

# Testing the Sky's Limits: Our Realistic Starlink Market Sizing

Technological constraints limit Starlink to serving low-density areas, but we see a compelling niche opportunity.

## Morningstar

June 8, 2026

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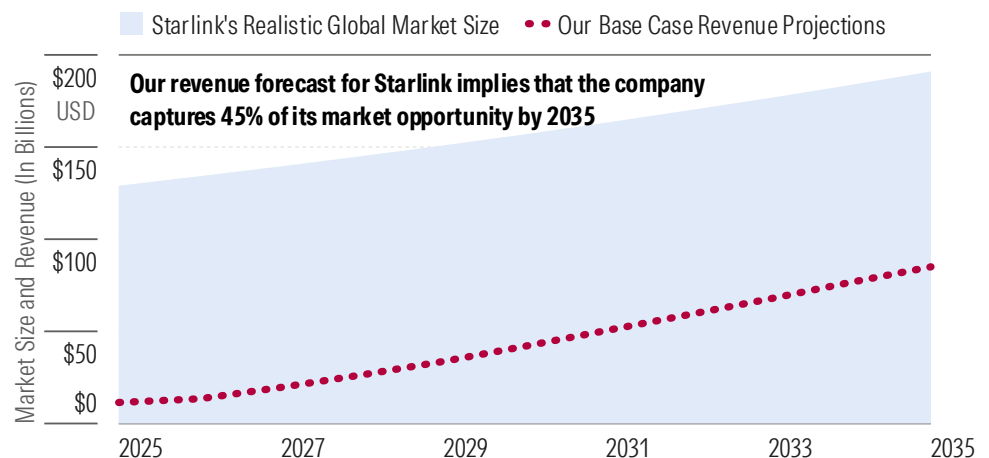
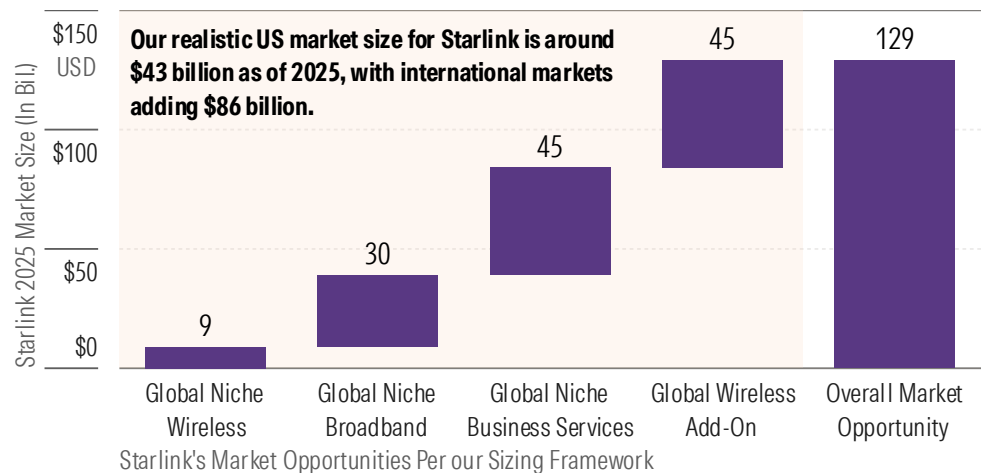
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## Executive Summary

Given the centrality of Starlink to SpaceX's financial results and prospects, this report focuses on Starlink's global market opportunity. Starlink's technology is well suited to providing connectivity in low-density areas, and we do not anticipate the firm disrupting the core telecom market. Despite this, we think that there is a significant global market opportunity of around \$129 billion as of 2025, predominantly complementary to existing connectivity providers. Our revenue projections for Starlink imply that the company will penetrate 45% of these niche market opportunities by 2035.

**Exhibit 1** We Estimate 7.5 Times Revenue Growth by 2035, Capturing 45% of Market Excluding Core Telecom



Source: Morningstar estimates. Data as of May 31, 2026.

### Key Takeaways

- ▶ Starlink has accounted for most of SpaceX's growth and profitability in the past three years and will remain the main driver for SpaceX in the medium term. In our opinion, the central question with Starlink is how large the market for its services can be.
- ▶ SpaceX's claimed \$1.6 trillion total addressable market for Starlink significantly exaggerates the realistic market size given that technical constraints and unit economics limit it to predominantly serving lower-density environments. The main issues with Starlink in dense areas are capacity constraints and congestion.
- ▶ Unlike terrestrial networks, Starlink's infrastructure can serve customers globally. Starlink penetration across countries depends on factors such as population density, income levels, broadband penetration, competitive intensity, regulatory frameworks, and existing telecom infrastructure. We estimate Starlink's global opportunity is around 3 times the realistically addressable market in the US.
- ▶ We use our proprietary framework (Exhibit 2) to estimate Starlink's global market size. The global market size in the Niche and Add-on tiers is estimated at around \$84 billion and \$45 billion, respectively. We do not project any material gains in market share in the core telecom segment in our analysis.
- ▶ Based on our market sizing analysis, our base-case 2035 Starlink revenue projection of \$85 billion implies that the firm will be able to penetrate 45% of its realistic market opportunity in the next decade.
- ▶ From a capacity perspective, we show that SpaceX's current technology road map (toward V3 satellites with 10 times more bandwidth than V2) should comfortably support our 2035 revenue forecasts.

### Companies Mentioned

Name/Ticker	Economic Moat	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Morningstar Rating	Market Cap (Bil)
Space Exploration Technologies	Narrow	USD	63.00	135.00	Very High	★	1,780

**Exhibit 2** Summarizing Our Framework for Starlink's Market Opportunity: Starlink's Market Is Huge, Even if It Doesn't Disrupt Core Telecom

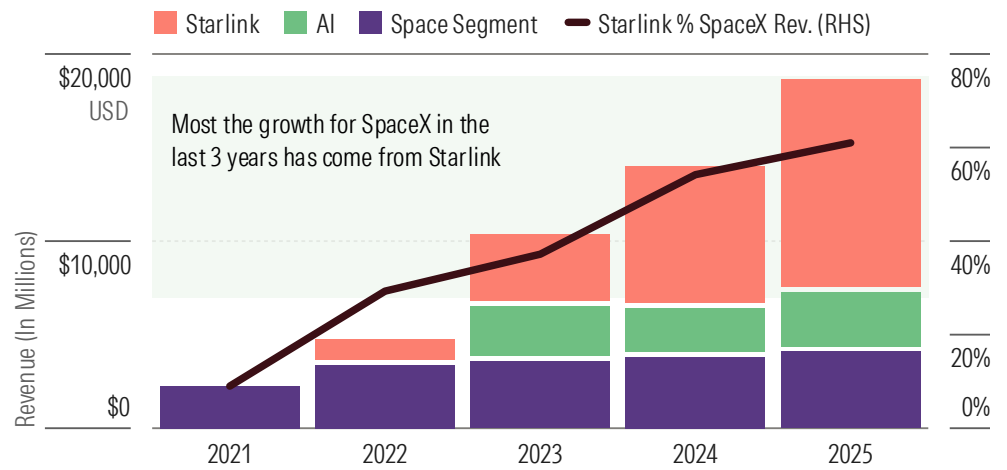
	Wireless	Broadband	Business Services	SpaceX Opportunity: ~\$129B
<b>Niche</b> +Greenfield +No incumbents to displace +Primary opportunity	<b>Dead &amp; low-density zones</b> • Rural & remote • Maritime/aviation • Hikers & campers • Emerg'cy comms ~\$3B US ~\$9B Global	<b>Underserved households</b> • Rural homes w/o cable • RV & mobile • Islands • Disaster recovery ~\$10B US ~\$30B Global	<b>Specialized &amp; remote ops</b> • Oil rigs & mining • Shipping/logistics • Military/government • New use cases e.g., IoT ~\$15B US ~\$45B Global	~\$28B US ~\$84B Global
<b>Add-on</b> +Revenue share with carriers +Low acquisition cost	<b>Carrier satellite bolt-on</b> • T-Mobile / Verizon deals • \$10-15/mo premium tier ~\$15B US ~\$45B Global	Not applicable No add-on analogue in fixed broadband	Not applicable Business continuity treated separately	~\$15B US ~\$45B Global
<b>Core Telecom</b> -Highly penetrated -Minimal gains modeled ~\$390B US ~\$1.17T8 Global	<b>Mobile Carrier mass market</b> • AT&T / Verizon / T-Mobile • ~\$40-45 ARPU/mo • Fully penetrated market • Requires chum to win ~\$240B US ~\$720B Global	<b>Cable &amp; Fiber incumbents</b> • Comcast/Charter/AT&T • ~\$65-70 ARPU/mo • Dense, urban markets • Latency gap remains ~\$90B US ~\$270B Global	<b>Enterprise connectivity</b> • AT&T / Lumen / Zayo • High SLAs • SD-WAN / MPLS • Redundancy use cases only ~\$60B US ~\$180B Global	

Source: SpaceX, Morningstar estimates, PitchBook. Data as of June 4, 2026.

**Starlink Will Continue to Be the Main Moneymaker for SpaceX in the Foreseeable Future**

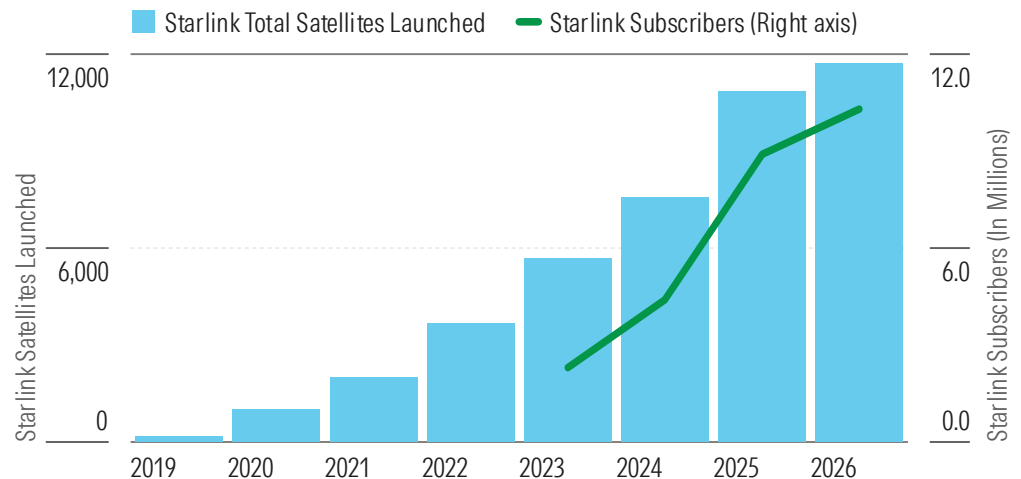
Starlink has accounted for most of SpaceX's growth and profitability in the past three years (Exhibit 3). We expect most of the company's profits to come from the Starlink business in the foreseeable future. Starlink will essentially be the financial engine that will make other ambitious projects at SpaceX possible. We expect Starlink to generate substantial cash in the coming years, and that capital will be used for other priorities, such as Starship development and artificial intelligence infrastructure buildout. Given the importance of Starlink, SpaceX has prioritized the business in allocating its launches. Starlink satellites account for most of the mass SpaceX places into orbit each year, and the firm is steadily increasing its constellation, which now exceeds 10,000 satellites, according to the latest estimates (Exhibit 4).

**Exhibit 3** Starlink Remains Crucial for SpaceX in the Medium Term; Starlink Will Partially Fund Other Future Bets



Source: PitchBook, Morningstar, company filings. Data as of Dec. 31, 2025.

**Exhibit 4** Starlink Constellation Capacity and Its Subscribers Have Grown Rapidly

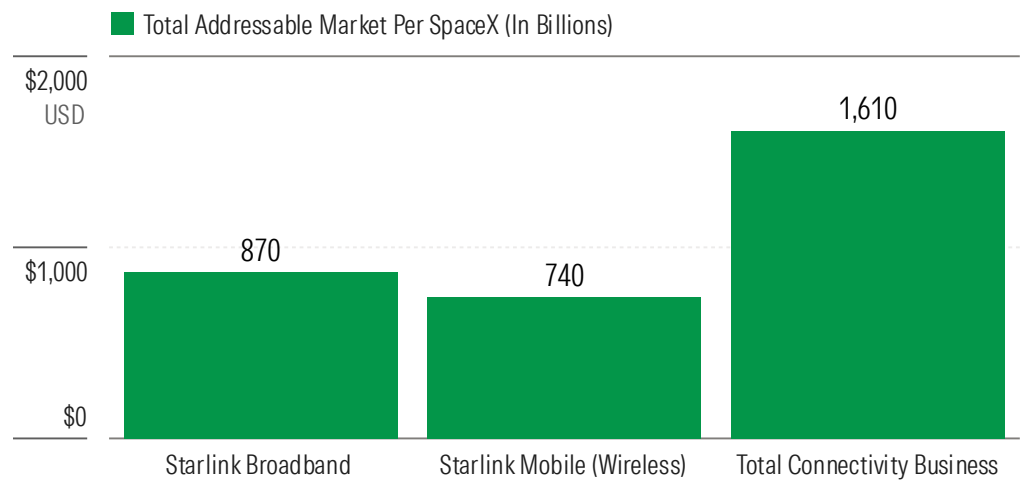


Source: PitchBook, Morningstar, company filings, Jonathan McDowell, planet4589.org, *The Wall Street Journal*. Data as of March 31, 2026.

**SpaceX Claims a Massive \$1.6 Trillion TAM for Starlink, but We Are Skeptical**

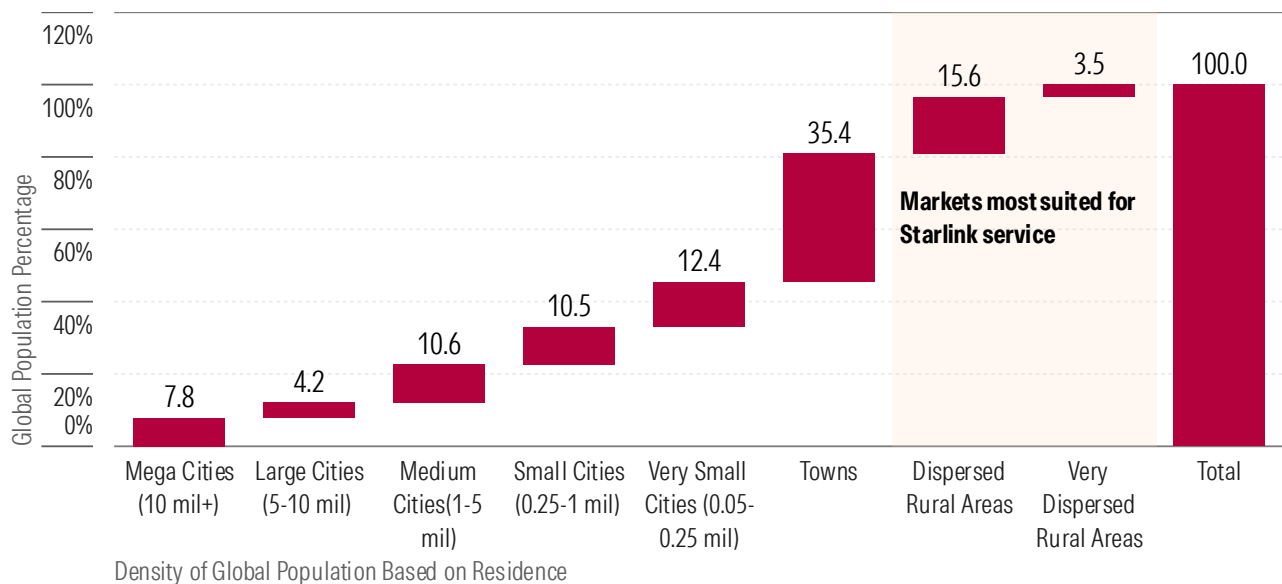
SpaceX's \$1.6 trillion TAM figure appears to aggregate the total connectivity market across most countries (excluding China and Russia) and all segments, including wireless, broadband, and enterprise. The firm's quoted figure implies that Starlink is a credible competitor to incumbent telecom providers across all geographies and market segments. We think that this significantly overstates any realistic market opportunity for Starlink. As we discuss below, satellite-based connectivity faces physical and technological constraints that are very difficult to overcome in densely populated areas.

**Exhibit 5** SpaceX Claims a Massive TAM Figure for Starlink, but This Figure Overstates the Realistic Market Size



Source: Company filings. Data as of June 3, 2026.

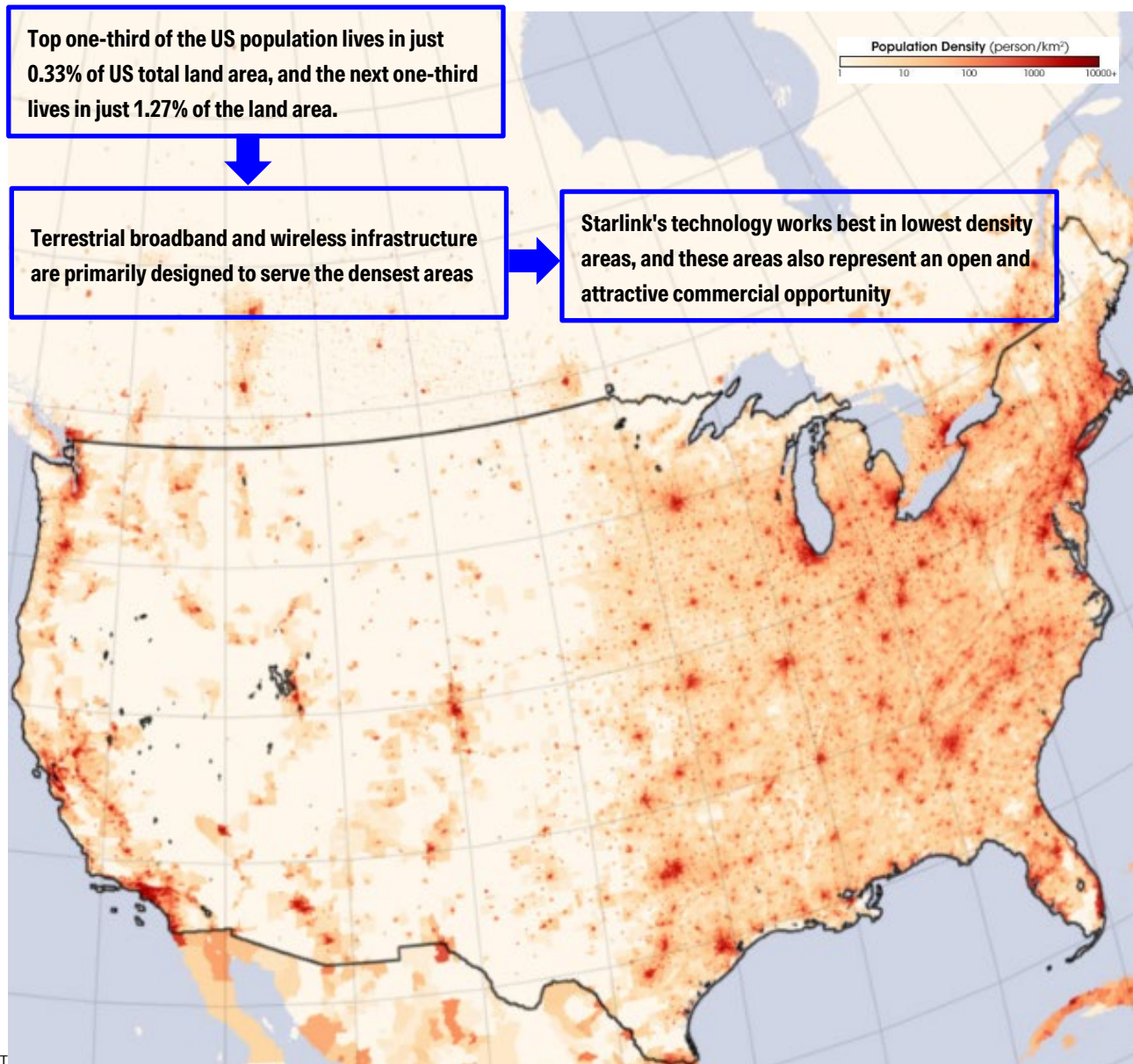
**Exhibit 6** About One-Fifth of the Global Population Lives in Lower-Density Environments That Are More Suitable for Satellite Connectivity



Source: SpaceX, Morningstar estimates, PitchBook, United Nations, DESA, Population Division, World Urbanization Prospects 2025. Data as of Dec. 31, 2025.

Starlink's infrastructure and technical constraints make its services best suited to serving lower-density environments where we estimate that about one-fifth of the global population lives (Exhibit 6). Based on more granular data, we estimate that about 5% of the global population lives in highly dispersed environments, which are least suitable for terrestrial infrastructure and ideally suited for satellite-based connectivity. This report focuses on a detailed market sizing analysis for Starlink. Based on even the most simplistic analysis, applying the 5% share discussed above to the \$1.6 trillion TAM claimed by SpaceX, we can establish a conservative estimate of at least \$80 billion in directly addressable global market for Starlink.

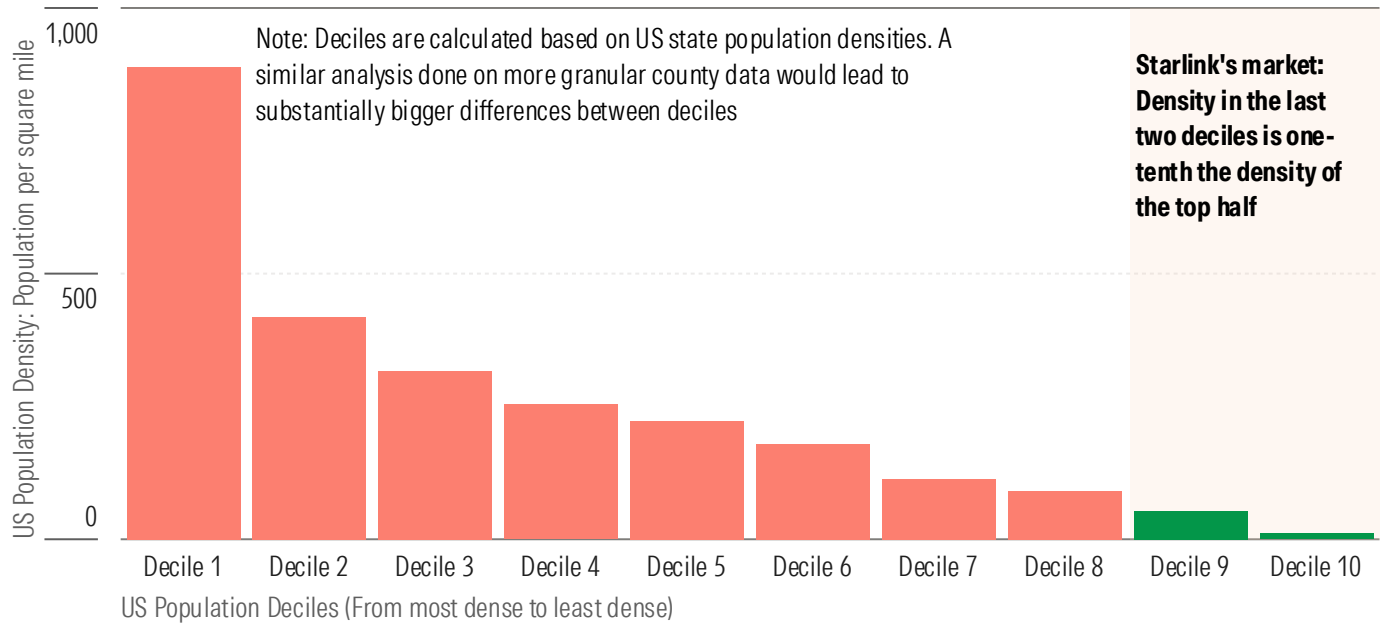
**Exhibit 7** Populations Tend to Concentrate Around Dense Urban Centers; Terrestrial Infrastructure Is Created to Serve the Densest Areas



Source: Morningstar, CNT data, NASA. NASA image based on data archived by the Socio Economic Data and Applications Center. Note: Exhibit created using publicly downloadable NASA image.

Doing a similar analysis on US population density shows a similar trend (Exhibit 8), exhibiting a striking concentration of population. According to an analysis by CNT, more than two-thirds of the US population lives in less than 2% of US land areas, and the remaining third lives in 98% of land area.

**Exhibit 8** Population Densities Fall Rapidly by Deciles; Terrestrial Infrastructure Costs Per Customer in Lower Deciles Are Not Economical



Source: Morningstar estimates, US Census Bureau. Data as of Dec. 31, 2021.

**The Economics of Terrestrial Telecom Infrastructure Break Down in Sparsely Populated Areas**

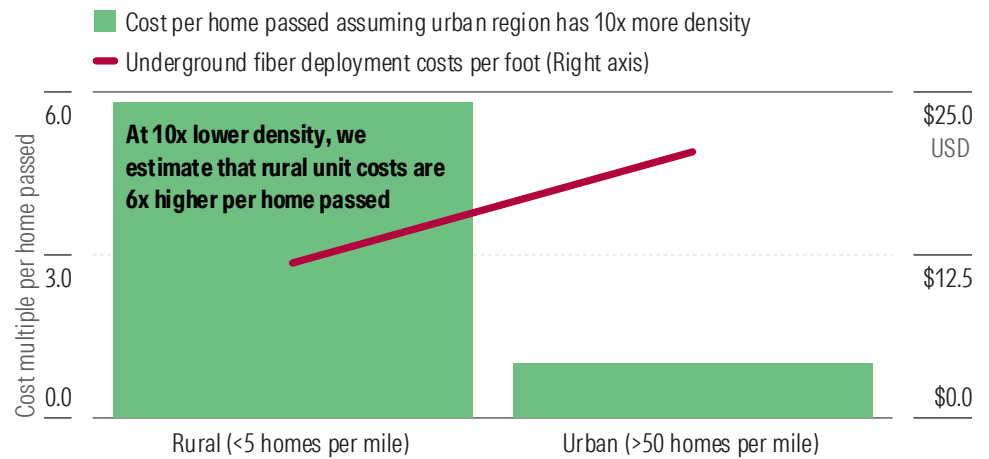
The economics of terrestrial infrastructure deteriorate rapidly in sparsely populated regions. Extending fiber networks or increasing cell tower density across large rural geographies often requires infrastructure investments that cannot be justified by the limited number of potential subscribers. In low-density areas, the cost of serving each customer can be multiple times that in urban markets, making returns unattractive.

Starlink has fundamentally different dynamics when serving lower- and higher-density areas, which can work to its advantage. Starlink's satellite constellation operates globally, and infrastructure costs are largely incurred upfront, whereby serving an additional subscriber in a remote area requires little incremental network investment. This is practically the opposite of the case with local terrestrial networks. The satellite passes overhead regardless of local population density, allowing SpaceX to spread fixed costs across a broader user base.

From a business perspective, Starlink is well positioned to serve sparsely populated regions where terrestrial providers have historically struggled to deploy infrastructure profitably. In our view, these low-density markets represent the most natural and economically attractive use case for satellite

connectivity, offering a solution to connectivity challenges that terrestrial networks have often been unable to address efficiently.

**Exhibit 9** Economics of Terrestrial Infrastructure Deteriorate Rapidly in Sparsely Populated Regions

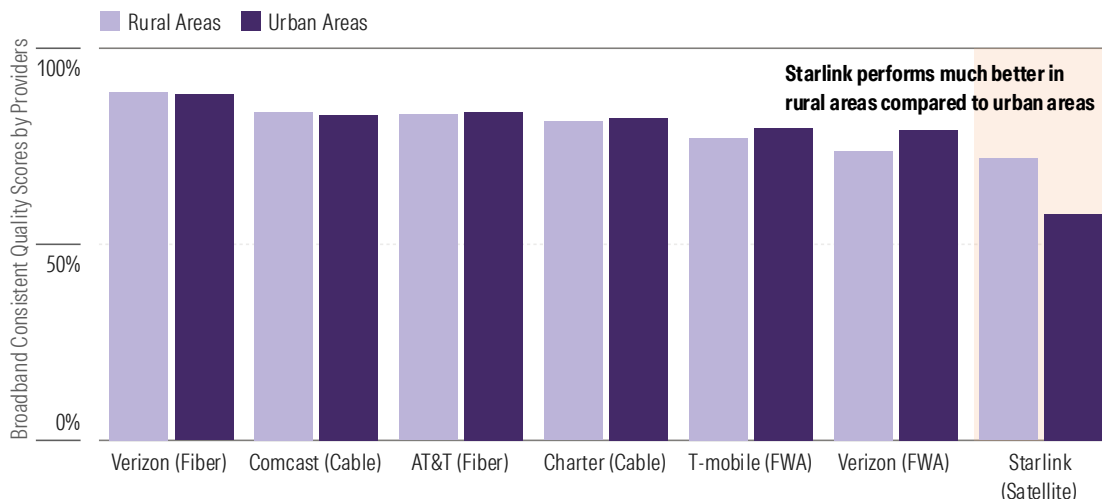


Source: Morningstar, Fiber Broadband Association Fiber Deployment Cost Study 2025. Data as of Dec. 31, 2025.

**Starlink Doesn't Work Well in Dense Areas, and Is More Suitable for Sparsely Populated Areas**

The main issues with Starlink in urban and densely populated areas are capacity constraints and network congestion. Due to the structural limitations of Starlink's technology, it has a finite amount of bandwidth available within each satellite beam covering a geographic area. Unlike fiber networks, where greater customer density improves economics and lowers service costs, Starlink faces the opposite dynamic. As user concentration increases, network capacity becomes more constrained, making it difficult to maintain performance and unit economics.

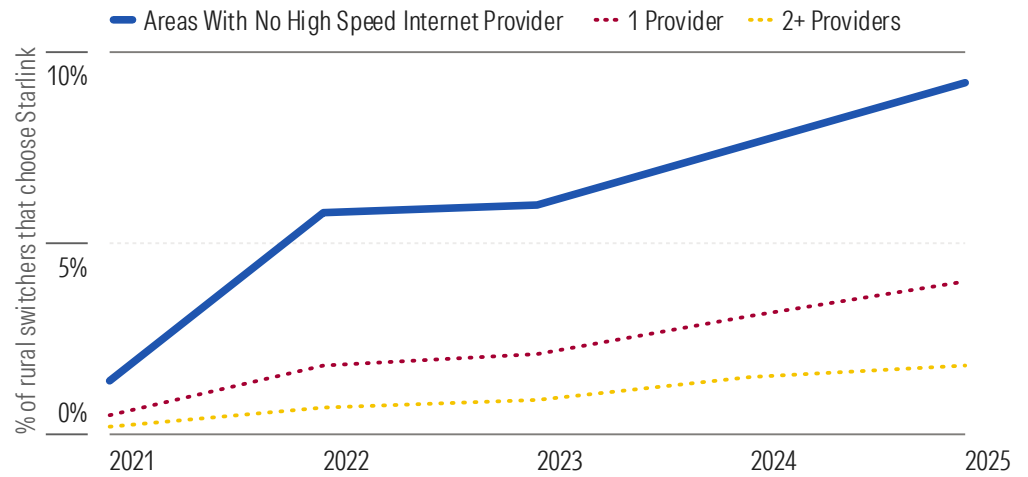
**Exhibit 10** Starlink's Performance Is Much Lower in Urban Areas, Often Making It an Uncompetitive Choice; It Competes Well in Rural Areas



Source: Opensignal, Morningstar. Data as of Dec. 31, 2025.

Broadband Consistent Quality scores shown in Exhibit 10 above measure the reliability of an internet connection to maintain the performance required for common digital tasks. A 60% number in the exhibit above means that a provider's network can meet the minimum performance thresholds for a common household 6 out of 10 times, akin to a service level. Exhibit 10 shows that Starlink's performance is weak in urban areas but competitive in rural areas.

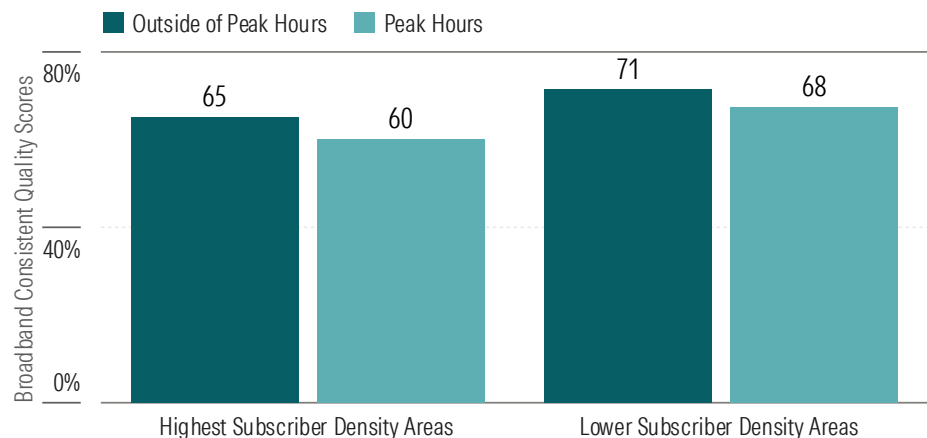
**Exhibit 11** Starlink Has the Strongest Value Proposition in Markets With No High-Speed Competition



Source: Opensignal, Morningstar. Data as of Dec. 31, 2025.

Starlink underperforms in areas where alternatives exist, while its main advantage is its ability to reach areas that other providers cannot (Exhibit 11). An analysis published by Opensignal shows that Starlink's performance is notably worse in areas with the highest subscriber density than in less dense areas. Broadband Consistent Quality scores for Starlink drop to 60% during peak hours in the highest-density areas, essentially making the product uncompetitive there.

**Exhibit 12** Starlink's Capacity Constraint in Denser Areas Is the Limiting Factor for Subscriber Growth

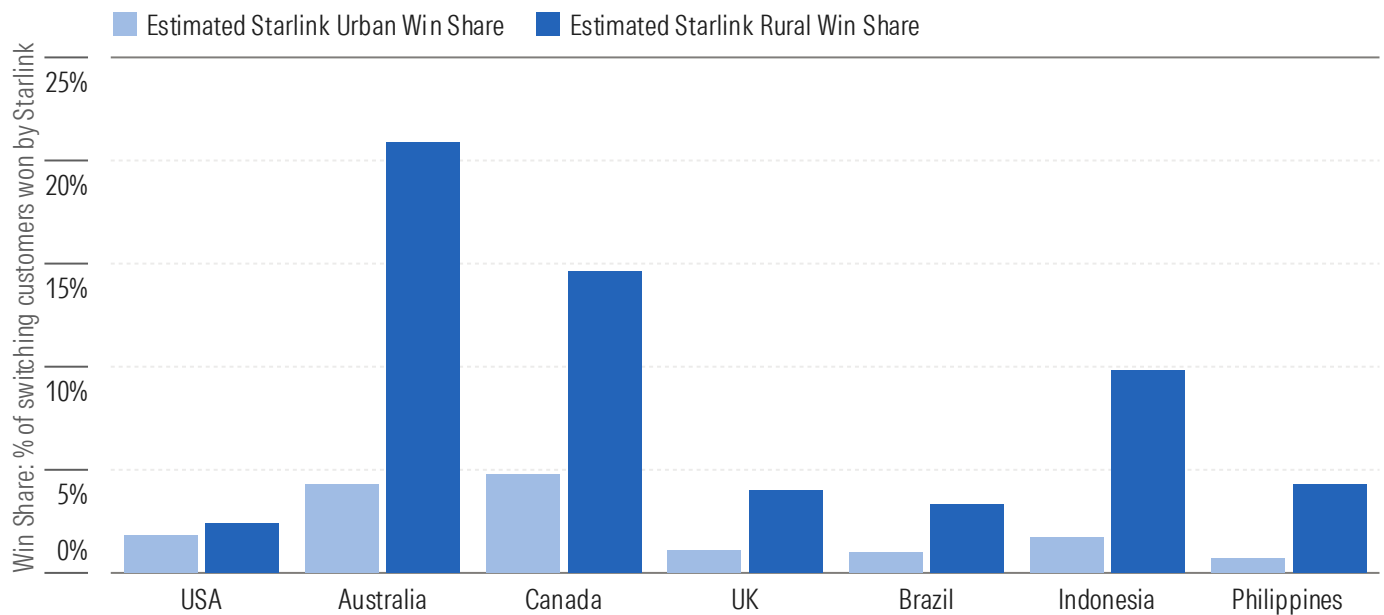


Source: Opensignal, Morningstar. Data as of Dec. 31, 2025.

**Starlink's Infrastructure Serves Global User Base: We Estimate Size Around 3 times US Market**

The biggest structural difference between a scaled satellite network operator like Starlink and traditional cable, fiber, or wireless operators is that an investment in SpaceX's orbital telecom infrastructure increases utility for all users globally, whereas investments by fixed-line and wireless operators apply locally. An important consideration for Starlink is to accommodate its potential to serve customers globally and the impact of that dynamic on its unit economics. Starlink is already gaining meaningful market share among customers switching internet providers in rural areas of countries such as Australia, Indonesia, and the Philippines. (Exhibit 13) These are all countries where rural populations are sparsely distributed, and existing connectivity infrastructure is weak.

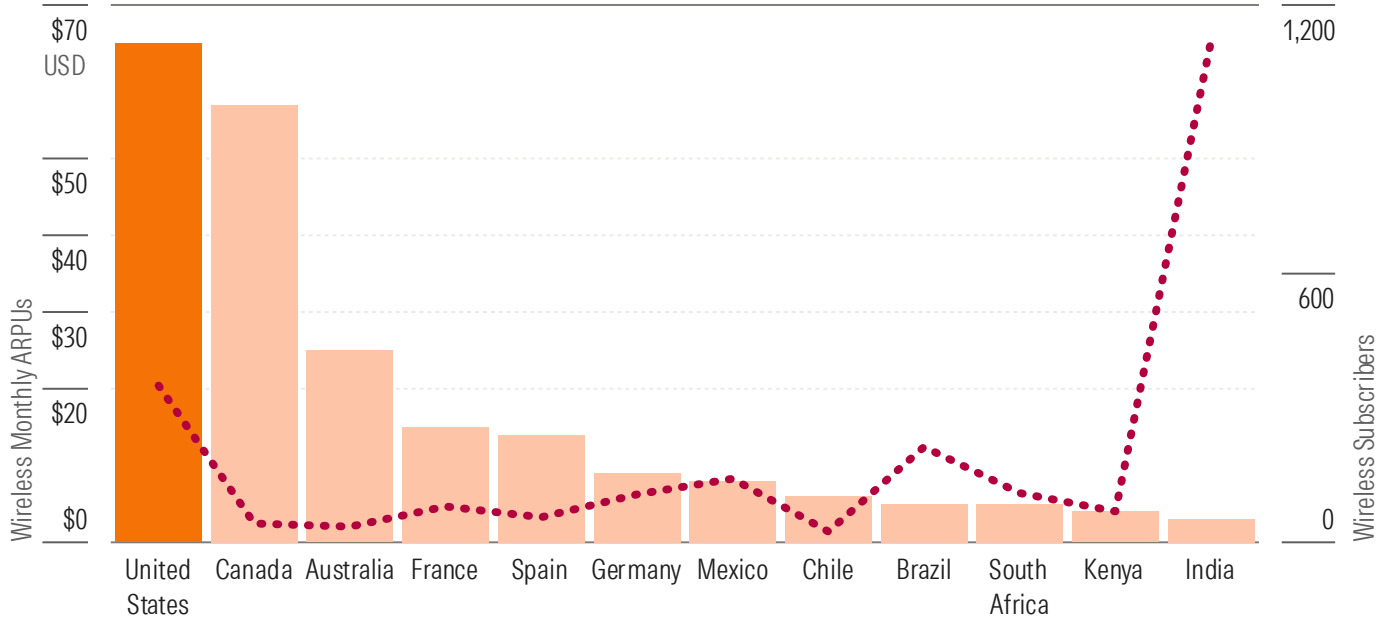
**Exhibit 13** Starlink Is Starting to Gain Share Globally; Its Win Share in Indonesia, Canada, and Australia Is Already Higher Than in the US



Source: Opensignal, Morningstar. Data as of Dec. 31, 2025.

We note that Starlink's unit economics are not equally attractive across all geographies. The cost of serving a subscriber is driven primarily by the satellite constellation, launch infrastructure, and network operations, which are largely independent of income levels across countries. In other words, the costs of serving a customer in the US are similar to those of serving a customer in Africa. However, consumers' ability and willingness to pay for connectivity varies dramatically across markets. For instance, we see wireless ARPU's in a developed market like the US around \$65 per month, while comparable figures in lower-income countries such as India are often as low as \$3 per month (Exhibit 14). Even with a consistent average cost to serve a global user base, we think lower available unit revenue constrains Starlink's long-term global market opportunity. Although the service may be technically available worldwide, many use cases in lower-income markets may not support pricing levels sufficient to generate attractive returns, limiting the portion of the global population that is realistically addressable.

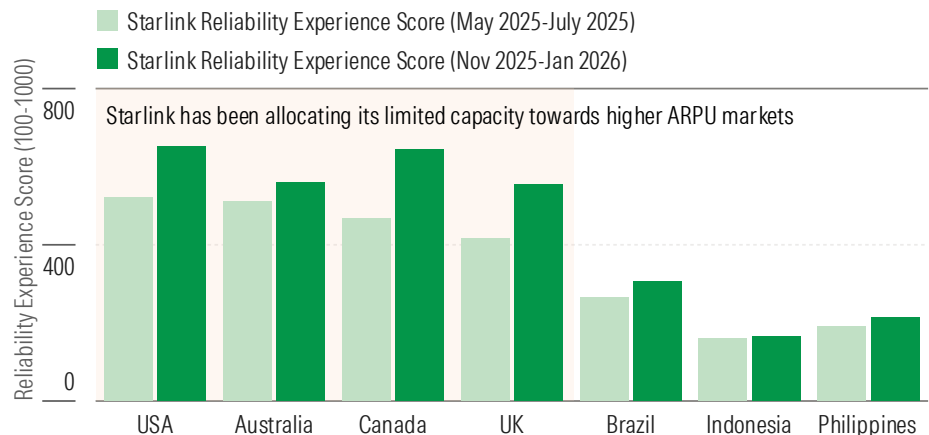
**Exhibit 14** Broadband and Wireless ARPUs Across International Markets Are Structurally Different, but Starlink's Cost to Provide Service Is Largely Similar



Source: Omdia, Morningstar, company filings. Data as of Dec. 31, 2025.

We expect Starlink's main constraint to be its ability to increase capacity in the next few years. Given this dynamic, we think Starlink will prioritize scaling in high-income countries and will be limited to high-impact use cases in lower-income countries for the foreseeable future. Exhibit 15 shows that Starlink has allocated a larger share of its limited capacity to higher-ARPU countries such as Australia and Canada. This has resulted in relatively lower performance in markets such as Indonesia and the Philippines. That said, Starlink's reliability has been steadily improving across all markets as its constellation, capacity, and network infrastructure grow.

**Exhibit 15** Starlink Channels Limited Capacity Toward High ARPU Markets; Reliability Is Improving in All Markets

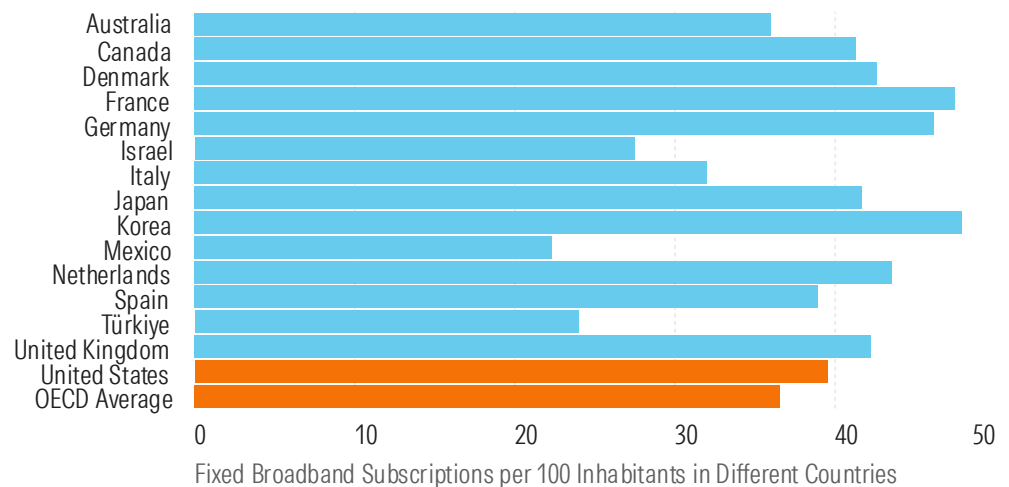


Source: Opensignal, Morningstar. Data as of Jan. 31, 2026.

Connectivity markets vary significantly across countries in terms of population density, income levels, broadband penetration, competitive intensity, regulatory frameworks, and existing telecommunications infrastructure. Thus, Starlink's market potential in each could vary considerably.

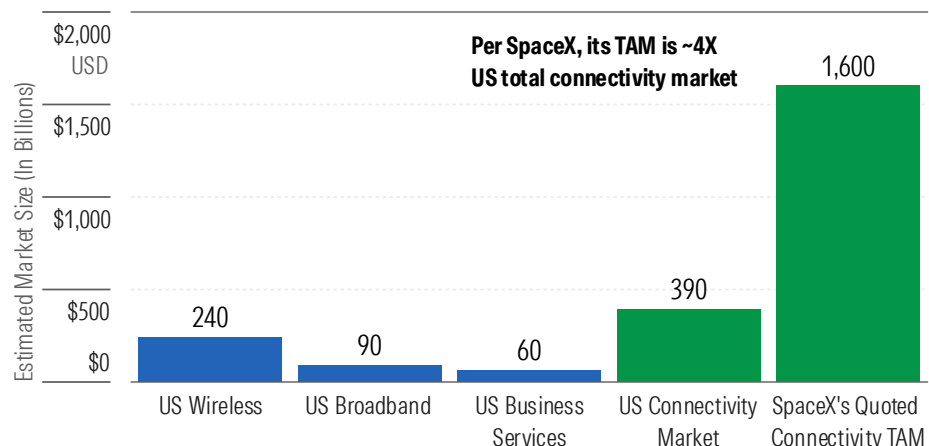
We leveraged the US as our primary analytical framework given the high availability of reliable data. We then extrapolated our findings to other international markets. We think the US can serve as a reasonable proxy for other high-income countries, given the maturity of its connectivity market (Exhibit 16). We adjusted our global estimate to account for less-developed infrastructure (a plus) with lower average revenue per user in developing markets. While this approach simplifies a highly diverse global landscape, we believe it provides a reasonable framework to globalize our estimate of Starlink's realistic addressable market.

**Exhibit 16** Starlink Market Opportunity Varies Widely in Different Countries; US Is a Good Proxy for OECD Countries



Source: Morningstar, OECD, Broadband Portal. Data as of Dec. 31, 2024.

**Exhibit 17** US Connectivity Market Is Estimated to Be Around \$390 Billion; One-Fourth of SpaceX's Quoted TAM



Source: Morningstar, company filings, US Department of Justice, USTelecom, Federal Communications Commission. Data as of Dec. 31, 2025.

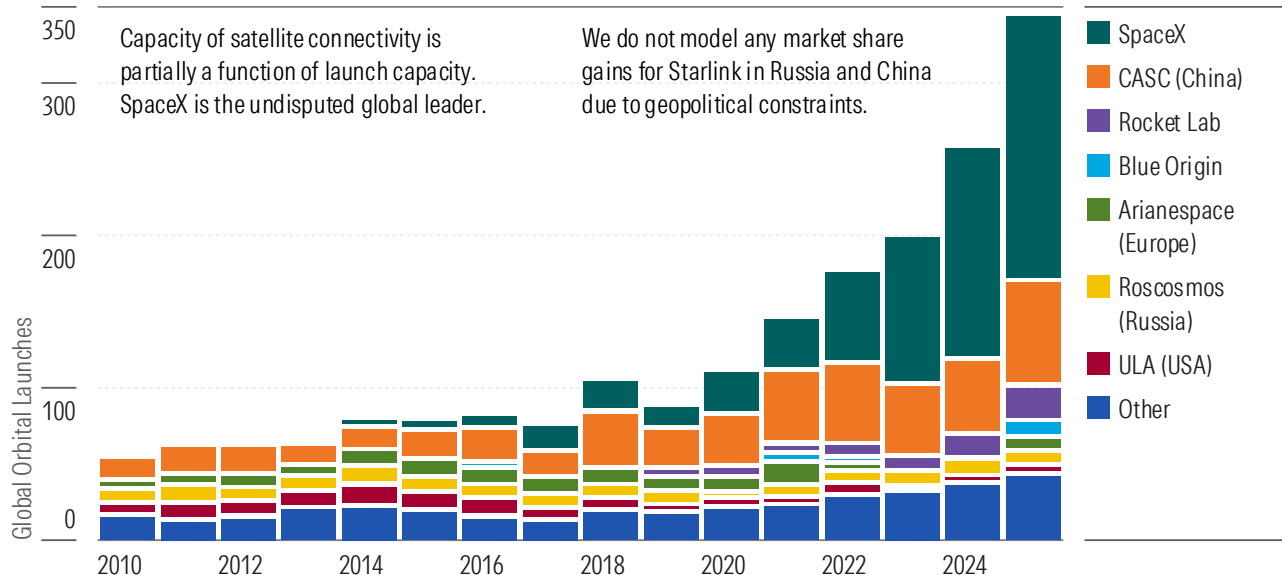
As a starting point, we compare the US connectivity market with SpaceX's quoted TAM figure. We estimate SpaceX's \$1.6 trillion TAM is about 4 times the size of the US connectivity market in 2025 (Exhibit 17). SpaceX's TAM figure appears to aggregate the entire connectivity market across most countries (excluding China and Russia). As we think about extrapolating Starlink's realistic US market opportunity to international markets, we think that the 4 times multiplier is on the optimistic side.

Compared with other global markets, we consider the US as a more favorable market for Starlink due to high household incomes, large sparsely populated regions, high ARPU, strong consumer willingness to pay for premium connectivity, and a regulatory environment that has been supportive of the nation's own preeminent private satellite operator. In our opinion, the main reasons for Starlink's market share not being as high in other international markets as the US are the following:

- ▶ In lower-income countries, affordability is a major constraint and ARPUs are significantly lower than the US (Exhibit 14). Starlink's cost to provide the service remains roughly similar.
- ▶ Other high-income areas such as Europe and South Korea have much higher population densities. This makes existing terrestrial networks more competitive.
- ▶ The regulatory environments in many other countries are likely to be less permissive than the US, especially where telecom infrastructure is deemed linked to national security.

On the other hand, we think the case for Starlink penetration strengthens when we compare the maturity of US infrastructure to that of other countries. Remote areas in many low- and middle-income countries lack basic connectivity services and will benefit significantly from Starlink's service. We expect Starlink to remain a global leader, with a very high share of satellite connectivity services.

**Exhibit 18** Starlink's Moat Emanates From SpaceX's Dominance in Global Orbital Launches; Launch Share Will Increase When Starship Scales



Source: SpaceX company filings, Rocketlaunch.org, Brycotech, Morningstar estimates. Data as of Dec. 31, 2025.

Based on our analysis of various international markets, we estimate that Starlink's target high-income population is 850 million, about 2.5 times the US population. This includes relatively high-income regions of the world such as Europe, Canada, South Korea, Australia, and Japan. Additionally, we consider that other less densely populated areas within low- and middle-income regions of the world would also represent a sizable market for Starlink, given the lack of alternatives in those areas. We exclude Russia and China from our analysis due to geopolitical concerns.

After accounting for variations in ARPU, population density, prevailing terrestrial connectivity infrastructure, and regulatory regimes, we estimate that Starlink's global market opportunity is about 3 times its US opportunity. Our estimate is lower than the 4 times factor implied in SpaceX's quoted TAM, and we think that our estimate gives the firm sufficient credit for penetrating international markets and existing technological constraints.

**Framework for Starlink's Market Size: Niche Plus Add-On Versus Core Telecom**

Our framework segments the total US connectivity market into three distinct tiers based on how much penetration we think Starlink can achieve in each tier and grounds each tier in the structural economics of satellite versus terrestrial connectivity.

**Exhibit 19** Our Framework for Analyzing Starlink's Market Size: Niche, Add-on, and Core Telecom

<p><b>Niche</b> Primary opportunity</p>	<p><b>Add-on</b> Secondary opportunity</p>	<p><b>Core Telecom</b> Minimal gains assumed</p>
<p><b>What it is</b> Unserviced markets No incumbents to displace</p> <p><b>Who it serves</b> Rural &amp; remote homes Maritime &amp; aviation Military / oil rigs / IoT</p> <p><b>Why Starlink wins</b> Capacity abundant where population density is low; Terrestrial uneconomical</p> <p><b>Forecast:</b> Yes - primary revenue driver</p>	<p><b>What it is</b> Satellite as coverage layer Sold via carriers</p> <p><b>Who it serves</b> Existing carrier subscribers Seeking gap coverage T-Mobile, AT&amp;T, Verizon</p> <p><b>Why Starlink wins</b> Carrier handles acquisition Wholesale revenue share No new handset required</p> <p><b>Forecast:</b> Yes - wireless only</p>	<p><b>What it is</b> Incumbent mass market Fully penetrated</p> <p><b>Who it serves</b> Urban &amp; suburban users Served by cable, fiber and dense 5G networks</p> <p><b>Why Starlink struggles</b> Spot-beam capacity limits Spectrum gap vs. carriers Terrestrial physics advantage</p> <p><b>Forecast:</b> Minimal gains only</p>

Source: Morningstar, OECD, Broadband Portal. Data as of Dec. 31, 2024.

The first tier, which we classify as Niche, represents Starlink's most natural and economically attractive markets. This segment includes customers that terrestrial telecom providers have historically struggled to serve efficiently, such as rural and remote households lacking cable or fiber access, maritime and aviation operators, energy and mining sites, government and defense users in remote regions, as well as specialized applications such as recreational vehicles, disaster recovery, and other emerging Internet of Things connectivity use cases. What makes this market particularly compelling is that Starlink is often addressing unmet demand rather than competing for existing customers. In many cases, there is no

viable terrestrial alternative, which reduces competitive intensity and customer acquisition costs. We expect Starlink to have high penetration and attractive economics in this tier.

The second tier, which we classify as Add-on, represents a complementary opportunity primarily within the wireless market. Under this model, Starlink is not a direct substitute for terrestrial mobile networks but rather an extension of existing carrier coverage, serving areas where terrestrial coverage is weak. The recent partnership between T-Mobile and Starlink provides a useful example. In a model like this, carriers strike a wholesale agreement with Starlink to extend its services to all their customers, or their subscribers can pay an additional monthly fee for satellite connectivity when they move beyond the reach of traditional cellular networks. In this model, traditional mobile carriers manage customer relationships and often (crucially) permit the use of their spectrum, while Starlink provides complementary satellite capacity and receives a small share of the revenue stream.

The third tier, which we classify as Core Telecom, includes the established markets served by wireless operators, broadband cable and fiber providers, and enterprise networking firms. The fact that Starlink faces structural disadvantages compared with terrestrial networks in densely populated markets supports our view that it would not be able to meaningfully penetrate this segment.

### **Estimating the Market Size Within the Niche Tier: Wireless, Broadband, and Business Services**

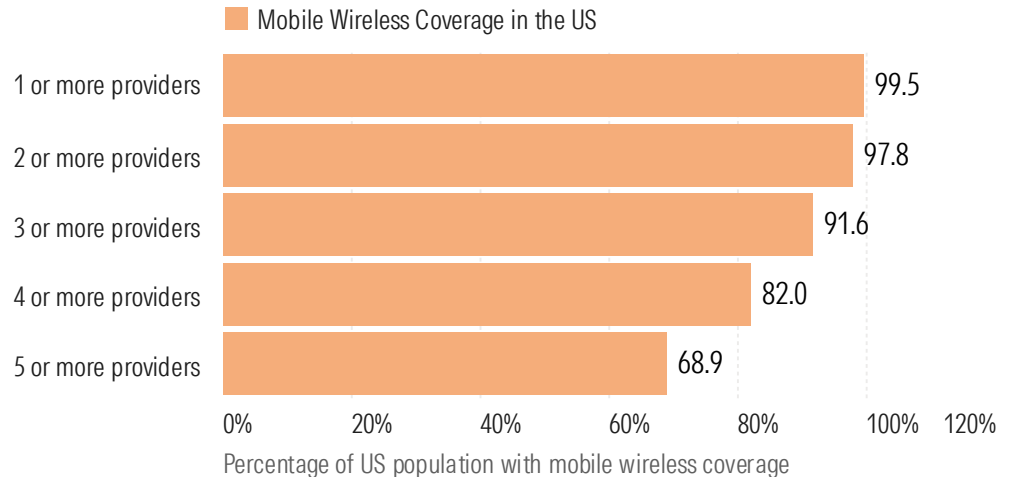
In this section, we estimate the market potential for Starlink within the wireless, broadband, and business services categories of the Niche tier. Each of these categories has very different dynamics; therefore, we analyze them individually.

#### **Niche Wireless: Relatively Small Market Given Existing Coverage by Terrestrial Carriers**

The Niche Wireless segment primarily targets connectivity in cellular dead zones, emergency communications, and other highly remote residential areas. This is a relatively small opportunity, in our opinion, because the United States already benefits from an extensive terrestrial wireless network. Major carriers have been investing heavily in nationwide coverage over the past several decades, resulting in decent coverage across the overwhelming majority of areas where the US population lives. According to an old FCC report, 99.5% of the US population has access to at least one mobile wireless service provider in their area (Exhibit 20).

Consequently, the locations that lack cellular coverage altogether are increasingly confined to genuinely remote geographies such as national parks, state parks, mountainous regions, offshore environments, and other sparsely populated regions. We assign the cellular market within these regions to the Add-on category, as most people, by definition, don't live there and visit these regions occasionally.

**Exhibit 20** Most of the US Population Already Has Access to Wireless Connectivity in Places Where They Live



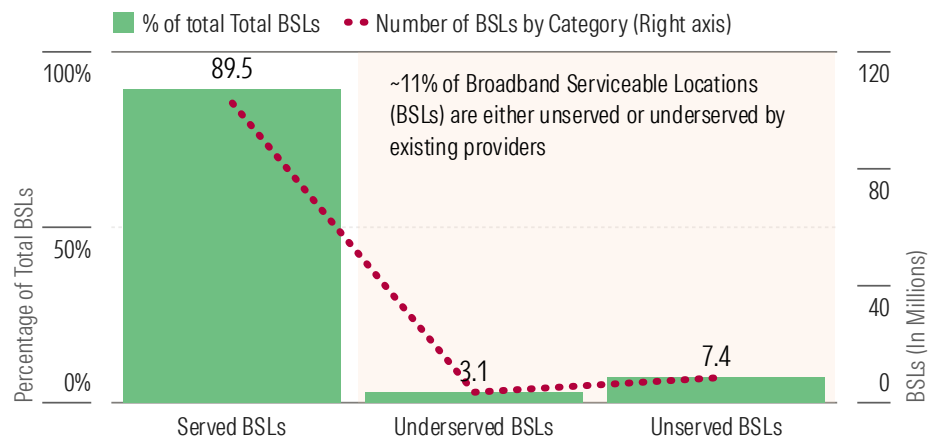
Source: Morningstar, Federal Communications Commission, Mosaik. Data as of 2012. Note: The data in the exhibit above is outdated, but it makes our point in the right direction.

Only 0.5% of the US population lacks access to wireless service with adequate internet speed. The above exhibit is based on older data, but our research and other more recent data lead us to believe that this comparison is directionally correct. Additionally, we acknowledge that there would be some areas where the existing carrier service would not be of adequate performance. Given this data, we assume that the Niche wireless market for Starlink would be around 1.25% of the existing US wireless market (\$240 billion). This amounts to a market size of about \$3 billion in the US.

**Niche Broadband: Starlink's Main Market Opportunity in the Near Term**

The Niche Broadband opportunity is considerably larger than the Niche Wireless market because the underlying coverage problem is far more widespread.

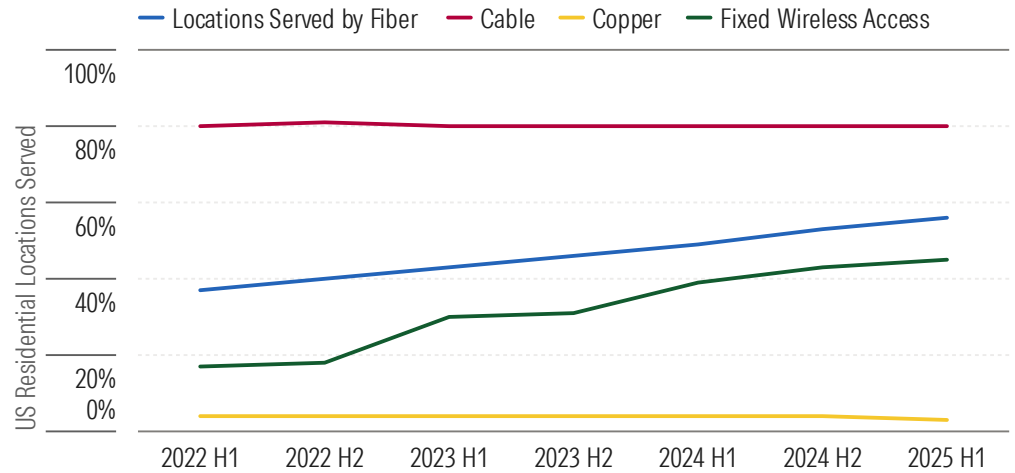
**Exhibit 21** Significant Proportion of US Households Still Lack High-Speed Broadband Internet



Source: Morningstar, Federal Communications Commission, Purdue Center for Regional Development. Data as of 2023.

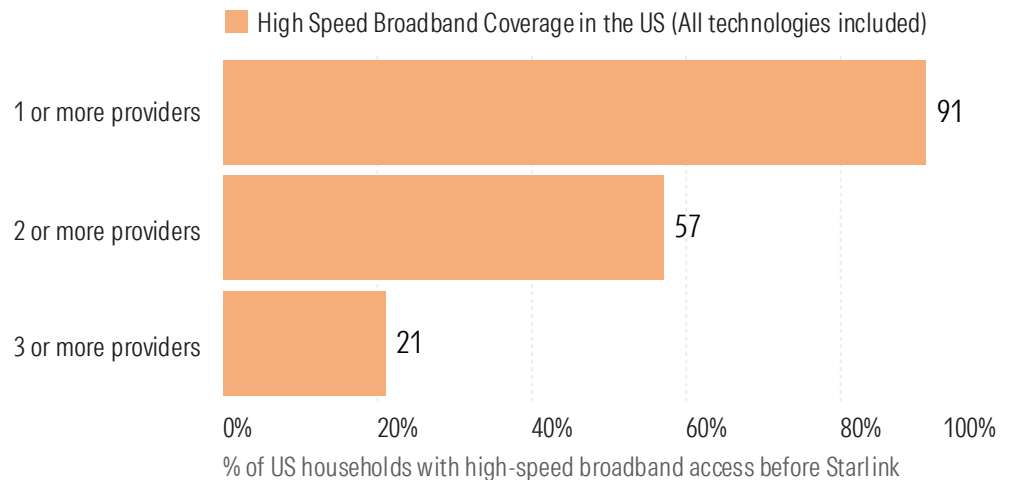
While most Americans already have access to mobile connectivity, a meaningful portion of rural households still lack access to reliable high-speed fixed broadband. Approximately 30% of rural US communities remain underserved by networks capable of delivering modern broadband speeds, leaving millions of households with limited or no access to high-speed internet options.

**Exhibit 22** None of the Existing Broadband Technology Indicates Full Coverage; FWA Has Its Limits



Source: Morningstar, Federal Communications Commission, Cartesian. Data as of 2025.

**Exhibit 23** Cartesian Estimates That About 10% of US Households Didn't Have Adequate Broadband Before Starlink



Source: Morningstar estimates, Federal Communications Commission, Cartesian. Data as of 2025.

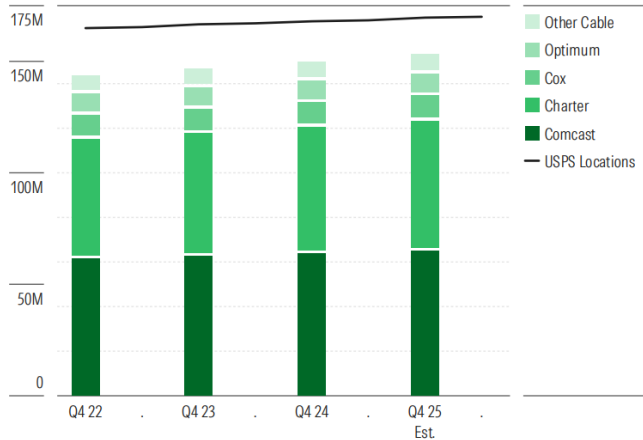
Extending fiber or cable networks across sparsely populated regions requires substantial upfront investment, yet the limited number of potential subscribers often makes those projects unattractive from a returns perspective. As a result, broadband providers have generally focused network expansion on areas where customer density supports acceptable investment returns, leaving many low-density communities with few, if any, viable alternatives. This can be seen in the footprints of cable and phone

companies (Exhibit 24). These conditions create a particularly attractive market for Starlink. In many underserved regions, the company is not competing directly against fiber or cable incumbents but instead addressing unmet demand.

**Exhibit 24** Adding the Footprints of Cable and Phone Companies Within Our Coverage Brings Us to a Similar Ballpark

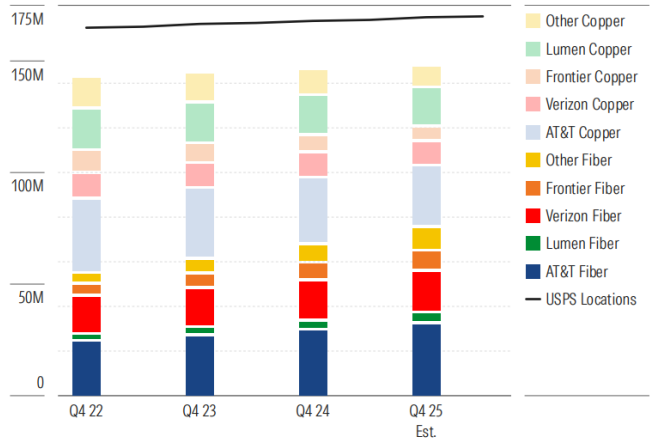
**Homes and Business Locations Passed: Cable Companies**

The cable companies we track reach nearly 90% of US Postal Service addresses.



**Homes and Business Locations Passed: Phone Companies by Technology**

The major legacy phone companies have upgraded about half of their footprints.



Source: Company reports, US Postal Service, Morningstar. Data as of Nov. 30, 2025. Optimum was formerly known as Altice USA.

According to the US Postal Service, there are about 170 million delivery addresses in the country. Cable companies regularly estimate how many of these homes and businesses their networks can reach; the firms we track can serve about 150 million locations, and nearly all of their networks have been upgraded to DOCSIS 3.1, which supports high internet speeds. We estimate that the phone companies we track also reach nearly 150 million locations, but nearly half of those are only served by DSL. Upgrades to fiber (or FTTP), which provides high speeds, are steadily expanding.

**Exhibit 25** Our Estimate Puts the Niche Broadband Market to Be Around \$10 Billion in the US

Description	Calculation
% of US Households Without High Speed Broadband Access	10%
% of US BSLs Without High Speed Broadband Access	10%
US Households Without High Speed Broadband Access	130*10%= 13 million
US BSLs Without High Speed Broadband Access	115*10%= 11.5 million
Estimated Broadband ARPU in Remote Locations	\$75 per month
<b>Starlink Niche Broadband Market Size</b>	<b>75*12*11.5 million = \$10 billion</b>

Source: Morningstar estimates. Data as of 2025.

Different data sources yield slightly different numbers, but we think a 10% estimate of households lacking high-speed internet in the US is adequate. Using the above estimate and a \$75-per-month broadband ARPU in remote locations, we estimate Starlink's Niche Broadband market size at around \$10 billion (Exhibit 25).

**Niche Business Services: Starlink Opens New Use Cases for Connectivity in Remote Areas**

The Niche Business Services segment addresses existing connectivity shortfalls in underserved commercial markets and enables entirely new applications that were previously difficult or uneconomic to support. Many of the same economic factors that limit broadband deployment to rural households also affect businesses operating in these regions. Small enterprises such as retailers, healthcare providers, agricultural businesses, service stations, and local manufacturers increasingly rely on software, digital payments, surveillance systems, and remote monitoring tools, yet often lack access to reliable high-speed internet. Business customers typically exhibit a higher willingness to pay for dependable connectivity service than residential users. We estimate that business services in remote areas within the US represent a \$6 billion market opportunity for Starlink.

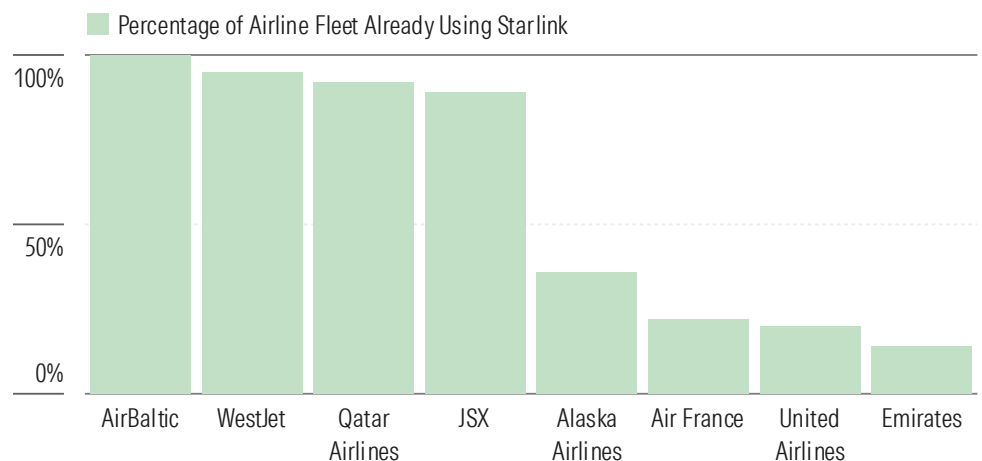
**Exhibit 26** Our Estimate Puts the Connectivity to Business Services in Remote Areas to Be Around \$6 Billion in the US

Description	Calculation
% of US Households Without High Speed Broadband Access	10%
% of US Businesses Without High Speed Broadband Access	10%
Existing Market Size of US Business Services Connectivity	\$60 Billion
<b>Starlink Niche Business Services Market Size</b>	<b>\$60 billion*10% = \$6 billion</b>

Source: Morningstar estimates, US Department of Justice, USTelecom, Federal Communications Commission. Data as of 2025.

Starlink's service also enables new connectivity use cases in remote areas. Commercial aviation, maritime, energy infrastructure, mining, and IoT-enabled transportation fleets have historically been constrained by limited or expensive communications options. Military applications are another example in this domain. We think that Starlink offers a step-change in performance compared with legacy satellite systems. In our opinion, Starlink's technology and connectivity benefits will help create new markets that previously did not exist.

**Exhibit 27** Starlink Has Drastically Improved Connectivity During Air Travel and More Airlines Are Adopting It



Source: Morningstar estimates, StarlinkFlights.com. Data as of June 1, 2026.

For instance, Starlink has drastically improved connectivity and made it more accessible during air travel. For decades, in-flight connectivity relied on legacy geostationary satellite systems and has been characterized by high prices, limited bandwidth, high latency, and inconsistent performance. As Starlink's network continues to scale, we envision a future in which internet connectivity at 35,000 feet is no longer materially different from the experience passengers receive at home or in the office. We estimate that only 3%-4% of the current global fleet of airplanes has Starlink connectivity. We expect the new standard of on-board Wi-Fi set by Starlink to become table stakes for commercial airlines, and that they will pay or arrange sponsorships to install it in essentially their entire fleets

In our opinion, Starlink's unique capabilities should enable it to penetrate at least 50% of this market over the next decade. Based on our assumption of 50% airline fleet penetration and expected growth in the global commercial aircraft fleet, we estimate that Starlink's aviation revenue could exceed current levels by more than twentyfold by 2040, even assuming pricing per aircraft remains flat. The calculation below shows the market potential of new use cases.

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**Exhibit 28** Starlink's Aviation Revenue Could Grow by More Than 20 Times to 50% Global Airline Fleet

Description	Calculation
Estimated Starlink Penetration In Commercial Aviation Fleet (2025)	~3%-4%
Starlink Commercial Aviation Fleet Penetration By 2040	50%
Current Global Commercial Fleet Size	~24,000
Estimated Global Commercial Fleet Size By 2040	~38,000
Growth in Fleet Size	~1.6X
Average Starlink Revenue Per Aircraft CAGR (2025-2040)	0%
Starlink's Aviation Revenue in 2040 Compared to Current Levels	<b><math>(50/3.5)*1.6 = \sim 23X</math></b>

Source: Morningstar estimates, US Department of Justice, USTelecom, Federal Communications Commission. Data as of 2025.

We estimate that new use cases across aviation, maritime, energy infrastructure, mining, and IoT-enabled connectivity can increase the market for business services by 15%. This number may look high in isolation, but we point out this category also includes highly lucrative government and military contracts. Based on our 15% assumption, we assess the market size for new use cases in business applications at around \$9 billion.

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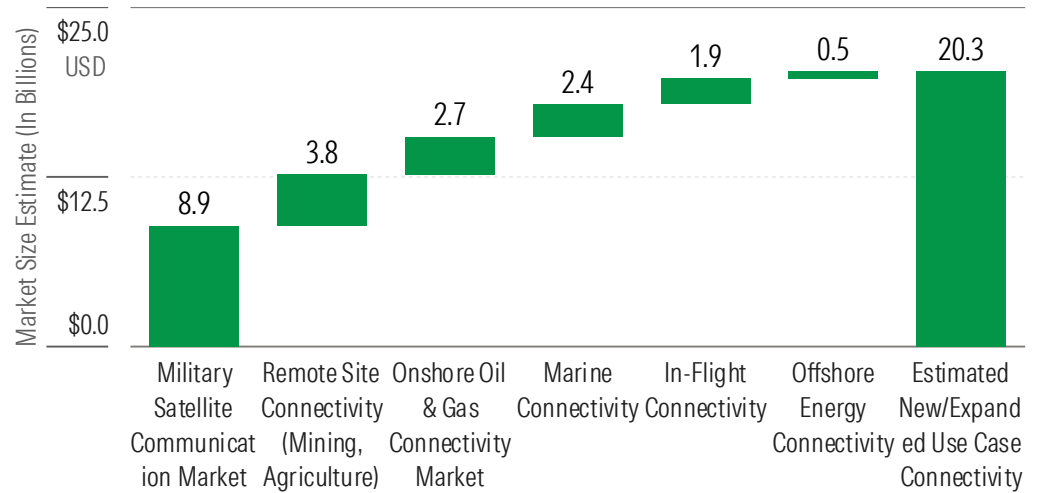
**Exhibit 29** Our Estimate Puts the New Use Case Business Market to Be Around \$9 Billion in the US

Description	Calculation
Existing Market Size of US Business Services Connectivity	\$60 Billion
Expansion of the Market Through New Use Cases (Government Contracts Included)	15%
Starlink's New Business Use Cases Market Size	<b><math>\\$60 \text{ billion} * 15\% = \\$9 \text{ billion}</math></b>

Source: Morningstar estimates, US Department of Justice, USTelecom, Federal Communications Commission. Data as of 2025.

The \$9 billion number estimated in Exhibit 29 is only for the US market. As discussed above, we size the international market at 3 times the US number, resulting in an estimated global market size of \$27 billion. To gut-check our global market estimate, we compare it with other across a range of use cases (Exhibit 30). The third-party granular analysis puts our estimate in the same ballpark, especially given that it does not account for net-new use cases unlocked by Starlink's service capabilities.

**Exhibit 30** Third-Party Estimates for Specific Business Use Cases Get US to a Similar Ballpark



Source: Morningstar estimates, Valour Consultancy, Stratview Research, Growth Market reports, Market Intelo. Data as of 2025.

Adding the \$6 billion estimate for business services in remote regions (Exhibit 26) and the \$9 billion estimate for new or expanded use cases (Exhibit 29), gets us to a market size of \$15 billion for the Niche Business Services tier in the US.

**Overall Market Size Within the Niche Tier: Wireless Plus Broadband Plus Business Services**

In conclusion, we estimate the Niche Wireless market to be around \$3 billion, Niche Broadband market to be around \$10 billion, and Niche Business Services market to be around \$15 billion in the US as of 2025. Adding these numbers together gives us a combined US market size of \$28 billion (3+10+15) in the Niche category, and \$84 billion globally.


**Estimating the Market Size Within the Wireless Add-On Tier: Low ARPU but Large Subscriber Base**

The Add-on Wireless segment is one of the most attractive components of Starlink's opportunity set, not because it generates particularly high revenue per user, but because it reaches an exceptionally large subscriber base through a partnership-driven distribution model. Rather than marketing directly to consumers, Starlink can integrate its satellite network into existing carrier offerings, allowing mobile operators to extend coverage beyond the reach of their terrestrial infrastructure.


The case for Wireless Add-on is essentially a win-win for SpaceX and traditional carriers. Extending terrestrial infrastructure into low population density areas is often uneconomical for carriers, and the Starlink partnership allows them to provide much better connectivity in remote areas. The dynamics are

also favorable for SpaceX, as add-on wireless customers would not be a meaningful load on its constrained network capacity (Exhibit 31), and the economics of a wholesale deal with carriers would be extremely attractive for the company.

---

**Exhibit 31** Wireless Add-Ons Are Not an Issue for Starlink's Network Capacity and Have Very Attractive Economics

Long story short, it's clear that this is going to be a fundamentally complementary category. And just to give you an example, we looked at our data in May, and satellite usage is **0.0002% of our total network** usage. That's 3 zeroes, right? So it's clearly a complementary use case. And we are seeing it largely focused on the national parks, that sort of territory.



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**Srini Gopalan**

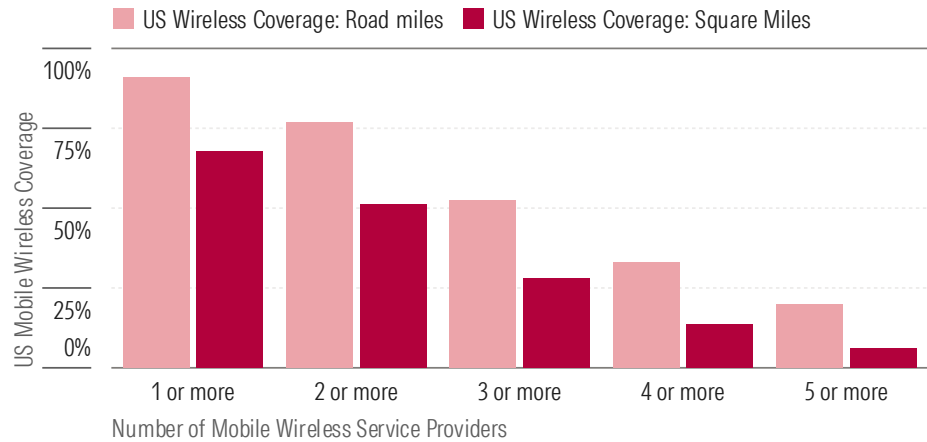
President &amp; CEO, T-Mobile US · JP Morgan 54th Annual TMC Conference, May 2026

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Source: Morningstar, company filings, Anthropic. Data as of May 2026.

In terms of a use case for Wireless Add-on, we point out that 99.5% of the US population has access to wireless connectivity where they live (Exhibit 20); however, an estimated 32% of the US land area and 9% and road miles still do not have decent internet connectivity (Exhibit 32). Combining terrestrial networks with satellite communication reinforces the coverage that companies can provide to their customers. A satellite-based network add-on service could also provide better access to global roaming connectivity for existing customers. The case for satellite direct-to-cell will strengthen as Starlink's technical and network capabilities improve. We note that the coverage statistics for terrestrial networks in many international markets are significantly worse than in the US, thereby strengthening the case for a wireless add-on in global markets.

**Exhibit 32** The Case for Wireless Add-On Is Strong; About One-Third of US Land Area Does Not Have Connectivity



Source: Morningstar, Federal Communications Commission, Mosaik. Data as of 2012.

Forecasting the adoption of satellite-enabled wireless add-on services remains highly uncertain given the product's limited operating history and the lack of comparable historical precedents at scale. Consumer willingness to pay, carrier bundling strategies, competitive responses, and the ultimate functionality of direct-to-cell offerings will all influence long-term penetration rates. We believe the most favorable outcome for Starlink entails wholesale agreements with the major wireless carriers, enabling the service to reach hundreds of millions of subscribers nationwide.

Even in that scenario, however, the division of economics between Starlink and its carrier partners remains difficult to predict. Mobile operators own the customer relationship, control pricing, and perform most customer-facing functions, suggesting that a significant portion of the value created may accrue to the carrier rather than Starlink. Given these uncertainties, we adopt a simplified assumption that Starlink ultimately captures approximately 5% of the end-customer revenue associated with the service.

**Exhibit 33** Our Estimate Sizes the Wireless Add-On Market Around \$15 Billion in the US

Description	Calculation
Wireless Retail Subscriber Lines in the US	350 million
Estimated Wireless ARPU	\$60 per month
SpaceX Value Capture in A Wholesale Deal	5% Value Capture
Initial Estimate of Add-On Market Size	$0.350 \times (60 \times 12) \times 5\% = \$12.6 \text{ Billion}$
Upside From Heavy Users	20%
<b>Final Wireless Add-On Market Size</b>	<b><math>12.6 \times 1.2 = \\$15 \text{ Billion}</math></b>

Source: Morningstar estimates, US Department of Justice, USTelecom, Federal Communications Commission. Data as of 2025.

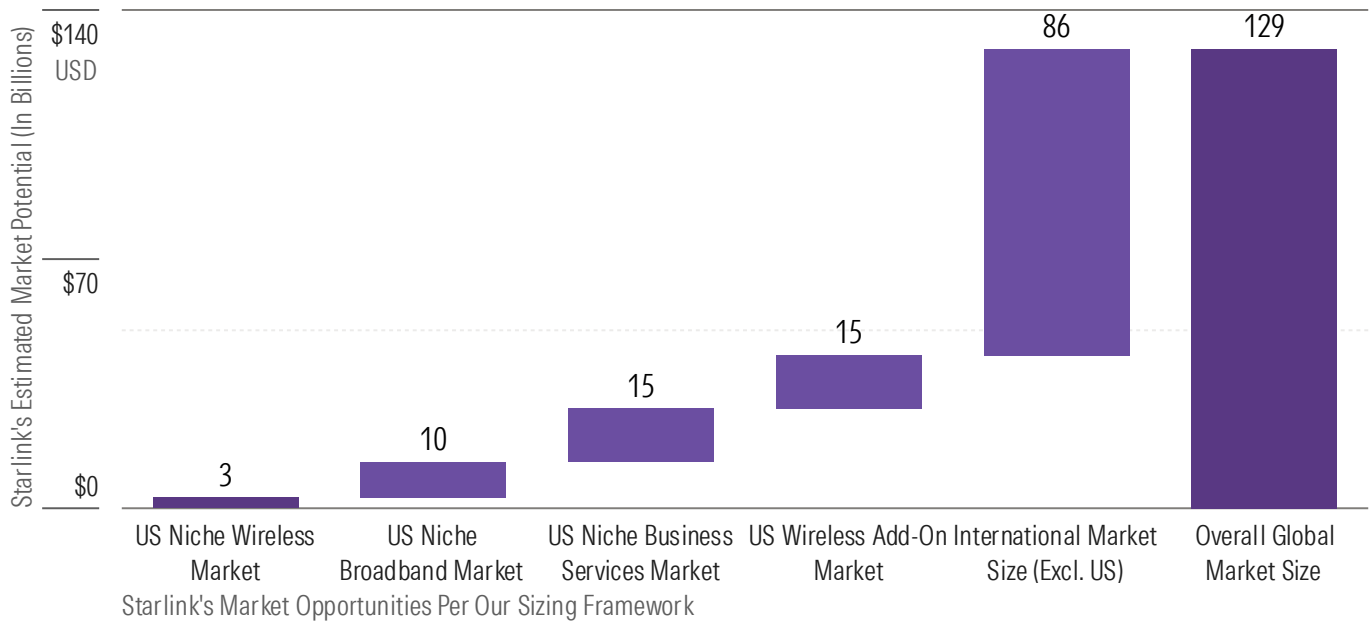
We believe there is potential for incremental monetization beyond the standard subscription fee. Our core assumptions are based on a broadly distributed satellite connectivity offering, but additional

revenue opportunities could emerge from customer segments with more intensive usage requirements. Certain users such as international travelers, remote workers, outdoor recreation enthusiasts, and maritime users operating outside traditional coverage areas may be heavy users of the service. This creates the possibility for differentiated pricing structures and premium service packages that generate higher revenue per user than a standard add-on subscription. To account for this potential upside, we have increased our estimated addressable market by 20%, reflecting the likelihood that a portion of the user base will support higher spending levels than a uniform pricing model. Based on these estimates, we project that the Wireless Add-On market size will reach \$15 billion.

**Calculating Starlink's Realistic Market Size Excluding the Core Telecom Tier**

We estimate that the realistic US market size in the Niche tier is \$28 billion and the market size in the Wireless Add-On tier is \$15 billion. Excluding the Core Telecom segment, we estimate Starlink's market potential at around \$43 billion. If we extrapolate this number using a factor of 3 to estimate the global market size, we arrive at a realistic figure of around \$129 billion as of 2025 (Exhibit 34).

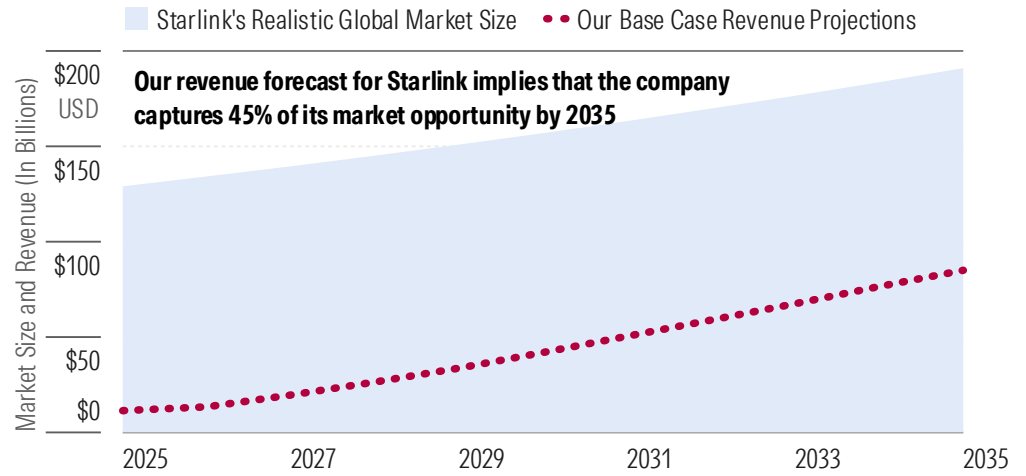
**Exhibit 34** We Estimate Starlink's Realistic Global Market Size (Excluding Core Telecom) to Be Around \$129 Billion as of 2025



Source: Morningstar estimates, US Department of Justice, USTelecom, Federal Communications Commission. Data as of 2025.

We project Starlink's revenue to grow by 7.5 times to \$85 billion by 2035, implying a revenue CAGR of 22% over the next decade. Our base-case revenue projections for the company are consistent with our global market-sizing analysis, and we project that the firm will capture a robust 45% of this market opportunity over the next decade. Given Starlink's market dominance and considerable cost advantage over other competitors, we think that the 45% penetration rate is achievable.

**Exhibit 35** Starlink's Revenue Should Grow 7.5 Times by 2035, and Capture 45% of Market Excluding Core Telecom

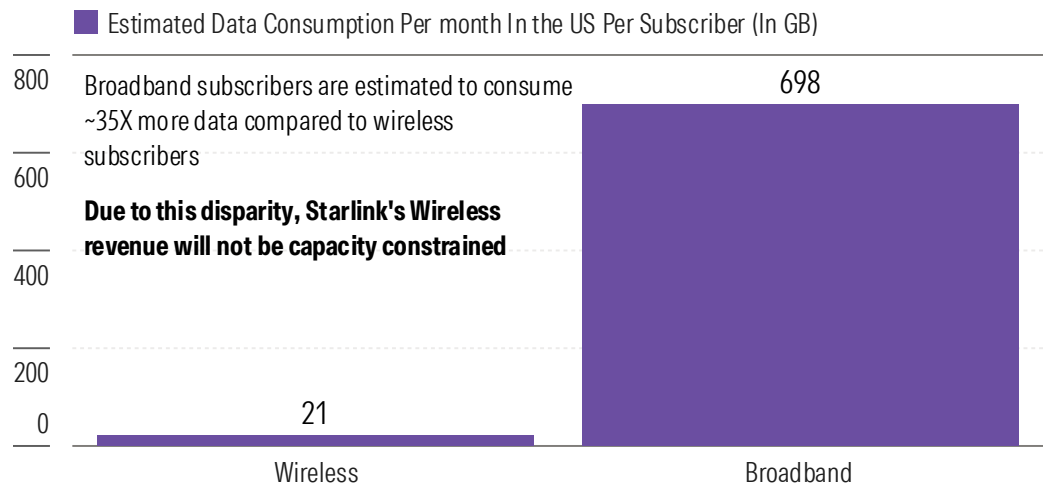


Source: Morningstar estimates. Data as of May 31, 2026.

**Starlink's Technology Road Map Gives Us Confidence That Capacity Won't Be an Issue**

Starlink's biggest constraining factor in the medium term is its ability to scale its network capacity. Exhibit 4 shows a strong correlation between Starlink subscribers and the number of satellites within its orbital constellation. This shows that higher Starlink revenue is contingent on the company's ability to ramp up its network capacity.

**Exhibit 36** Broadband Connections Consume Much More Data Than Wireless



Source: Morningstar estimates, Ericsson, OpenVault. Data as of 2024.

The Add-on Wireless segment is significantly less demanding on Starlink's network capacity than broadband. Unlike households relying on Starlink as their primary internet connection, wireless users typically access the satellite network only when outside terrestrial coverage, often for messaging,

navigation, emergency communications, or occasional data use. Thus, we think that Starlink's wireless revenue is not subject to major capacity constraints (Exhibit 36).

---

**Exhibit 37** Network Capacity Should Not Be a Concern for Starlink to Achieve Our Forecast Revenue

Description	Calculation
Starlink Revenue in 2025	\$11.4 Billion
Projected Starlink Revenue in 2035 Excluding Wireless Add-On	\$61.3 Billion
Increase In Revenue (2025- 2035)	$61.3/11.4 = 5.4X$
Data Consumption Growth Per Dollar of Revenue @15% CAGR (2025-2035)	$1.15^{10}=4X$
Capacity Increase Needed By 2035 To Support Revenue Growth	$5.4X*4X=22X$
V2 Satellite Bandwidth Capacity	96 Gbps
V3 Satellite Bandwidth Capacity	1024 Gbps
Increase In Capacity Per Satellite	$1024/96 = 10.6X$
Cumulative Satellite Constellation Growth Needed to Support 2035 Revenue	<b><math>22/10.6 = 2.1X</math></b>

Source: Morningstar estimates, company filings, OpenVault. Data as of 2025.

We estimate that Starlink needs to increase its network capacity by 22 times over the next decade to support our revenue projections, assuming a 15% CAGR in data growth per broadband subscriber. Starlink's next-generation V3 satellites offer 10 times the bandwidth capacity of the current V2 satellites. Assuming the current V2 satellites will be gradually replaced by the new-generation V3 satellites, we estimate that the cumulative satellite constellation will need to double to support our projected revenue. Given our assumptions about Starship and its launch cadence, we think that doubling of the constellation should not be an issue. We don't see material risk to Starlink's ability to obtain FCC approvals to eventually deploy 20,000 or more V3 satellites; it currently has approval for up to 15,000 V2 satellites, on top of the 10,400 already in orbit. This gives us confidence that capacity should not constrain the firm from achieving our projected revenue. ○

## Research Methodology for Valuing Companies

### Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. We think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (mines, for example), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market-price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's Equity Research Group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating:

- ▶ our assessment of the firm's economic moat.
- ▶ our estimate of the stock's fair value.
- ▶ our uncertainty around that fair value estimate.
- ▶ the current market price.

This process ultimately culminates in our single-point star rating.

### Economic Moat

The Morningstar Economic Moat Rating is a structural feature that Morningstar believes positions a firm to earn durable excess profits over a long period of time, with excess profits defined as returns on invested capital above our estimate of a firm's cost of capital. The economic moat rating is not an indicator of the investment performance of the investment highlighted in this report. Narrow-moat companies are those that Morningstar believes are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those that Morningstar believes will earn excess returns for 10 years, with excess returns more likely than not to remain for at least 20 years. Firms without a moat, including those that have a substantial threat of value destruction-related risks related to environmental, social, and governance; industry disruption; financial health; or other idiosyncratic issues, are more susceptible to competition. Morningstar has identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

### Fair Value Estimate

Each stock's fair value is estimated by using a proprietary discounted cash flow model, which assumes that the stock's value is equal to the total of the free cash flows of the company is expected to generate in the future, discounted back to the present at the rate commensurate with the riskiness of the cash flows. As with any DCF model, the ending value is highly sensitive to Morningstar's projections of future growth.

### Fair Value Uncertainty

The Morningstar Uncertainty Rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, exposure to material ESG risks, and other company-specific factors. Based on these factors, analysts classify the stock into one of several uncertainty levels: Low, Medium, High, Very High, or Extreme. Our recommended margin of safety—the discount to fair value demanded before we'd recommend buying or selling the stock—widens as our uncertainty of the estimated value of the equity increases.

### Market Price

The market prices used in this analysis and noted in the report come from exchanges on which the stock is listed, which we believe is a reliable source.

**Morningstar Rating for Stocks**

The Morningstar Rating for Stocks is a forward-looking, analyst-driven measure of a stock's current price relative to the analyst's estimate of what the shares are worth. Stock star ratings indicate whether a stock, in the equity analyst's educated opinion, is cheap, expensive, or fairly priced. To rate a stock, analysts estimate what they think it is worth (its "fair value"), using a detailed, long-term cash flow forecast for the company. A stock's star rating depends on whether its current market price is above or below the fair value estimate. Those stocks trading at large discounts to their fair values receive the highest ratings (4 or 5 stars). Stocks trading at large premiums to their fair values receive lower ratings (1 or 2 stars). A 3-star rating means the current stock price is close to the analyst's fair value estimate.

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A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Uncertainty Rating is a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

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