



The Race Is on for 5G Dominance

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5G has been the hottest topic in the telecom industry over the last few years, however expectations around its potential vary wildly. Depending on who you ask, you might hear that 5G will create a technological step change that will enable applications of the future, including fully autonomous vehicles, remote surgery and smart cities. Others may say that 5G will only provide an incremental speed and quality improvement over 4G and that more exciting applications are years away. While hypothesizing about what a 5G future could look like may hold some merit, we think investors should be more focused on how telecom carriers plan to develop and monetize their 5G networks. With the recent \$26 billion merger of T-Mobile and Sprint and the record-setting \$81 billion C-Band spectrum auction, we think it is imperative that telecom carriers start to consider developing and monetizing their networks as well.

The last 18 months have resulted in something of a spending arms race among Verizon, AT&T and T-Mobile—collectively known as the Big 3—which began when the merger between T-Mobile and Sprint officially closed in early 2020. While T-Mobile acquired a relatively mediocre wireless business from Sprint, it also acquired a plethora of mid-band spectrum, the type that will serve as the backbone of nationwide 5G networks. As such, following the acquisition, T-Mobile not only had the largest portfolio of mid-band spectrum, but also had a sizable advantage over Verizon and AT&T's mid-band portfolios. However, facing the threat of lost market share to T-Mobile in the early stages of 5G, Verizon and AT&T spent aggressively during the recent C-Band auction for mid-band spectrum. Together, Verizon and AT&T accounted for approximately 85% of the \$81 billion spent at the auction. With Verizon, AT&T and T-Mobile having spent considerable amounts to acquire mid-band spectrum, the question now is how will these carriers monetize their network investments?



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With 5G still in its infancy, there are a variety of ways the Big 3 carriers could monetize their networks; however the carriers appear to be following similar strategies today. For starters, all three carriers plan to offer 5G service to unlimited plan subscribers only. These plans cost more than metered wireless plans, which will lead to solid revenue tailwinds as customers migrate to higher-priced plans to access 5G service. Additionally, carriers are targeting previously underpenetrated and underserved areas of the wireless industry, such as rural markets and dedicated first-responder networks.

Another monetization strategy the Big 3 carriers are focusing on is fixed wireless broadband. Fixed wireless broadband is a relatively new product in the wireless industry and is intended to be a direct competitor to cable internet. While still relatively nascent, 5G marks the first generation of wireless technology to make fixed wireless broadband a viable alternative to wired internet due to 5G's faster speed.

Finally, the Big 3 carriers are targeting business customers for 5G monetization. Although many small- and medium-sized businesses and enterprise organizations are already customers of the Big 3 for wireless service, these carriers intend to further increase their wallet share with business customers through emerging technologies, including mobile edge computing and Internet of Things (IoT) solutions.

While each of the Big 3 plans to employ the above strategies to monetize their networks, we think Verizon is the best-positioned carrier to capitalize on several of these opportunities. Although T-Mobile has the largest portfolio of mid-band spectrum, Verizon has the industry's leading network and the necessary infrastructure to maximize the deployment of its newly acquired mid-band spectrum. Further, Verizon has spent the last several years increasing its millimeter wave spectrum holdings. Although millimeter wave spectrum experiences poor propagation, it does have much faster speeds, and Verizon has spent the last several years building out its network to accommodate this spectrum.

With comparable holdings in mid-band spectrum to T-Mobile and the industry's largest portfolio of high-frequency spectrum already deployed, Verizon's 5G network will be able to offer nationwide coverage while being dynamic enough to enable new, low-latency 5G solutions. For instance, Verizon currently has a fixed wireless broadband product in 47 cities across the U.S. and offers average speeds of 300 megabits per second. In addition to this product, Verizon has partnered with cloud service providers, including Microsoft and Amazon, to begin offering mobile edge computing services to enterprise customers. While these products are still small relative to Verizon's business, they could become meaningful contributors to Verizon's future growth as they scale.

The last year and a half has set the stage for the very beginnings of the 5G era. With balance sheets relatively constrained across the Big 3 following the recent period of investment, we believe these carriers will begin to shift their focus towards monetization. While time will tell which future applications gain traction in the 5G era, we think Verizon's current network advantage, coupled with its portfolio of mid- and high-band frequency spectrum, will allow it to lead the way in monetizing 5G opportunities.

As of August 31, 2021, Diamond Hill owned shares of Verizon Communications, Inc.

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