

Internet access

Executive summary

Demand for internet capacity and speed by enterprises and consumers is forecast to grow exponentially over the next five years. There is developing expectation for less latency, and enhanced connected experiences driven by new, innovative user applications and increased video streaming.

The full potential of two major infrastructure investments' will be realised in the next five years to address this expectation: finalisation of the National Broadband Network (NBN) and the rollout of the 5G network causing an unprecedented transition within the telecommunications market. Fixed line service customers are disconnecting from their legacy providers, and selecting a new package from a range of retailers. As customers migrate onto both the NBN and 5G, retail service providers are using this as an opportunity to grow their share of customers, which is leading to increased price competition, pressure on margins and greater attention being paid to the customer experience.

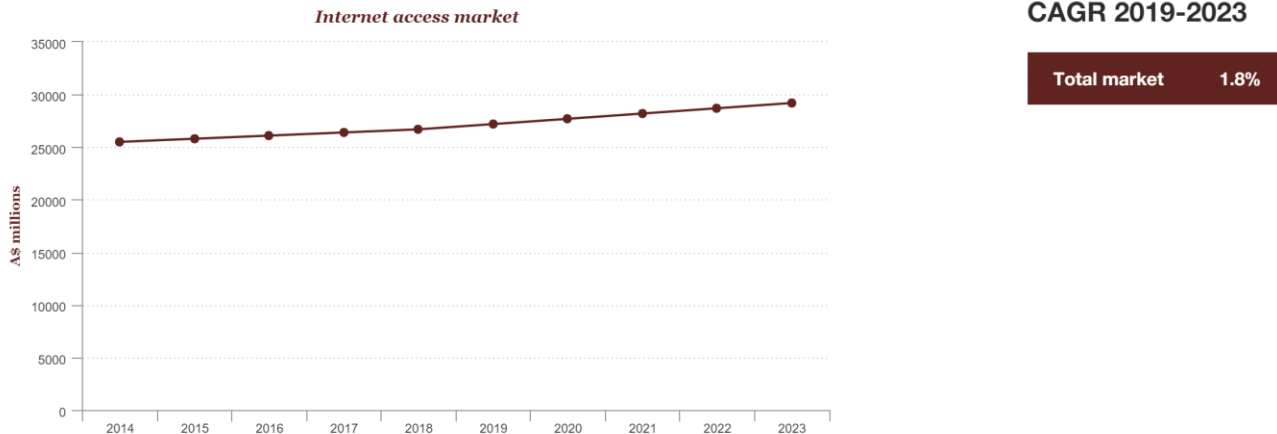


Growth drivers

1. Increasing adoption of Internet of Things (IoT) and artificial intelligence (AI)
2. The opportunities 5G will bring
3. Telecommunications/ entertainment bundling

Forecasts at a glance

Relatively flat revenues are expected for the total internet access market over the forecast period



Connectivity demands increase

The growth in data demand by consumers and enterprises is expected to accelerate with increased adoption of Internet of Things (IoT) technologies, artificial intelligence (AI) and is supported by the 5G network and NBN. For consumers, growth is driven by increased viewing of video-on-demand (e.g. YouTube, iView), and for enterprises the adoption of internet-based cloud services. The convergence of fixed and mobile connectivity will continue to present opportunities for content and application providers to create new experiences, ultimately encouraging further connectivity requirements.

'The difference between internet connectivity at home and on-the-go is becoming irrelevant for consumers.'

Christian von Reventlow, Group Executive - Product and Technology, Telstra

NBN is nearing completion of its planned rollout

In 2018, the number of homes and businesses connected to a NBN plan increased by 38 percent to 4.7 million premises, which represents 59 percent progression towards the target of connecting 8 million homes and businesses by 2020.¹ The number of homes and businesses able to connect to a NBN plan increased by 32 percent to 8.1 million premises in 2018.² This is expected to grow to 11.6 million premises in 2020 with the completion of the initial build.³ As this connectivity has grown, the industry has a greater appreciation for the impact the retail service providers' provisioning of capacity and in-home wiring and technology (such as modems) can have on the delivery of minimum speed targets.

Balancing customer experience, pricing in a competitive environment

As the industry migrates customers from legacy services to the NBN, consumers are grappling with the value proposition offered by retail service providers, in particular, the differences in pricing, speed, capacity and service offered. Working with retail service providers to transition customers effectively to the NBN, customer experience and the pressures on the industry margins in this heightened competitive environment, is a key challenge for NBN Co and retail service providers in the next three years. In response, NBN Co introduced a number of wholesale discounts in 2017-18, to encourage retail service providers to migrate consumers onto higher speed plans and provision greater capacity. The percentage of consumers on 50Mbps (download) wholesale speed plans or higher subsequently increased to 56 percent by the end of 2018, from 16 percent in 2017. Continuing to balance customer experience, pricing strategies and heightened retail service provider competition during the industry transition will be critical for NBN Co.



A maturing mobile market has intensified competition

The mobile market in Australia is reaching saturation for handheld devices, and there is less differentiation in the user experience between the network providers, particularly in metro areas.⁴ This, coupled with the rise of 'unlimited data' and 'no lock in contract' plans, have intensified price-based competition. Mobile providers have been dealing with the challenge of declining average revenue per user, with the growing demand for data requiring network infrastructure investment. As the industry nears the end of the 4G technology cycle, operators are investing in 5G, which is expected to bring a new cycle of innovation.

Monetise the opportunities that 5G will bring

The initial focus for 5G investment will be for enhanced mobile broadband services. This will increase competition in the fixed broadband market, and provide substitution options to the NBN in the lower speed tier segment, albeit there may be data consumption limits of the 5G services. In the next two to three years, 5G also presents the opportunity to enhance the mobile connectivity experience by providing greater capacity and speed, as well as fewer dropouts. To capitalise on this, Telstra announced plans to build Australia's first 5G mobile network and launch its 5G mobile devices⁵ and has already begun its staged rollout, as has Optus.⁶ Internet connectivity providers will need to encourage adoption through positive experiences for consumers in order to demonstrate enough value to achieve average revenue per user growth.

'With the growth of the use of multiple devices in the home, the NBN is enabling families and friends to simultaneously consumer content like never before.'⁷

JB Rousselot, Chief Strategy Officer, NBN Co.

Providers seeking areas for growth in non-core revenue channels

Internet connectivity retailers will continue to find ways to differentiate and add value for their customers, through better user-experiences on their network. This may take the form of either providing access to a superior network, or by bundling fixed broadband and mobile products with digital services in entertainment, sport, health, banking or home IoT products. The ubiquity of IoT has given rise to an awareness of digital safety⁸ - particularly for children⁹ - which maybe an area retailers will explore product development in.

Targeted investment strategies in new, scalable products and services is designed to deliver higher average revenue per user growth.

'A basic level of internet connectivity is like air - it is a human right.'¹⁰

Christian von Reventlow, Group Executive - Product and Technology, Telstra

Total Internet Access market (A\$ million)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2019-2023 |
|------------------------|-----------------|--------|--------|--------|--------|---------------|--------|--------|--------|--------|-----------|
| | Historical data | | | | | Forecast data | | | | | CAGR |
| Internet Access market | 25,500 | 25,800 | 26,100 | 26,400 | 26,700 | 27,200 | 27,700 | 28,200 | 28,700 | 29,200 | |
| % change | | 1.2% | 1.2% | 1.1% | 1.1% | 1.9% | 1.8% | 1.8% | 1.8% | 1.7% | 1.8% |

^{*}2014-2017 figures have been updated to reflect most recently available information

Source: Strategy& analysis