

AI, data demand and the impacts on digital infrastructure

Global Listed Infrastructure
July 2023



Steven Kempler

Co-Founder and Portfolio Manager, Global Listed Infrastructure

[LinkedIn](#)



Amelia Campbell

Investment Analyst, Global Listed Infrastructure

[LinkedIn](#)

From the continuing roll-out of spectrum and 5G to use cases for generative artificial intelligence (AI), investors are feeling energised about the growing need for digital infrastructure in the years ahead. During their recent trip to the Americas, Steven Kempler, Co-Founder and Portfolio Manager and Amelia Campbell, Investment Analyst in Maple-Brown Abbott's Global Listed Infrastructure team spoke with leading digital infrastructure providers and telcos about the prospects for digital infrastructure investments in the dawn of the AI revolution.

Viewpoints:

- Generative AI use cases could translate into massive data growth. This data will find its way onto wireless networks, which will require steady infrastructure upgrades for years ahead.
- The 5G infrastructure rollout is still a multi-year growth story. Current US-wide deployments are at a similar stage to the early days of 4G around 2014.
- The potential rise of a 'killer' AI-related application will likely require significant additional digital infrastructure spend.
- Asset owners possess optionality for scaling up existing digital infrastructure assets to maximise revenue and monetise new AI-related applications.

Unleashing the potential of generative AI

Generative AI – with ChatGPT as the current poster child – has taken the world by storm, capturing investor attention with its potential for revolutionary societal and organisational change. The permutations for AI applications are mind-bending: As an example, one company we met talked about development of personalised content seamlessly integrated into content on your favourite streaming service, tailored to your location and personal preferences. New use cases for subliminal advertising could completely change the way consumers engage with media. Such technology would require convergence of various digital infrastructure types, all working in harmony to deliver a highly tailored entertainment experience. This data-rich experience would at some point need to find its way onto wireless networks – and next-gen digital infrastructure will be required to support it.

With this as but one small example, it is becoming increasingly well understood that to properly leverage AI's potential, there will likely be exponential growth in demand for data and computing power, and to facilitate that, a substantial increase in demand for digital infrastructure.¹ Wireless spectrum remains one of the most efficient means to transmit data within and between economies. In our view, continued exponential growth in wireless data demand will require mobile network operators (telcos) to increase the coverage and capacity of their wireless communications networks, and tower infrastructure is a critical part of this.

¹ When we talk digital infrastructure we mean mobile/cellular towers, fiber networks, small cell assets, distributed antenna systems (DAS), and data centres.



5G remains an unfinished symphony

The data demand growth phenomenon is not necessarily company – or even country – specific. All the regions we cover are in our view seeing strong demand to increase the capacity of mobile networks, driven by exponential data growth. This can be achieved through a combination of amendment activity (telcos upgrading or adding to existing communication equipment at tower sites) and densification (installing equipment at new tower sites, or existing sites that a customer is not currently on, also known as colocation) over the long term.

The roll out of 5G is far from complete, with the increase in 5G equipment on tower infrastructure set to continue for some time. Industry players still compare the current 5G rollout state to the earlier innings of that for 4G, around 2014. In conversations through the course of our trip, the general view from tower owners and mobile network operators is that 5G penetration is now rolling through its own tipping point, and the 5G rollout cycle is likely to be something that will continue for at least the next five years.

Indeed, American Tower cites that only ~50% of sites have been upgraded for 5G so far, and they remain comfortable in their 5%+ p.a. organic growth guidance for their US tower business over 2023–2027, thanks to their long-term master lease agreements. Crown Castle and SBA Communications provided similar comments around organic growth.² However, densification activities are largely absent from the near-term forecasts from all tower owners we spoke with. Densification transition depends on use cases and economics, with the emergence of ‘killer 5G apps’ being a key demand driver.

The rise of a ‘killer’ app versus the lag in 5G upgrades

Telcos we visited spoke to us a lot about ‘killer applications’ on 5G.³ Verizon – who is undoubtedly a proponent – nominated fixed wireless access as one such killer app, with structural growth coming from spectrum rollouts across 5G. Another use case that undoubtedly relies on massive computing power and AI is autonomous driving. The consensus view from the Telcos we visited is that self-driving cars and trucks will eventually happen, but their rollout and use will vary. With autonomous trucks, we may see the creation of long-haul trucking with drones used to take packages from trucks to end delivery points. This all requires 5G equipment to be deployed on towers and in some cases small cells, and for populated areas to be blanketed with dense, low latency coverage.

Scaling up existing networks ...

Throughout our trip it was notable to us that most of the major US-listed tower companies we spoke to have largely refrained from new major tower builds. The general view of these companies is that the return levels are not sufficient, particularly with most of the build-to-suit deals currently being in rural areas where the opportunities for co-tenancies are limited, due to lower data demand relative to urban or sub-urban areas. Perhaps this is another way of saying that a dollar (re)invested in existing networks is better value than new build (or even mergers and acquisitions). In any case, at current interest rates, it seems that for these companies, paying down debt or buying back stock are seen as more attractive than pursuing greenfield builds. This is not to say infrastructure growth will not happen – on the contrary, the telco capex spend appears to be huge – but the consensus among the US tower majors is that this will mostly find its way to strong growth on their existing networks of towers through the addition of more equipment, as opposed to building a swathe of new tower assets for telco customers.

² Sources for American Tower, Crown Castle and SBA Communications: Company reports and conference calls

³ A [killer application](#) is any computer application software that is so necessary or desirable that it proves the core value of some larger technology, such as its host computer hardware, video game console, software, programming language, software platform, or operating system.

Disclaimer

This information was prepared and issued by Maple-Brown Abbott Ltd ABN 73 001 208 564, Australian Financial Service Licence No. 237296 ("MBA"). This information must not be reproduced or transmitted in any form without the prior written consent of MBA. This information does not constitute investment advice or an investment recommendation of any kind and should not be relied upon as such. This information is general information only and it does not have regard to any person's investment objectives, financial situation or needs. Before making any investment decision, you should seek independent investment, legal, tax, accounting or other professional advice as appropriate, and obtain the relevant Product Disclosure Statement and Target Market Determination for any financial product you are considering. This information does not constitute an offer or solicitation by anyone in any jurisdiction. This information is not an advertisement and is not directed at any person in any jurisdiction where the publication or availability of the information is prohibited or restricted by law. Past performance is not a reliable indicator of future performance. Any comments about investments are not a recommendation to buy, sell or hold. Any views expressed on individual stocks or other investments, or any forecasts or estimates, are point in time views and may be based on certain assumptions and qualifications not set out in part or in full in this information. The views and opinions contained herein are those of the authors as at the date of publication and are subject to change due to market and other conditions. Such views and opinions may not necessarily represent those expressed or reflected in other MBA communications, strategies or funds. Information derived from sources is believed to be accurate, however such information has not been independently verified and may be subject to assumptions and qualifications compiled by the relevant source and this information does not purport to provide a complete description of all or any such assumptions and qualifications. To the extent permitted by law, neither MBA, nor any of its related parties, directors or employees, make any representation or warranty as to the accuracy, completeness, reasonableness or reliability of the information contained herein, or accept liability or responsibility for any losses, whether direct, indirect or consequential, relating to, or arising from, the use or reliance on any part of this information. Neither MBA, nor any of its related parties, directors or employees, make any representation or give any guarantee as to the return of capital, performance, any specific rate of return, or the taxation consequences of, any investment. This information is current at 10 July 2023 and is subject to change at any time without notice. You can access MBA's Financial Services Guide [here](#) for further information about any financial services or products which MBA may provide.

© 2023 Maple-Brown Abbott Limited.

... and longer term potential for revenue synergies

There is a growing school of thought that infrastructure companies can look to maximise the opportunities derived from a wave of AI-related technologies by taking advantage of revenue synergies over the longer term. These may include combining cloud on-ramps at the edge of networks and at tower assets, and potentially with fiber and small cells. For example, American Tower is looking at potential future synergies between data centers and tower sites driven by cloud service providers. American Tower told us they have approximately 1,000 tower sites in the US that have the right combination of fiber connectivity, power supply, and (importantly) physical space at the base of the tower to build or provide capacity for an edge data center. While the company is not yet running trials with customers, it sees this as a key research and development area.

Valuation differences – mind the gap!

Valuation gaps between public and private digital infrastructure assets still seems very wide. We spoke to one large investor in digital infrastructure that thinks the private valuations are highest in the lowest risk assets e.g. towers, relative to some of the riskier assets that have de-rated (albeit not as much as public markets for similarly situated assets). No one in senior management could explain the delta – but all agreed that whether listed looks attractive or unlisted is full, the gap is certainly there.

To more carefully assess valuation differences, the Maple-Brown Abbott Global Listed Infrastructure team recently produced a [White Paper](#) comparing listed versus direct market valuations in the infrastructure sector. Our core view is that even if valuations between the listed and unlisted market remain at the current wide range, then listed infrastructure should produce higher returns than unlisted infrastructure, simply due to the very different earnings yields currently available to investors. In other words, the higher prices currently paid in direct markets will likely lead to a significantly lower ongoing earnings yield over time. While many investors espouse the benefits of earning an illiquidity premium through private market asset returns, we believe these assets, based on current market valuations, are likely to be earning a discounted return relative to their listed counterparts.

Taking action in the portfolio

We have recognised for some time the substantial long term growth opportunity available in the digital infrastructure sector. So too had the market, as digital infrastructure companies tended to trade at premium multiples. However, over the past 18 months, we have seen valuations for listed tower companies fall materially, despite strengthening growth outlooks and balance sheets. This has led us to increase the allocation to digital infrastructure assets in the portfolio from 4% to 13% over this period, taking advantage of the attractive valuations.

Parting thought

Digital infrastructure asset owners face, in our view, an exciting future, with scaling optionality and myriad options driving significant data demand. This data demand – underpinned by a wide range of AI-related applications – will drive a need for essential digital infrastructure investment across the globe.

