile operators for its good coverage in lower density population areas. The 850 MHz and 900 MHz licences sold in this auction will represent some of the highest value and most important long term spectrum

⁸ <https://ris.pmc.gov.au/2020/08/13/allocation-limits-26-ghz-spectrum-auction>

⁹ Department of the Prime Minister and Cabinet (March 2020), available at: <https://www.pmc.gov.au/resource-centre/regulation/australian-government-guide-regulatory-impact-analysis>. The User Guide is available at: <https://bit.ly/3hJ27rt>.



investment decisions made in Australia. Efficient investment in these licences will be critical for delivering the Government's world leading digital economy ambitions and maximising customer experience outcomes in regional Australia over the 20 year licence term. So it is essential the allocation limit decision is considered carefully to ensure that such investment is encouraged.

None of the above consequences can be considered to be akin to introducing an online application form or other inconsequential machinery change, and Telstra does not accept that the Office of Best Practice Regulation's (OBPR) assessment of the impact of the Direction as 'minor' can be justified in these circumstances.

The proposed allocation limit also represents a major departure from previous policy decisions by effectively reducing the quantity of spectrum that a mobile network operator has access to.

Telstra is particularly concerned that the absence of a RIS means that appropriate parliamentary scrutiny of the Direction is not being appropriately informed. We believe the proposed allocation limit must be subject to a robust regulatory impact analysis before a final decision is made.

04 The auction lots must be substitutable between bands to support a cross-band allocation limit

The ACCC's and Minister's rationale for setting a sub-1 GHz, cross-band allocation limit, is that the 700 MHz, 850 MHz, and 900 MHz bands are 'substitutable'.¹⁰ However, the draft ACMA instruments for the auction in fact, result in these bands being *not* substitutable in the auction—in direct contradiction to the reasoning for setting a sub-1 GHz cross-band limit. The policy rationale is undermined and contradicted by the implementation. The solution to this problem is to make the lot structure in both the 850 MHz and 900 MHz bands identical. Even though lot design is the responsibility of ACMA we believe the Minister has a role to address this.

The proposed lot structure impairs substitutability of the bands

As proposed, the 850 MHz expansion band and 900 MHz band spectrum are not substitutable in the auction process for the following reasons:

- The 850 MHz band is split into a regional and metropolitan lot, while the 900 MHz band is national. This prevents bidders from engaging in low risk switching of demand during the auction from one band to the other in response to price signals.
- The risks of bidders switching from 850 MHz band to the 900 MHz band during the auction are asymmetric—the risks are much higher in one direction (850 MHz to 900 MHz) than the other (900 MHz to 850 MHz). The bands therefore cannot be freely substituted.
- Bidders that only seek low-band spectrum in regional areas in the auction are forced to bid in the 850 MHz band. They cannot bid in the 900 MHz band—hence it is not substitutable. This also 'shields' national bidders in the 900 MHz band from competition, which could result in an inefficient allocation and add to the likelihood of very asymmetric prices across the two bands.

¹⁰ ACCC *Allocation limits advice for the 850/900 MHz spectrum allocation* (March 2021), page 3 and Exposure Draft, Explanatory Statement, Radiocommunications (Spectrum Licence Limits—850/900 MHz Band) Direction 2021, page 1.



The fact that the two bands going to auction have different lot structures undermines their 'substitutability'. From an auction design perspective, bidders can only compete effectively for both bands if they are offered at the same geographical level, i.e. either both split metro/regional with identical boundaries, or both nationwide. A detailed description of the consequences of having different lot structures is provided further in Appendix 1.

Identical national lots are the best way to ensure substitutability, and promote band utility

The solution to this problem is to make the lot structure in both the 850 MHz and 900 MHz bands identical – either **both** need to be national licences, or **both** need to be geographically split in an identical manner.

Splitting the 850 MHz expansion band into metro/regional areas will increase the risk of utility loss zones (dead zones), where some frequencies cannot be used. The proposal to expand the 850 MHz metropolitan licensed areas compared to the existing 850 MHz further exacerbates this issue, potentially making the area of the 'dead zone' approximately equal in size to the area of the State of Victoria.¹¹ This outcome will be bad for efficient spectrum utilisation and customer experience as we believe both bands should be allocated as national licences, and that the Minister should direct the ACMA to do so.

Additionally, so as to not create an imbalance between metro and regional spectrum purchase ability for any bidder in a national licence context, it is important that existing 850 MHz holdings are calculated as a population-weighted national average for the purposes of determining the allocation limits for each bidder.

In Telstra's case, our existing 850 MHz holdings equate to a national holding of 2x11.4 MHz on a population weighted basis. Rounding to the nearest 5 MHz, our existing 850 MHz holdings would be deemed as 2x10 MHz nationally, enabling us to purchase as much spectrum in regional areas as we would be permitted to acquire in metro areas. This would also require the Minister to reframe the allocation limits and how existing low-band holdings are to be treated.

If the lots in the bands are to be split, they must be split identically

In the event that a metro/regional split remains a policy objective, despite the clear spectrum utilisation inefficiencies in doing so (and the consequential negative outcomes for consumers), then:

- The Minister must direct the ACMA to split the 850 MHz band and 900 MHz bands identically, with the same geographic boundaries between all lots offered in both bands. This is essential to make the bands 'substitutable' in the auction and to equalise demand between the bands, reducing the risk one band sells below true market price.
- We strongly recommend that the boundaries adopted be identical to those in the current 850 MHz licences. The metropolitan boundaries proposed by the ACMA for the extended 850 MHz band trigger a significant risk of creating a 'dead zone' whose area is equal to that of the State of Victoria. This is not a good public policy outcome and would be very detrimental to regional customers. Further information on

¹¹ A detailed explanation of the issues is provided in Telstra's submission to the ACMA consultation on the draft allocation instruments.



this and other reasons are in our submission to the ACMA's consultation on the draft auction instruments.

- The allocation limit in regional areas must be increased to 102 MHz (and metro areas 92 MHz) so that Telstra has the ability to acquire the same quantity of spectrum in regional areas as we can in metro areas (at least 2x10 MHz).

05 Need to apply build and coverage obligations to set-aside lots

We agree with the ACCC's conclusion that set-asides for Optus and TPG in the 900 MHz band are not necessary.¹² In the event that set-asides are nevertheless given to Optus and TPG, we believe 'build' or 'coverage' obligations must be applied to those 'set aside' lots. Such obligations should apply to set-aside lots for the entire 20 year term of the licences, to ensure that they are used for purpose of service continuity. We cannot have the situation where providers acquire spectrum on a preferential basis, and on potentially at less than the full market price,¹³ without having any obligations in return and then fail to use it for the intended purpose, with Australian mobile customers receiving poorer service as a result.

It would not be a good public policy outcome if, after receiving the benefit of a 'set aside', a mobile operator achieved their build or coverage obligation on Day 1 of their 900 MHz licence by virtue of their extant 3G network – with no trailing obligation to maintain any form of 'service continuity' beyond that date. These licences are proposed to have 20 year terms, and so with the preferential rights conferred by a 'set aside' there must be enduring obligations attached to that 'set aside'. These should, at a minimum require:

- The mobile network coverage provided by the 'set aside' spectrum cannot, at any time during its 20 year licence term, be materially less than the 3G/4G mobile network coverage provided by the recipient of that 'set aside' as at the auction application close date.
- Services provided by 'set aside' spectrum in regional areas must be upgraded from 3G to 4G/5G, and any other future technologies, no less than 3 years after that operator first provides that technology to any metropolitan customer (or no less than 2 years after licence commencement date, whichever is later), so as to ensure the spectrum continues to be used efficiently throughout its 20 year term.

¹² ACCC, *Allocation limits advice for the 850/900 MHz spectrum allocation* (March 2021), pages 19-20.

¹³ The ACMA has proposed to price the set-aside lots at either the 'exit price' for the relevant set-aside recipient or at a specified 'up-lift' from the reserve price to reflect 'certainty'. Neither approach is likely to arrive at a price that reflects the market outcome of the auction.



Appendix 1: Analysis of the lack of substitution between bands to support a cross-band allocation limit

The proposed lot structure only allows bidders to switch from 900 MHz to 850 MHz relatively easily in response to price signals, but switching back to 900 MHz is inherently risky. Therefore, not only is switching risky, but the switching risks are asymmetric, undermining band substitutability. In this Appendix we explain why this is the case.

Let's assume the ACMA employs a 4:1:5 eligibility points ratio for the 850 MHz metro : 850 MHz regional : 900 MHz national lots (i.e. the metro 850 MHz lot has a points rating 4 times higher than the regional 850 MHz lot, while the 900 MHz lot, being national, must be the sum of the two – 5 points)

When switching from 900 MHz to 850 MHz, a reduction in 900 MHz frees up 5 points that could then be used to fund corresponding increases in 850 MHz. Suppose a bidder wants to switch 1 lot from 900 MHz to 850 MHz. If the reduction in 900 MHz is applied, 5 points are freed up which can then be used to fund the 1 lot increase in 850 MHz metro (4 points) and 850 MHz regional (1 point). In most cases, this should be a relatively risk-free switch, because the reduction in demand in the 900 MHz band will either be entirely successful, or entirely unsuccessful.

In contrast, a switch from 850 MHz to 900 MHz is extremely risky. Suppose a bidder attempts to switch 1 lot from 850 MHz (both regional and metro) to 900 MHz:

- If the bidder is unsuccessful in reducing its demand¹⁴ in either 850 MHz regional or metro (i.e. is 'retained' in one of those regions), the corresponding increase in 900 MHz will not be applied (as not enough eligibility points are freed up to fund this increase).
- Moreover, the auction could end at this point if the attempted switch clears the auction.
- Given the low demand scenarios outlined by the ACMA, the ACMA must also believe that this is a real concern.

The information policy proposed also provides no information about excess demand making it impossible to determine how likely it is that a bidder gets 'retained' in particular when switching more than 1 block.

Note that in some circumstances even a switch from 900 MHz to 850 MHz may be hard to manage or risky, depending on the final lot rating values, because a switch could, under some circumstances, be only partially successful, leaving a bidder with lots in both bands.

Consider a scenario where a bidder attempts to switch 2 lots from 900MHz to 850MHz, but gets retained on 1 lot in 900MHz:

- a) If metro and regional have an asymmetric eligibility points split as proposed above (4:1), then the bid-processing rules will ensure that the bidder ends up on 1 lot in regional and 1 lot in metro.

¹⁴ In the proposed ESMRA auction format, a bidder can be unsuccessful in reducing their demand in a given product since this format is designed to minimise or prevent the risk of unsold lots. This is called being 'retained'. Consider a situation where there is an 'excess demand' of 1 lot in a given region. If two bidders in the same auction round attempt to reduce their demand by 1 lot each, only one of those bidders will be successful in doing so, and the other bidder will be 'retained' and keep that lot in that region. Otherwise, if both bidders were successful, 1 lot would become 'unsold'.



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- b) If, however, metro and regional have the same eligibility points (e.g. suppose a 1:1:2 ratio), the freed-up points can be used to fund either:
- i. 2 lots increase in 850MHz metro
 - ii. 2 lots increase in 850MHz regional
 - iii. 1 lot increase each in 850MHz metro and 850MHz regional
- c) Which of these options is picked during bid processing depends on the price points at which the increases were submitted:
- i. If the increase in 850MHz metro was submitted at a higher price point than 850MHz regional, the points will be used to fund an increase of 2 lots in 850MHz metro (and vice versa for regional)
 - ii. If the increases in metro and regional were submitted at the same price point, the allocation would be random (i.e. either 2 lots metro, 2 lots regional or 1 lot each)

The effect of these risks is that it is likely that bidders will have to decide before the auction which band they are going to bid for and then stick with it throughout the auction. This could easily lead to an inefficient allocation if bidders' prior beliefs are wrong (e.g. a bidder starts off in 850 MHz, but then faces unexpectedly strong competition in that band while the 900 MHz band clears at a comparatively low price, or vice versa). Such a bidder may regret its initial decision to bid in one band and would have preferred to bid in the other band.

If bidders cannot react and update their prior beliefs during the auction, the efficiency benefits of the auction itself are nullified, particularly in terms of price discovery. This could lead to highly asymmetric prices between the two bands, which are a result of the flawed auction design and not a reflection of relative demand differences for the two bands.

Further, in Telstra's case, the way the allocation limit is constructed means we cannot bid for as much 900 MHz spectrum as we can in the 850 MHz band. Under the current rules, we could not bid for more than 2x5 MHz of 900 MHz spectrum, whereas we can bid for 2x10 MHz of 850 MHz in metro. The reverse is true for TPG in that it faces different allocation limits in metro and regional due to its existing 850 MHz holdings. So again, the bands are not 'substitutable' to bidders.

It should be clear that the solution to the above problems is to make the lot structure in both the 850 MHz and 900 MHz bands identical – either **both** need to be national licences, or **both** need to be geographically split in an identical manner.

**Statement on behalf of Telstra Corporation Limited in support of
application for merger authorisation**

Annexure AP-08

**RE: TELSTRA CORPORATION LIMITED AND TPG TELECOM LIMITED ARRANGEMENT
FOR THE SHARING OF ACTIVE INFRASTRUCTURE AND SPECTRUM IN REGIONAL
AUSTRALIA (APPLICATION)**

Statement of: Andrew Richard Penn

Address: Level 41 242 Exhibition St Melbourne, Victoria, 3000 Australia

Occupation: Chief Executive Officer, Telstra Corporation Limited

Date: 12 August 2022



Media Release

TPG Telecom delivers first results following merger completion

Highlights

- Careful navigation of multiple significant challenges and priorities during 1H20
- Strong start on integration activities following completion of merger
- 5G rollout plan gains momentum
- Strong demand for fixed services with highest market share of NBN net adds in June quarter
- Responsible actions from company in response to pandemic

Friday 21 August – TPG Telecom Limited (ASX: TPG) (TPG Telecom), the company formerly named Vodafone Hutchison Australia Pty Ltd (VHA), today released its first half results for FY20, being for the six months ended 30 June 2020 ('1H20').

Reported results for 1H20 include a full six months of the company formerly known as VHA but only four days' contribution from TPG Corporation Limited (TPG Corporation) (the company formerly named TPG Telecom) post the merger accounting effective date of 26 June 2020.

Reported revenue decreased 11 per cent from 1H19 to \$1,540 million (includes four-day contribution of \$27 million from TPG Corporation). Excluding the TPG Corporation contribution, revenue decreased 12 per cent to \$1,513 million.

Reported EBITDA decreased 9 per cent to \$531 million (includes four-day EBITDA contribution of \$9 million from TPG Corporation and \$24 million of merger transaction costs). Excluding these items, the underlying TPG Telecom standalone EBITDA decreased 8 per cent to \$546 million.

Reported NPAT was \$83 million, including a one-off, non-cash credit to tax expense of \$226 million and one-off merger and other costs of \$30 million. Excluding these one-off items and TPG Corporation's contribution of \$4 million, underlying TPG Telecom (former VHA) standalone NLAT improved 19 per cent to \$117 million.

There were significant COVID-related impacts to revenue and EBITDA in the period:

- Global travel restrictions
 - Approximately 80 per cent decrease in margin from roaming
 - 30 per cent decrease in prepaid connections and 20 per cent decrease in postpaid connections
- Temporarily reduced sales channel operations
 - Retail store closures due to shut-down and precautionary measures
 - Reduced contact centre operations in March and April due to India lockdowns
- Customer financial hardship and support initiatives



TPG Telecom Chief Executive Officer Iñaki Berroeta said 1H20 was an unprecedented and complex period, with the company managing four significant sets of challenges and priorities.

“We simultaneously supported our customers to help keep them connected through COVID, moderated the financial impacts of the pandemic on our own business, completed the merger and commenced our 5G rollout after an 18-month delay due to the vendor restrictions,” Mr Berroeta said.

“While our results reflect a negative impact from COVID on the mobile sector, they also demonstrate the relative resilience of the industry and our capacity to continue to deliver the essential services which our customers rely on.”

Strong start for merged company

TPG Telecom has made a strong start on merger integration activities, with 445 network upgrades performed since implementation.

More than 1.8 million Australians have benefited from improved network performance following the integration of TPG Corporation spectrum into the Vodafone mobile network at 318 sites in Canberra, Tasmania, Southern Queensland, Darwin, Adelaide, regional Victoria, regional South Australia and parts of NSW.

Network performance has also been boosted in the Melbourne CBD and parts of Sydney where TPG Corporation small cells have been activated and 700 MHz spectrum added to sites.

“Customers began experiencing the benefits of the merger from day one, and over the past six weeks, we have delivered significant boosts to data speeds and performance for customers from these deployments,” Mr Berroeta said.

The company has also commenced a program to connect TPG Corporation fibre to an additional 700 sites on the Vodafone mobile network. This builds on the 2015 commercial agreement which saw TPG Corporation fibre connected to more than 3,000 Vodafone mobile sites.

From Monday 24 August, iiNet will begin inviting its existing mobile customers to migrate to the Vodafone mobile network, resulting in savings from third-party network costs.

“By using our own mobile network, we’ll be able offer customers more inclusions for less, with new customers to receive 50 per cent off their plans for six months and existing migrating customers to receive two months’ free access,” Mr Berroeta said.

5G rollout plan gains momentum

TPG Telecom has announced the 5G Vodafone mobile network is planned to reach more than 85 per cent of the population in Australia’s top six cities of Sydney, Melbourne, Brisbane, Adelaide, Perth and Canberra by the end of 2021.

The company’s 5G rollout, which commenced in March 2020, will enter a new phase in 2H20 with deployments to increase over coming months.



The company has commenced development of its 5G standalone network capability, which will significantly increase 5G coverage when available. The 5G standalone network will utilise 700 MHz spectrum which will significantly increase the coverage available to 5G standalone enabled devices.

“5G is one of our key company priorities, and we have more than 1,200 sites currently in planning,” Mr Berroeta said.

“5G device penetration in Australia remains low but as more 5G-enabled devices come into the market, we are increasing the number of sites going live.”

High customer demand for fixed services, mobile impacted by COVID-19 restrictions

Customer demand for telecommunications services remains strong, driven by increased customer reliance for remote working and education arrangements.

The Vodafone nbn customer base increased 32 per cent since 31 December 2019 to 150,000. TPG Corporation fixed broadband subscribers increased 2 per cent to 1.971 million.

“In the June 2020 quarter, our Group achieved the highest market share of net NBN growth of any service provider, with one third of new NBN subscribers for that quarter taking a TPG Telecom Group branded service,” Mr Berroeta said.

However, the company’s ability to connect new mobile customers was significantly impacted by global travel bans, especially in the prepaid segment. International visitors to Australia, including students, is a key segment for the Vodafone and Lebara brands, and these customers’ absence from the market is a major reason for the decline in the mobile customer base.

Postpaid mobile customers decreased 2 per cent to 3.354 million and prepaid mobile customers (excluding MVNO) decreased 10 per cent to 1.818 million.

“Australian customers are relying on their telco services more than ever and we have also started work to bolster our brands, including new competitive plans and a bold new brand campaign for Vodafone,” Mr Berroeta said.

Responsible company actions in response to pandemic

TPG Telecom recognises the importance of doing business responsibly. The company is taking a customer-centric approach to our COVID response, while helping to ensure the health and wellbeing of employees and the community.

The company acts in line with the principles outlined in the telecommunications industry’s joint statement with the Australian Government as well as the relevant provisions in the Telecommunications Consumer Protections (TCP) Code.



Supporting our customers

Customer initiatives included a temporary \$10 Stay Connected plan for customers experiencing financial difficulty, additional data allowances, unlimited standard national calls, and paused late payment-fees and collections.

“It was important for us as a customer champion to support our customers during this challenging period, and we worked closely with government and industry on our approach,” Mr Berroeta said.

Serving our customers

The company is continually adapting its operations in an ever-evolving situation to serve customers and keep them connected.

As telecommunications is considered an essential service, most Vodafone retail stores are open with social distancing and increased hygiene measures in place. Where appropriate, stores temporarily close in line with government shutdown and precautionary measures.

In line with the Victorian Government's Stage 4 restrictions, most metropolitan Melbourne stores are closed, with 19 stores available for contactless 'Call and Collect' appointments on request for urgent service issues. All airport stores across Australia remain closed.

The company also responded quickly to restore service capacity levels after lockdown measures significantly impacted Vodafone contact centre operations in Mumbai and Pune.

Changes include hiring additional casual employees at its Hobart Contact Centre, enabling agents to work from home and redeploying retail employees to contact centre roles.

“We're serving customers through our normal customer care channels, with customers welcome to contact us via web chat, phone or social media,” Mr Berroeta said.

Business as usual for office-based employees

The company moved to remote-working for all office-based employees on 13 March, with flexible working arrangements remaining in place for all TPG Telecom employees.

“This model worked well from day one and our business continues to operate as normal as all office-based employees are fully equipped to work from home,” Mr Berroeta said.

Outlook

The TPG Telecom Group will continue to prioritise activities to realise merger synergies, while responding to the ongoing COVID pandemic.

Priorities include accelerating the company's 5G mobile network, growing market share of households by offering converged products, owned infrastructure broadband opportunities, increasing Enterprise market share, organisational integration activities, and efficiencies across the business.



The telecommunications industry is proving to be more resilient than many sectors due to increased customer reliance on services and the company expects demand for fixed line services to remain strong. However, the company expects continued challenging conditions in mobile while global travel restrictions remain in place.

“Through our increased scale and strength as a merged company, we are well-placed to continue to support customer needs, while progressing our plans to deliver the benefits of the merger for customers and shareholders,” Mr Berroeta said.

<ends>

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Head of Corporate Media Relations

